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Bradley Point Filing No 1
Transportation Memorandum
(LSC #204800)
May 19, 2023
PCD File No. MS-21-002

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Stephen J. Schnurr

5-19-2023
Date

Bradley Point Filing No. 1

Traffic Memorandum

Prepared for:
Bradley Point, LLC
2010 Fox Mountain Point
Colorado Springs, Colorado 80906

Contact: Mr. Steve Schnurr

MAY 19, 2023

LSC Transportation Consultants
Prepared by: Jeffrey C. Hodsdon, P.E.

LSC #204800

CONTENTS

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May 19, 2023

Mr. Steve Schnurr
Bradley Point, LLC
2010 Fox Mountain Point
Colorado Springs, Colorado 80906

RE: Bradley Point Filing No. 1
Traffic Memorandum
El Paso County, Colorado
LSC #204800

Dear Mr. Schnurr:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic memorandum for the proposed Bradley Point Filing 1 development. The location is proposed to be used as a holding area for landscaping materials only to be access by employees, not the general public. As shown in Figure 1, the site is located northeast of the US Highway 85/South Academy Boulevard interchange in El Paso County, Colorado (El Paso County parcel IDs 6503400040 and 6503400038). This memorandum has been prepared for submittal to El Paso County and the Colorado Department of Transportation (CDOT).

REPORT CONTENTS

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on the adjacent and nearby roadway system, including surface conditions, functional classification, widths, pavement markings, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes;
- Current average weekday traffic (AWT) volumes on US Highway 85 (US Hwy 85);
- Estimated weekday morning and evening peak-hour traffic volumes on US Hwy 85;
- Projections of 20-year background traffic volumes on the study-area streets;
- The proposed site land use;
- Estimates of average weekday and weekday peak-hour trip generation for the proposed land use;
- Assignment of the site-generated traffic to the site access point and US Hwy 85 adjacent to the site;

- Projected resulting total peak-hour intersection traffic volumes at the site access;
- Projected total daily (ADT) volumes on the study-area streets;
- Intersection level of service analysis at the site access intersection
- Queuing and auxiliary lane analysis at the site access; and
- Findings and recommendations.

RECENT TRAFFIC REPORTS

LSC is not aware of any traffic studies completed within the study area in the last five years.

LAND USE AND ACCESS

The 9.5-acre property is proposed to be used for loading trailers with landscaping product for delivery. The property will not be open to the general public but will only be accessed by employees of the landscaping supply company.

Three on-site employees are anticipated, with additional employees, including truck drivers, associated with this operation. During the months of January and February, about 10 truckloads per day are anticipated. During the peak season, which occurs March through June, operation will run for 10 hours per day with approximately six truckloads per hour. This would translate to an average of about 60 truckloads per day. The anticipated maximum daily would be up to 80 loads per day. By July, the truck traffic would taper back down to about 10 truckloads per day.

Figure 1 shows the site location relative to the adjacent and nearby streets and roadways. As shown, the development is located northeast of the US Hwy 85/South Academy Boulevard interchange. The property currently has a single full-movement access onto US Hwy 85. The access is planned to shift 215 feet to the north of its current location. The new access location, preferred by CDOT, would align with the frontage road access on the west side of the highway. Figure 2 provides the site context map and access location.

Regarding access to the railroad property, it is our understanding from the applicant that the railroad has access from several locations along the US 85-87 corridor. Specific to the area in the vicinity of this property, the access is southeast of the storage site located to the east of the academy overpass. Vehicles gain access by driving along a road that parallels the rails.

[May 2023 – Please refer to Access Permit No. 222166, which has been attached for reference]

Please refer to the attached CDOT Access Permit, which contains the site plan exhibits.

EXISTING ROAD AND TRAFFIC CONDITIONS

Figure 1 shows the streets adjacent to and in the vicinity of the site. Adjacent streets serving the site are identified below followed by a brief description of each:

US Highway 85 is a NR-A (non-rural principal arterial) that runs north/south parallel to I-25. The roadway has four-lanes south of the site access. The two northbound lanes merge into a single lane adjacent to the site access. The roadway has a painted median. The posted speed limit is 50 miles per hour (mph) adjacent to the site.

Existing Traffic Volumes

Figure 3 shows the peak-hour and daily traffic volumes based on traffic counts conducted in March 2022. These counts have been adjusted based on traffic data from the Colorado Department of Transportation (CDOT) Online Transportation Information System (OTIS).

Pedestrian, Bicycle, and Public Transit Access

There are no sidewalks or trails in the vicinity of the site. Mountain Metropolitan Transit Route 27 passes the site on South Academy Boulevard. However, there are no stops within a half mile of the proposed development.

FUTURE BACKGROUND CONDITIONS

Background traffic is traffic that is anticipated to occur without the addition of the proposed development. Figure 4 shows the projected long-term background traffic volumes for the year 2042. Traffic from the proposed development is not included in the 2042 background traffic volumes.

Estimated 2040 background traffic volumes are based on CDOT 20-year factor for the roadway. It is estimated that US Hwy 85 will experience 0.74 percent/year growth.

TRIP GENERATION

Estimates of site-generated vehicle trips for the proposed development were made using information provided by the applicant regarding the planned usage of the site - a storage and product truck loading operation. The ITE Warehousing land use (ITE Code 150) was selected as the most applicable ITE land use category. However, the standard published trip-generation rates for this land use category were adjusted to account for the unique nature of the proposed use of the site, as described in the land use section above. The vehicle-trip calculations reflect the planned three employees that will be working on-site.

Table 1 provides a summary of the trip-generation forecast for the site. These estimates are representative of **the busy season (March through May)**. Other months of the year would have significantly lower trip generation. As shown, the proposed land use is estimated to generate approximately 60 total daily trips on the average weekday during the spring busy season. During the morning peak hour, approximately 6 vehicles would enter, and 6 vehicles would exit the site. During the evening peak hour, approximately 6 vehicles would enter, and 6 vehicles would exit. All peak-hour vehicles trips would be **truck trips,** and truck trips have been used in the analysis in this report. These peak-hour trips may be conservative.

Table 1: Estimated Site Vehicle-Trip Generation

Analysis Period	Weekday		
	In	Out	Total
Morning Peak Hour	6	6	12
Afternoon Peak Hour	6	6	12
Daily	30	30	60

A detailed trip-generation estimate for the site, including adjusted ITE trip-generation rates, is presented in Table 3 (attached).

Table 4 (attached) provides, for reference only, a trip-generation estimate based on the unadjusted, nationally published trip-generation rates from *Trip Generation, 10th Edition, 2017* by the Institute of Transportation Engineers (ITE) for land use 150. As shown, the application of unadjusted ITE rates results in lower trip generation than calculated in Table 3. To be conservative, the higher trip-generation rates from Table 3 (and Table 2) have been used for the analysis.

TRIP DISTRIBUTION AND ASSIGNMENT

Estimating the directional distribution of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 5 shows the percentages of the site-generated vehicle trips projected to be oriented to/from the north and south via US Hwy 85. As shown, it is estimated that most traffic would be oriented to/from the south where there is access to South Academy Boulevard and a route to/from Interstate 25.

Site-generated traffic volumes have been estimated at the site access, as shown in Figure 5. These volumes have been calculated by applying the directional distribution percentages to the trip generation estimates (from Table 3).

TOTAL TRAFFIC

Short-Term Total Traffic Volumes

Figure 6 shows the sum of the existing traffic volumes (from Figure 3) and site-generated peak-hour traffic volumes (shown in Figure 5). These volumes represent the projected short-term total traffic including site traffic. Laneage and traffic control at the study-area intersections are also shown in this figure.

2040 Total Traffic Volumes

Figure 7 shows the sum of the long-term background traffic volumes (from Figure 4) and site-generated peak-hour traffic volumes (shown in Figure 5). These volumes represent the projected long-term total traffic following the site development. Laneage and traffic control at the study-area intersections are also shown in this figure.

LEVEL OF SERVICE ANALYSIS

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 2 shows the level of service delay ranges for signalized and unsignalized intersections.

Table 2: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections Average Control Delay (seconds per vehicle)	Unsignalized Intersections Average Control Delay (seconds per vehicle)[(1)]
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

The site access has been analyzed to determine the projected intersection levels of service for short- and long-term total traffic scenarios for the morning and afternoon peak-hour periods The level of service is based on the Highway Capacity Manual (HCM) methodology.

In both the short-term and long-term scenarios, the southbound left turn into the site operates at LOS A during the peak hours. The westbound approach is anticipated to operate at LOS E during the morning peak hour in the short-term scenario. In the long-term scenario, this movement is projected to operate at LOS F during the morning peak hour. The projected volumes are relatively low; however, with projected higher delay, a shift in operations (primarily exiting trucks) from peak periods to off-peak periods could result. Upstream traffic signals will provide periodic gaps in through traffic, which can be utilized for left turns out of the site onto southbound Highway 85. The exiting vehicles will primarily be regular users of the access.

QUEUING

The Synchro reports for the 20-year scenario indicate a 95th percentile queue of #580 feet for the southbound through queue extending back to the north from the Highway 95/South Academy westbound ramp intersection. The "#" indicates that the 95th percentile volume exceeds capacity and the queue may be longer and has the potential to occasionally back through the site access during the PM peak period. Although there is this potential, this would likely result in higher delay and waiting to enter the roadway during that signal cycle. The signal timing may also be adjusted in the future. Moreover, the access is in the preferred location as it aligns with an existing access on the west side and allows for a left turn lane into the site.

AUXILIARY TURN LANES

Based on requirements in the CDOT State Highway Access Code, an NR-A highway is required to have a left-turn deceleration lane if the turning volume exceeds 10 vph. A right-turn deceleration lane is required in the turning volume exceeds 25 vph. Using passenger car equivalents for the truck volumes, neither turn meets the threshold for requiring a deceleration lane.

Although a southbound left-turn deceleration lane is not required, there is a painted median that could be restriped for a southbound left-turn lane. There is a northbound left-turn lane for traffic turning onto the west side minor frontage road located across from the proposed site access.

[May 2023 – Please refer to Access Permit No. 222166].

DRIVEWAY ACCESS EVALUATION

ECM Criteria for Driveway Access to an Arterial Road

State Highway 85 is an Arterial roadway. *ECM* criteria states that driveway access is not permitted. However, Highway 85 is under CDOT jurisdiction, and an access permit has been granted. This site is not served by any other roadway. There is an existing driveway to Highway 85 that will be closed/relocated to the north per CDOT direction.

ECM Criteria for Access Design

The following summarizes *Engineering Criteria Manual* Section 2.4.1 access criteria, which states the following five access-design guidelines:

- Adequate spacing
- Proper alignments
- Clear sight distances
- Coordinated widths with its intended use
- Clearances from intersections

The following sections address each of these criteria for the proposed site driveway.

Adequate Spacing

Please refer to Figure 2 for the proposed spacing. *ECM* criteria states that:

> *Accesses shall be separated by a distance equal to the entering sight distance values in Table 2-35. When turn lanes are present or will be needed in the future, the accesses shall be separated by a sufficient distance so that exclusive turn lanes including tapers will not overlap. Access shall not be permitted within a turn lane. Warrant criteria, design, and construction of turn lanes shall be governed by the requirements contained in Section 2.3.7D.*

The spacing to the intersection to the south is shown in Figure 2. Highway 85 is under CDOT jurisdiction, and an access permit has been granted. There is an existing driveway to Highway 85 that will be closed/relocated. The location and resulting spacing is per CDOT direction.

Access Alignment

The location is per CDOT direction. The access would align with the existing frontage road access on the west side of Highway 85.

Access Sight Distances

Access sight-distance criteria in section 2.4.1.D would apply:

> *"Any potentially obstructing objects, such as but not limited to advertising signs, structures, trees, and bushes, shall be designed, placed, and maintained at a height not to interfere with the sight distance needed by any vehicle using the access."*

The *ECM*-required entering sight distance and specifically, the Colorado State Highway Access Code sight-distance criteria would be maintained at the site-access point. Terms and Conditions 49 and 50 of the Access Permit specify the requirements for maintaining sight distance.

Access Width

The site plan (attached) shows a 36-foot-wide driveway width for the proposed site-access point. Per *ECM* Section 2.4.1.E.1, "two-way commercial or industrial access points shall have a 25-foot minimum and a 40-foot maximum." Highway 85 is under CDOT jurisdiction and an access permit has been granted. Permit Terms and Conditions No. 53 specifies the access width (36 feet at the ROW line). Other design details will be addressed with the access design process with CDOT – prior to issuance of the Notice-to-Proceed.

Clearances from Intersections

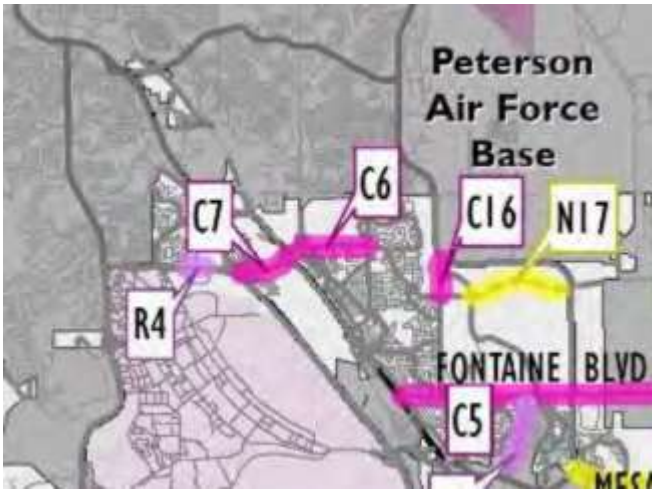
Please refer to above paragraph on "Adequate Spacing."

MTCP CONFORMANCE

Roadway Classifications

The following study-area roadway improvements are shown on Map 13 of El Paso County's 2016 *MTCP*.

- South Academy Boulevard (Project C7) – (PPRTA) Widen from four-lane Expressway to a six-lane Expressway.



Reimbursable Improvements

Potential reimbursement associated with the above-referenced improvement would likely only be relevant to this project if additional ROW is needed for that improvement.

COUNTY ROAD IMPROVEMENT FEE PROGRAM

This project may be required to participate in the El Paso County Road Improvement Fee Program. This will be a temporary use and the fee program documents reference the Land Development Code for the definition of a "temporary use." Should fees be required, a potential basis for fees could be:

- 60 average daily trips generated by the site on the average weekday during peak season.
- Based on the current rate of $398.55 per daily trip times adjustment factors
- (0.71 x 1.02 x $398.55/trip), the potential County Roadway Impact Fee for the use is $17,318. This would be confirmed/finalized with the site development plan, if required, and payable at the building permit stage. Note: These rates are subject to change with periodic El Paso County updates.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

- The site is projected to generate approximately 12 new morning peak hour trips, with 6 inbound and 6 outbound.
- The site is projected to generate approximately 12 new afternoon peak hours trips, with 6 inbound and 6 outbound.
- The site is projected to generate approximately 60 daily trips (peak season average daily trips).

Site-Access Levels of Service

- The southbound left-turning movement into the site is projected to operate at LOS A or B during peak hours.
- The westbound approach is expected to operate at LOS E in the short term (AM peak hour) and F for the long-term scenario. The projected volumes are relatively low; however, with projected higher delay, a shift in operations (primarily exiting trucks) from peak periods to off-peak periods could result. Upstream traffic signals will provide periodic gaps in through traffic, which can be utilized for left turns out of the site onto southbound Highway 85. The exiting vehicles will primarily be regular users of the access.

Auxiliary Lanes

- The center striped median on the north leg of the site-access intersection should be restriped for a southbound left-turn lane. It should be noted that a southbound left-turn lane is not required per the State Highway Access Code based on the projected volumes, but restriping would create a matching left-turn lane opposite the existing northbound left-turn lane and "formalize" the access such that traffic turning left from the north

would be less likely to turn from the through lane. [May 2023 – Please refer to Access Permit No. 222166].

* * * * *

Please contact me if you have any questions regarding this report.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.
Principal

JCH/JAB:jas

Enclosures: Tables 3-4
Figures 1-7
Traffic Count Data Sheets
Synchro/Simtraffic Reports
Access Permit No. 222166

Tables

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Table 3: Detailed Trip Generation Estimate

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1]					Total Trips Generated [3]				
			Average Weekday	Morning Peak Hour		Afternoon Peak Hour		Average Weekday	Morning Peak Hour		Afternoon Peak Hour	
			Traffic	In	Out	In	Out	Traffic	In	Out	In	Out
150	Warehousing	3 Emp [2]	20.00	2.00	2.00	2.00	2.00	60	6	6	6	6

Notes:
(1) Standard Institute of Transportation Engineers (ITE) rates were adjusted for this site specific use; 5/19/2023 note: the peak hour entering and exiting trips are likely conservative as the trips shown here correspond to the prior estimate of 130 trips per day.

(2) Emp = Employees

(3) Trip Generation Estimate is for March through May. Other months are anticipated to have lower trip generation

Source: LSC Transportation Consultants, Inc. Rev. 5/19/2023

Table 4: Trip Generation Estimate Based on Unadjusted ITE Rates – For Reference Only

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates [1]					Total Trips Generated				
			Average Weekday	Morning Peak Hour		Afternoon Peak Hour		Average Weekday	Morning Peak Hour		Afternoon Peak Hour	
			Traffic	In	Out	In	Out	Traffic	In	Out	In	Out
150	Warehousing	3 Emp [2]	8.43	1.56	0.61	0.24	0.42	25	5	2	1	1

Notes:

(1) Source: "Trip Generation, 10th Edition, 2017" by the Institute of Transportation Engineers (ITE)

(2) Emp = Employees

Source: LSC Transportation Consultants, Inc.

Figures

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Approximate Scale
Scale: NTS

Figure 1

Vicinity Map

Bradley Point Filing 1 (LSC #204800)

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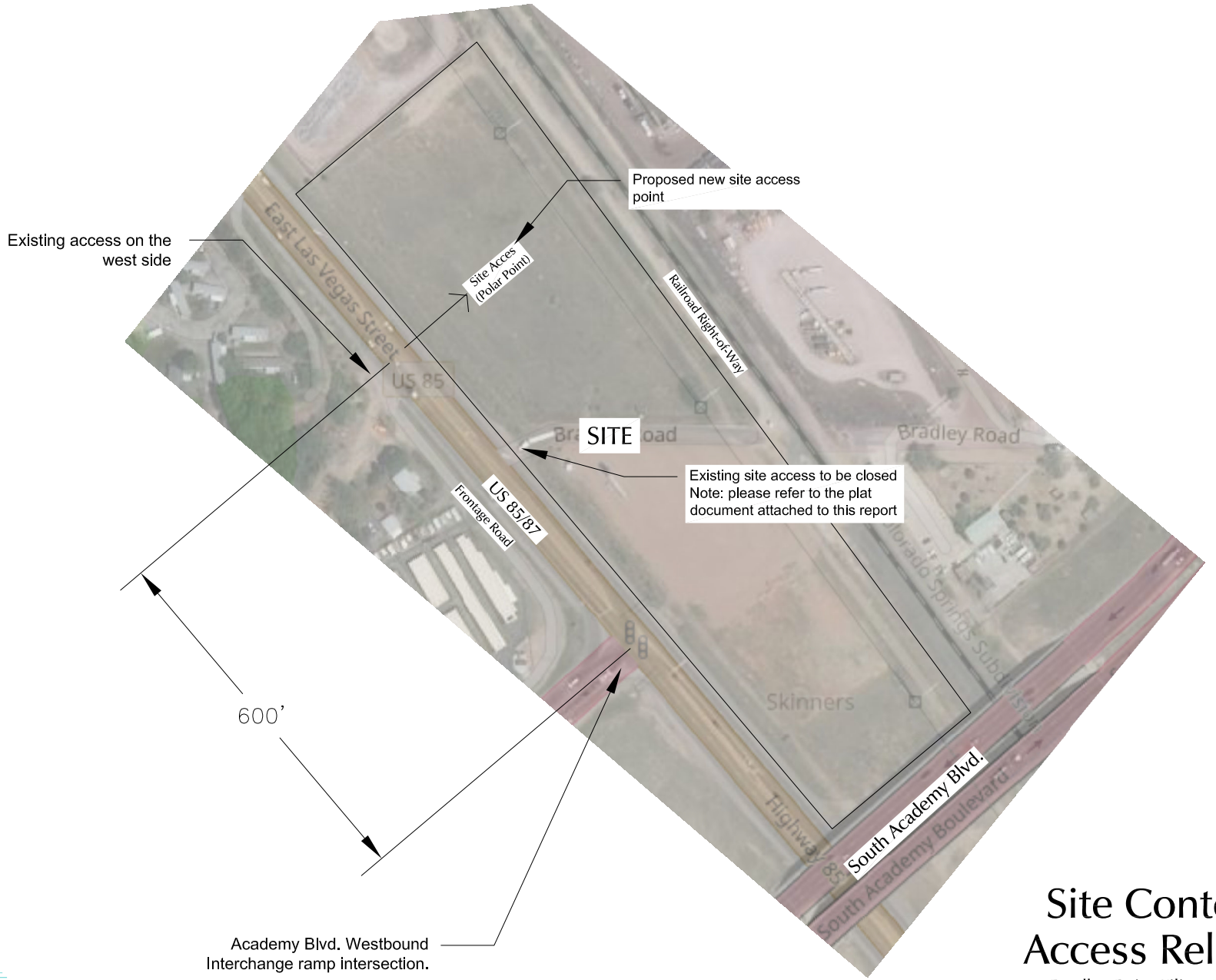

Figure 2

Site Context and Access Relocation

Bradley Point Filing 1 (LSC #204800)

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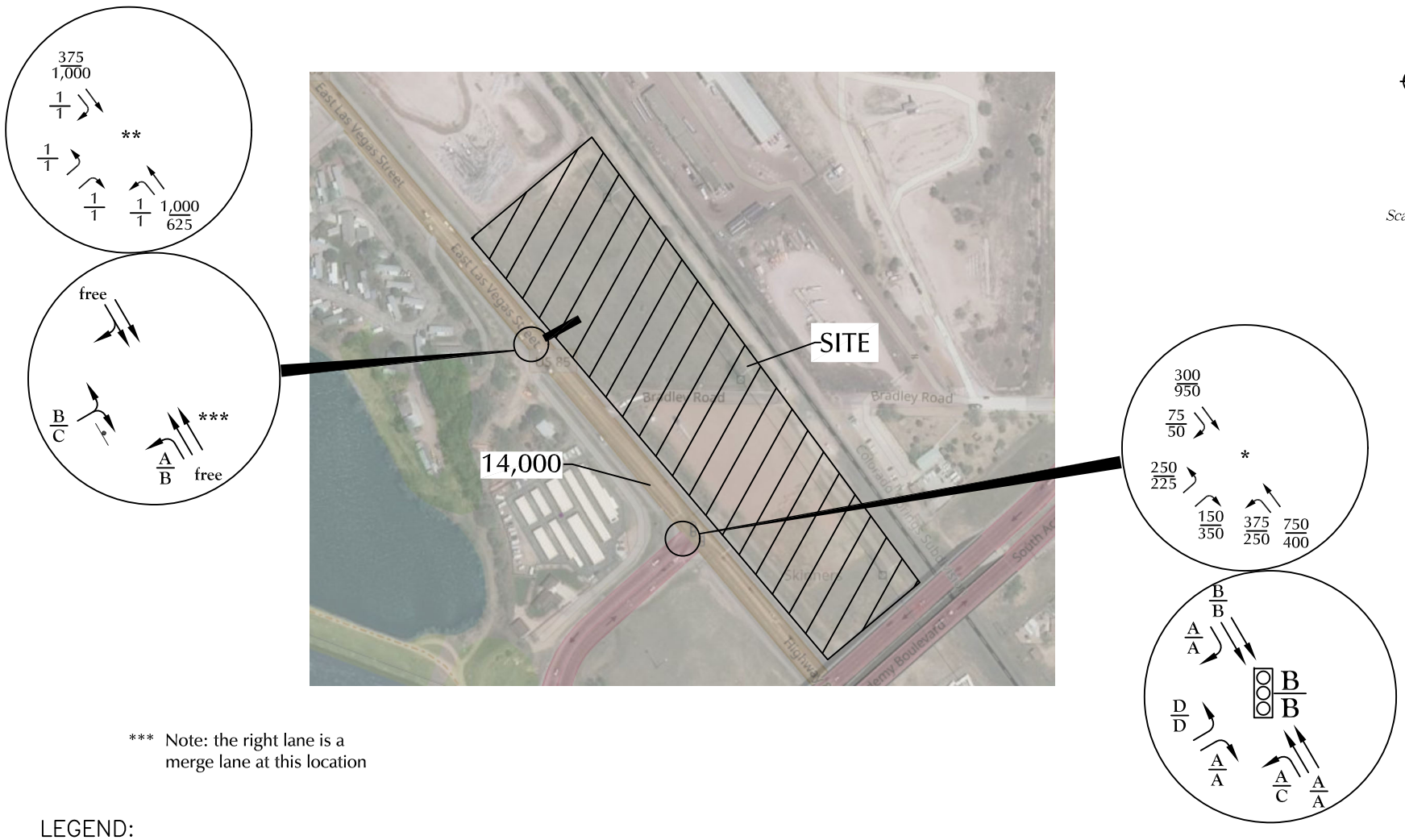

*** Note: the right lane is a merge lane at this location

Scale: NTS

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$ *Estimated using March 2022 by LSC and CDOT Fall 2021 Counts **Estimated by LSC

X,XXX = Annual Average Daily Traffic (vehicles per day) (Estimated 2022 AADT)

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

$\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

= Stop Sign

= Traffic Signal

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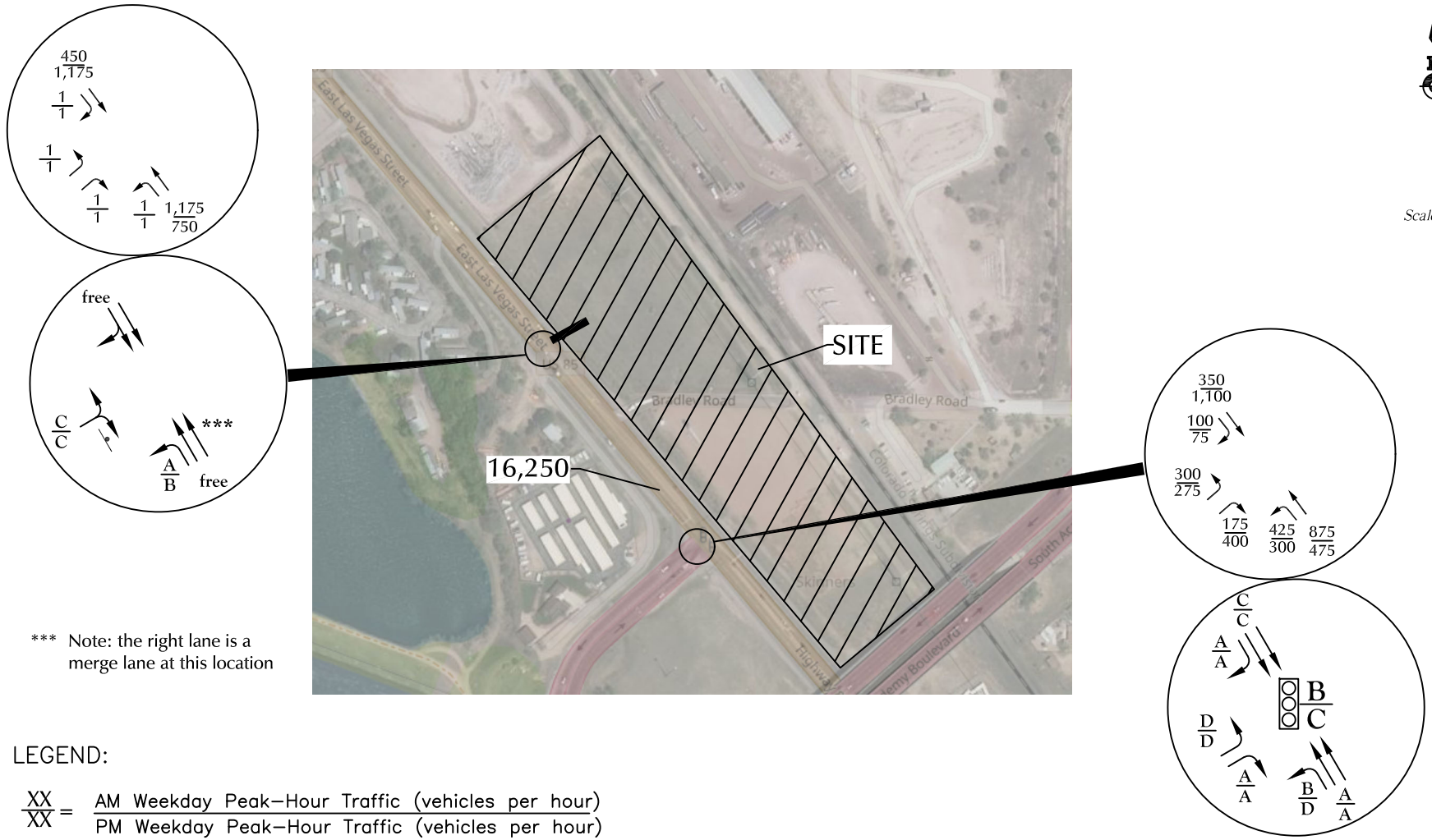
Figure 3

Existing Conditions

Bradley Point Filing 1 (LSC #204800)



*** Note: the right lane is a merge lane at this location

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

X,XXX = Annual Average Daily Traffic (vehicles per day)

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

$\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

= Stop Sign

= Traffic Signal

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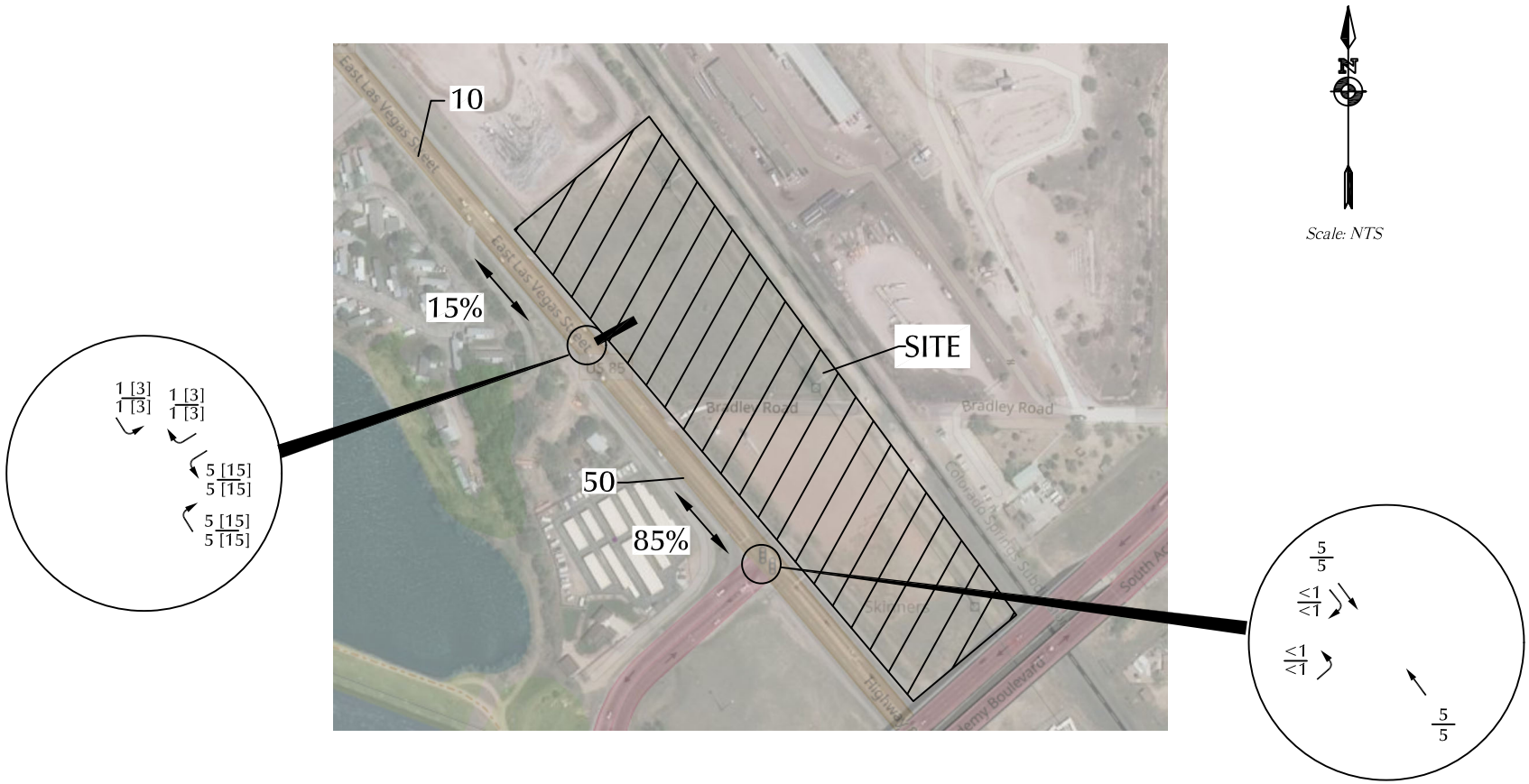
Figure 4

Long-Term Background Conditions

Bradley Point Filing 1 (LSC #204800)



LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak–Hour Traffic (vehicles per hour) [PCE*]}}{\text{PM Weekday Peak–Hour Traffic (vehicles per hour) [PCE*]}}$ *PCE = Passenger car equivalent

X,XXX = Average Daily Traffic (vehicles per day)

XX% = Estimated Percent Directional Distribution

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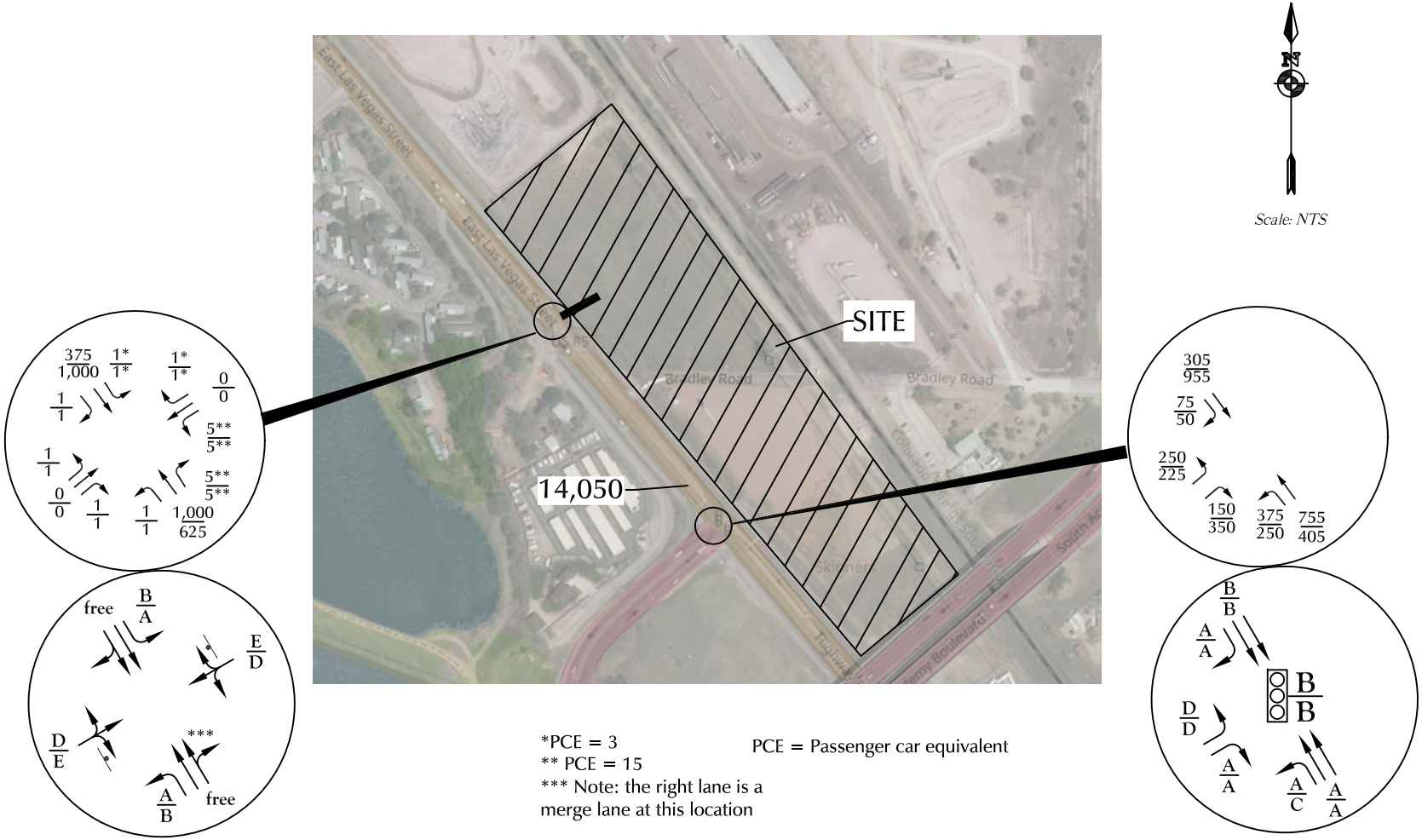
Figure 5

Estimated Distribution and Site-Generated Traffic

Bradley Point Filing 1 (LSC #204800)



*PCE = 3
** PCE = 15
*** Note: the right lane is a merge lane at this location

PCE = Passenger car equivalent

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

X,XXX = Annual Average Daily Traffic (vehicles per day)

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

$\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

= Stop Sign

= Traffic Signal

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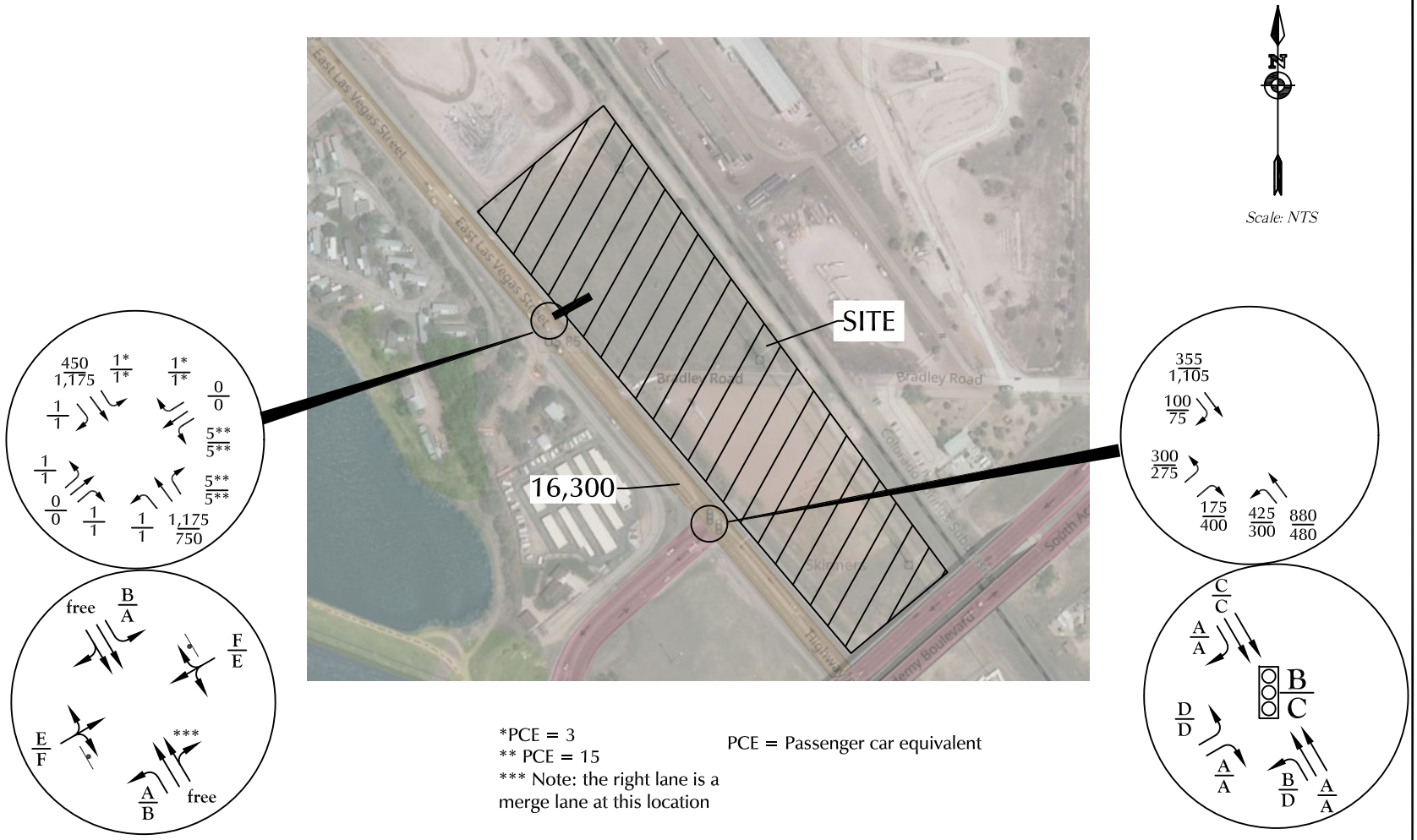
Figure 6

Short-Term Total Traffic Conditions

Bradley Point Filing 1 (LSC #204800)



Scale: NTS

*PCE = 3
** PCE = 15
*** Note: the right lane is a merge lane at this location

PCE = Passenger car equivalent

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Weekday Peak-Hour Traffic (vehicles per hour)}}{\text{PM Weekday Peak-Hour Traffic (vehicles per hour)}}$

X,XXX = Annual Average Daily Traffic (vehicles per day)

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak-Hour Level of Service}}{\text{PM Individual Movement Peak-Hour Level of Service}}$

$\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak-Hour Level of Service}}{\text{PM Entire Intersection Peak-Hour Level of Service}}$

= Stop Sign

= Traffic Signal

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Figure 7

Long-Term Total Traffic Conditions

Bradley Point Filing 1 (LSC #204800)

Traffic Counts

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LSC Transportation Consultants, Inc.

2504 E Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

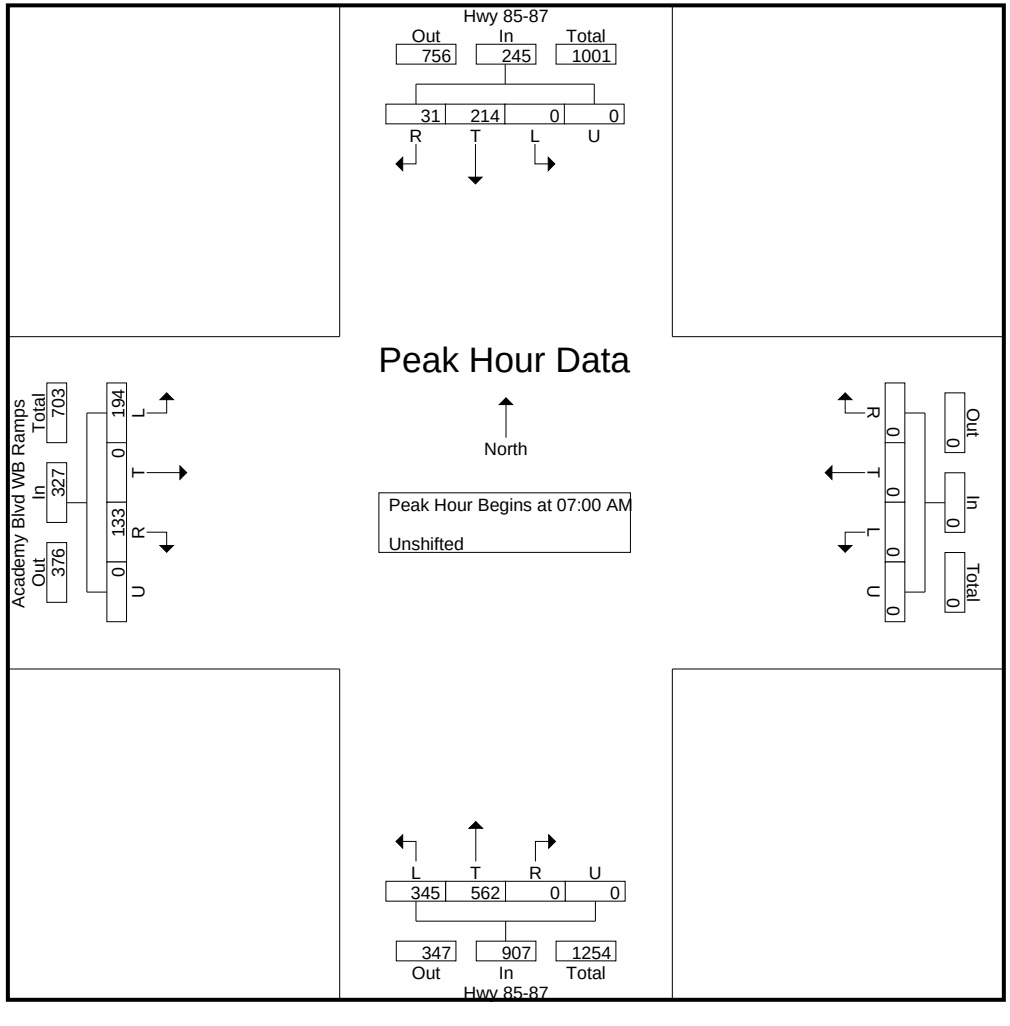
File Name : Hwy 85-87 - Academy Blvd WB Ramps AM
Site Code : S214990
Start Date : 3/24/2022
Page No : 1

Groups Printed- Unshifted

	Hwy 85-87 Southbound					Westbound					Hwy 85-87 Northbound					Academy Blvd WB Ramps Eastbound					
Start Time	**R**	**T**	**L**	**U**	**App. Total**	**R**	**T**	**L**	**U**	**App. Total**	**R**	**T**	**L**	**U**	**App. Total**	**R**	**T**	**L**	**U**	**App. Total**	**Int. Total**
06:30 AM	6	45	0	0	51	0	0	0	0	0	0	118	93	0	211	30	0	45	0	75	337
06:45 AM	5	46	0	0	51	0	0	0	0	0	0	117	71	0	188	31	0	66	0	97	336
Total	11	91	0	0	102	0	0	0	0	0	0	235	164	0	399	61	0	111	0	172	673
07:00 AM	6	42	0	0	48	0	0	0	0	0	0	120	78	0	198	26	0	38	0	64	310
07:15 AM	10	60	0	0	70	0	0	0	0	0	0	147	95	0	242	21	0	48	0	69	381
07:30 AM	10	61	0	0	71	0	0	0	0	0	0	158	93	0	251	33	0	54	0	87	409
07:45 AM	5	51	0	0	56	0	0	0	0	0	0	137	79	0	216	53	0	54	0	107	379
Total	31	214	0	0	245	0	0	0	0	0	0	562	345	0	907	133	0	194	0	327	1479
08:00 AM	6	49	0	0	55	0	0	0	0	0	0	115	78	0	193	15	0	44	0	59	307
08:15 AM	9	76	0	0	85	0	0	0	0	0	0	96	63	0	159	16	0	23	0	39	283
Grand Total	57	430	0	0	487	0	0	0	0	0	0	1008	650	0	1658	225	0	372	0	597	2742
Apprch %	11.7	88.3	0	0		0	0	0	0		0	60.8	39.2	0		37.7	0	62.3	0		
Total %	2.1	15.7	0	0	17.8	0	0	0	0	0	0	36.8	23.7	0	60.5	8.2	0	13.6	0	21.8	

LSC Transportation Consultants, Inc.
2504 E Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Hwy 85-87 - Academy Blvd WB Ramps AM
Site Code : S214990
Start Date : 3/24/2022
Page No : 3



LSC Transportation Consultants, Inc.

2504 E Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Hwy 85-87 - Academy Blvd WB Ramps PM
Site Code : S214990
Start Date : 3/23/2022
Page No : 1

Groups Printed- Unshifted

	Hwy 85-87 Southbound					Westbound					Hwy 85-87 Northbound					Academy Blvd WB Ramps Eastbound					
Start Time	**R**	**T**	**L**	**U**	**App. Total**	**R**	**T**	**L**	**U**	**App. Total**	**R**	**T**	**L**	**U**	**App. Total**	**R**	**T**	**L**	**U**	**App. Total**	**Int. Total**
04:00 PM	6	183	0	0	189	0	0	0	0	0	0	85	49	0	134	70	0	35	0	105	428
04:15 PM	4	181	0	1	186	0	0	0	0	0	0	95	58	0	153	65	0	27	0	92	431
04:30 PM	5	188	0	0	193	0	0	0	0	0	0	95	55	2	152	80	0	27	0	107	452
04:45 PM	6	186	0	0	192	0	0	0	0	0	0	82	64	1	147	76	0	22	0	98	437
Total	21	738	0	1	760	0	0	0	0	0	0	357	226	3	586	291	0	111	0	402	1748
05:00 PM	2	198	0	1	201	0	0	0	0	0	0	69	47	0	116	71	0	39	0	110	427
05:15 PM	3	198	0	0	201	0	0	0	0	0	0	103	69	1	173	100	0	30	2	132	506
05:30 PM	4	146	0	0	150	0	0	0	0	0	0	77	62	1	140	57	0	35	0	92	382
05:45 PM	4	132	0	0	136	0	0	0	0	0	0	76	50	2	128	64	0	27	0	91	355
Total	13	674	0	1	688	0	0	0	0	0	0	325	228	4	557	292	0	131	2	425	1670
Grand Total	34	1412	0	2	1448	0	0	0	0	0	0	682	454	7	1143	583	0	242	2	827	3418
Apprch %	2.3	97.5	0	0.1		0	0	0	0		0	59.7	39.7	0.6		70.5	0	29.3	0.2		
Total %	1	41.3	0	0.1	42.4	0	0	0	0	0	0	20	13.3	0.2	33.4	17.1	0	7.1	0.1	24.2	

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719-633-2868

File Name : Hwy 85-87 - Academy Blvd WB Ramps PM
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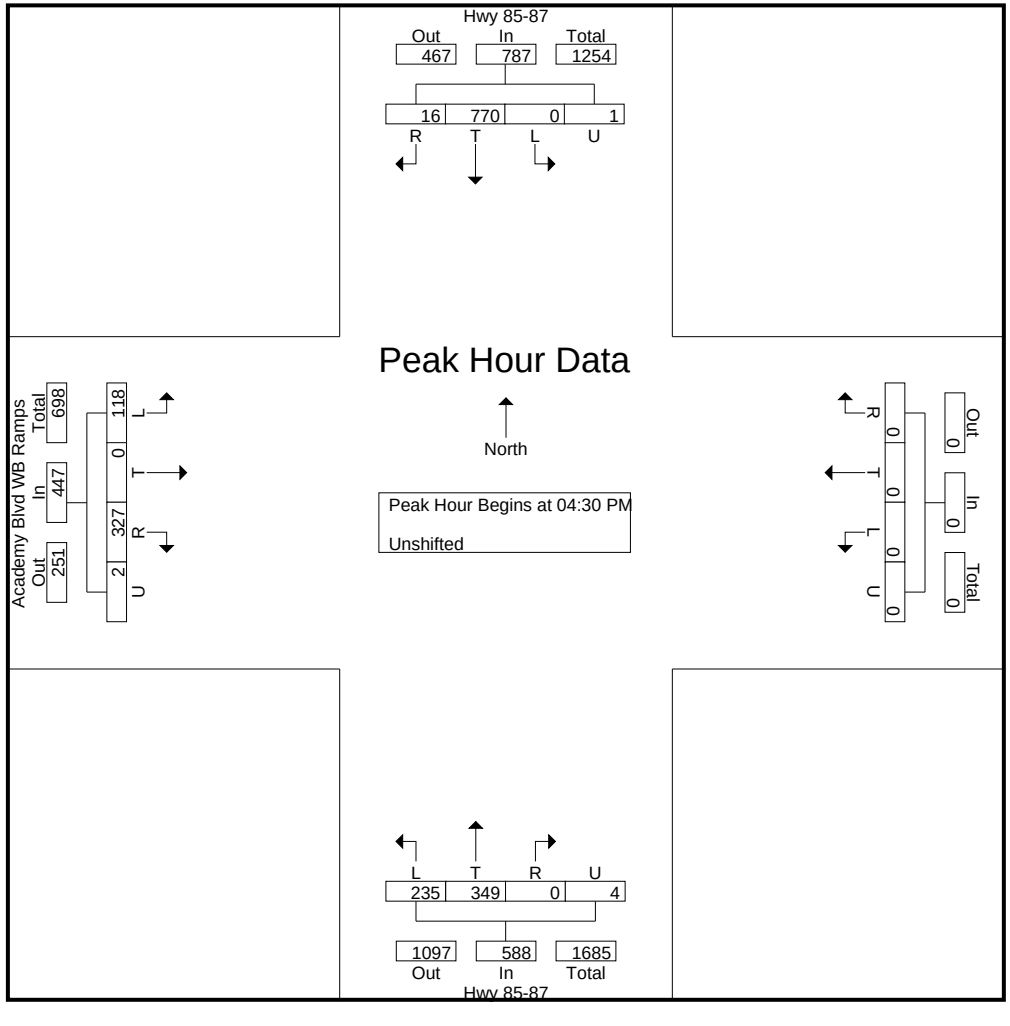


Levels of Service

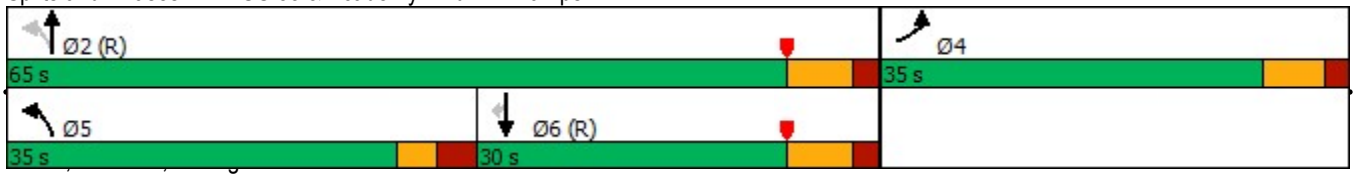
TRANSPORTATION
CONSULTANTS, INC.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	250	150	375	750	300	75
Future Volume (vph)	250	150	375	750	300	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.483			
Satd. Flow (perm)	1770	1583	900	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		163				82
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	422	
Travel Time (s)	11.0			14.6	5.8	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Adj. Flow (vph)	272	163	395	789	326	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	272	163	395	789	326	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	21.5	100.0	68.0	69.0	47.6	47.6
Actuated g/C Ratio	0.22	1.00	0.68	0.69	0.48	0.48
v/c Ratio	0.71	0.10	0.52	0.32	0.19	0.10
Control Delay	46.5	0.1	9.1	5.5	17.8	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	0.1	9.1	5.5	17.8	5.5
LOS	D	A	A	A	B	A
Approach Delay	29.1			6.7	15.3	
Approach LOS	C			A	B	
Queue Length 50th (ft)	162	0	72	73	60	0
Queue Length 95th (ft)	229	0	137	103	115	32
Internal Link Dist (ft)	483			989	342	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	872	2440	1683	796
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.10	0.45	0.32	0.19	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 58.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	375	1	1	1000	1	1
Future Vol, veh/h	375	1	1	1000	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	93	93	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	408	1	1	1075	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	409	0	1486	205
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	1077	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1148	-	126	802
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	326	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1148	-	126	802
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	326	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	14.6
HCM LOS			B

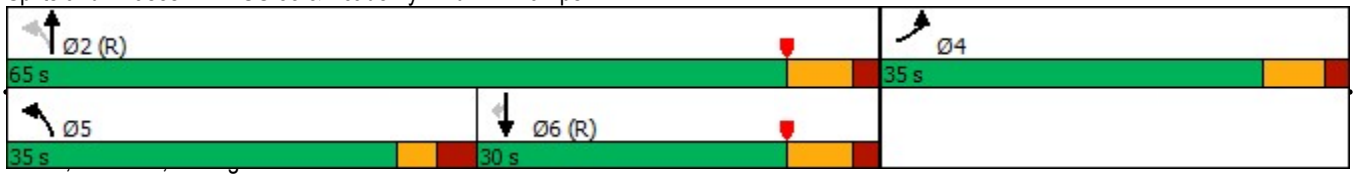
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	377	1148	-	-	-
HCM Lane V/C Ratio	0.007	0.001	-	-	-
HCM Control Delay (s)	14.6	8.1	-	-	-
HCM Lane LOS	B	A	-	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	225	350	250	400	950	50
Future Volume (vph)	225	350	250	400	950	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.167			
Satd. Flow (perm)	1770	1583	311	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		380				47
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	422	
Travel Time (s)	11.0			14.6	5.8	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Adj. Flow (vph)	245	380	263	421	1033	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	245	380	263	421	1033	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	20.1	100.0	69.4	70.4	51.9	51.9
Actuated g/C Ratio	0.20	1.00	0.69	0.70	0.52	0.52
v/c Ratio	0.69	0.24	0.64	0.17	0.56	0.06
Control Delay	46.8	0.4	23.2	4.5	19.9	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	0.4	23.2	4.5	19.9	6.8
LOS	D	A	C	A	B	A
Approach Delay	18.6			11.7	19.3	
Approach LOS	B			B	B	
Queue Length 50th (ft)	146	0	67	33	216	2
Queue Length 95th (ft)	211	0	173	52	382	27
Internal Link Dist (ft)	483			989	342	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	653	2492	1835	843
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.24	0.40	0.17	0.56	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 63.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	1000	1	1	625	1	1
Future Vol, veh/h	1000	1	1	625	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	95	95	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1087	1	1	658	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1088	0	1748	544
Stage 1	-	-	-	-	1088	-
Stage 2	-	-	-	-	660	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	639	-	85	484
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	513	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	639	-	85	484
Mov Cap-2 Maneuver	-	-	-	-	202	-
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	512	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	17.7
HCM LOS			C

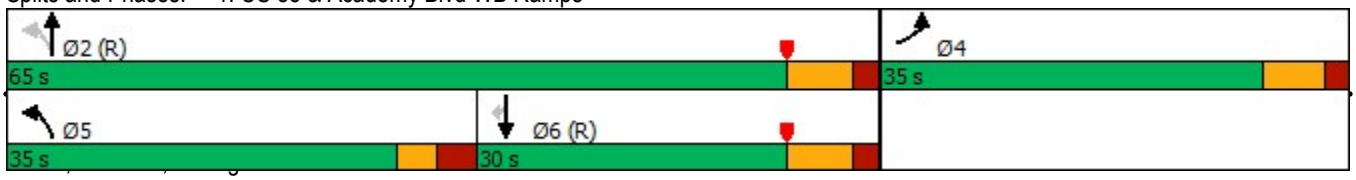
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	285	639	-	-	-
HCM Lane V/C Ratio	0.009	0.002	-	-	-
HCM Control Delay (s)	17.7	10.6	-	-	-
HCM Lane LOS	C	B	-	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	250	150	375	755	305	75
Future Volume (vph)	250	150	375	755	305	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.479			
Satd. Flow (perm)	1770	1583	892	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		163				82
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	422	
Travel Time (s)	11.0			14.6	5.8	
Peak Hour Factor	0.92	0.92	0.93	0.93	0.92	0.92
Adj. Flow (vph)	272	163	403	812	332	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	272	163	403	812	332	82
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	21.5	100.0	68.0	69.0	47.3	47.3
Actuated g/C Ratio	0.22	1.00	0.68	0.69	0.47	0.47
v/c Ratio	0.71	0.10	0.54	0.33	0.20	0.10
Control Delay	46.5	0.1	9.5	5.5	18.0	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.5	0.1	9.5	5.5	18.0	5.5
LOS	D	A	A	A	B	A
Approach Delay	29.1			6.9	15.5	
Approach LOS	C			A	B	
Queue Length 50th (ft)	162	0	74	75	61	0
Queue Length 95th (ft)	229	0	147	107	118	32
Internal Link Dist (ft)	483			989	342	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	869	2440	1675	792
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.10	0.46	0.33	0.20	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 13.3		Intersection LOS: B	
Intersection Capacity Utilization 58.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	375	1	1	1000	15	1	0	1	15	0	3
Future Vol, veh/h	3	375	1	1	1000	15	1	0	1	15	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	345	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	408	1	1	1075	16	1	0	1	19	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1091	0	0	409	0	0	1502	1508	205	1295	1500	1083
Stage 1	-	-	-	-	-	-	415	415	-	1085	1085	-
Stage 2	-	-	-	-	-	-	1087	1093	-	210	415	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	637	-	-	1148	-	-	92	120	802	129	121	263
Stage 1	-	-	-	-	-	-	586	592	-	262	292	-
Stage 2	-	-	-	-	-	-	261	289	-	773	592	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	637	-	-	1148	-	-	90	119	802	128	120	263
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	119	-	128	120	-
Stage 1	-	-	-	-	-	-	583	589	-	261	292	-
Stage 2	-	-	-	-	-	-	257	289	-	768	589	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.1	0	27.6	35.7
HCM LOS			D	E

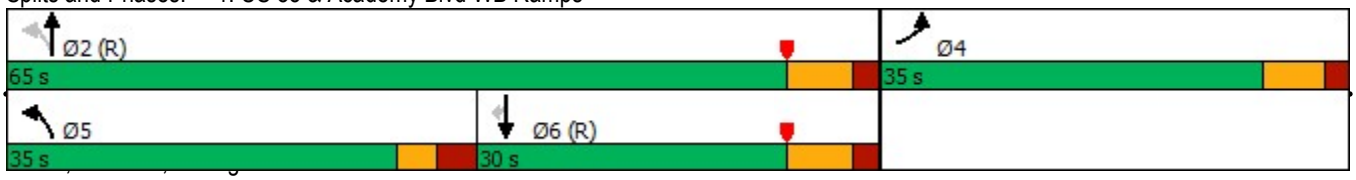
Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	162	1148	-	-	637	-	-	140
HCM Lane V/C Ratio	0.016	0.001	-	-	0.005	-	-	0.165
HCM Control Delay (s)	27.6	8.1	-	-	10.7	-	-	35.7
HCM Lane LOS	D	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	0	0	-	-	0	-	-	0.6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	225	350	250	405	955	50
Future Volume (vph)	225	350	250	405	955	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.169			
Satd. Flow (perm)	1770	1583	315	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		376				48
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	430	
Travel Time (s)	11.0			14.6	5.9	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	242	376	269	435	1027	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	242	376	269	435	1027	54
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	19.9	100.0	69.6	70.6	51.8	51.8
Actuated g/C Ratio	0.20	1.00	0.70	0.71	0.52	0.52
v/c Ratio	0.69	0.24	0.64	0.17	0.56	0.06
Control Delay	46.8	0.4	21.8	4.3	20.0	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	0.4	21.8	4.3	20.0	6.7
LOS	D	A	C	A	B	A
Approach Delay	18.5			11.0	19.3	
Approach LOS	B			B	B	
Queue Length 50th (ft)	144	0	45	32	216	2
Queue Length 95th (ft)	209	0	163	50	380	27
Internal Link Dist (ft)	483			989	350	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	655	2497	1831	842
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.24	0.41	0.17	0.56	0.06

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 64.0%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	1000	1	1	625	15	1	0	1	15	0	3
Future Vol, veh/h	3	1000	1	1	625	15	1	0	1	15	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	345	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1075	1	1	672	16	1	0	1	19	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	688	0	0	1076	0	0	1766	1772	538	1226	1764	680
Stage 1	-	-	-	-	-	-	1082	1082	-	682	682	-
Stage 2	-	-	-	-	-	-	684	690	-	544	1082	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	904	-	-	646	-	-	59	83	488	145	84	450
Stage 1	-	-	-	-	-	-	233	293	-	439	449	-
Stage 2	-	-	-	-	-	-	438	445	-	492	293	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	904	-	-	646	-	-	58	83	488	144	84	450
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	83	-	144	84	-
Stage 1	-	-	-	-	-	-	232	292	-	438	448	-
Stage 2	-	-	-	-	-	-	434	444	-	489	292	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0	40.5	30.9
HCM LOS			E	D

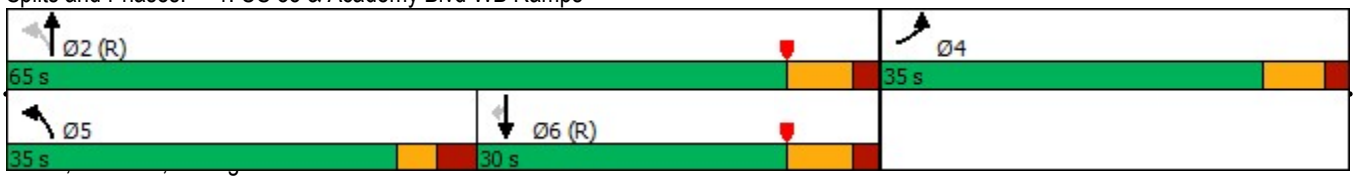
Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	104	646	-	-	904	-	- 162
HCM Lane V/C Ratio	0.025	0.002	-	-	0.004	-	- 0.142
HCM Control Delay (s)	40.5	10.6	-	-	9	-	- 30.9
HCM Lane LOS	E	B	-	-	A	-	- D
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	- 0.5

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	300	175	425	875	350	100
Future Volume (vph)	300	175	425	875	350	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.432			
Satd. Flow (perm)	1770	1583	805	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		190				109
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	403	
Travel Time (s)	11.0			14.6	5.5	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Adj. Flow (vph)	326	190	447	921	380	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	190	447	921	380	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.0	100.0	65.5	66.5	42.5	42.5
Actuated g/C Ratio	0.24	1.00	0.66	0.66	0.42	0.42
v/c Ratio	0.77	0.12	0.63	0.39	0.25	0.15
Control Delay	47.3	0.2	14.5	6.6	21.5	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	0.2	14.5	6.6	21.5	5.7
LOS	D	A	B	A	C	A
Approach Delay	30.0			9.1	18.0	
Approach LOS	C			A	B	
Queue Length 50th (ft)	193	0	83	86	80	0
Queue Length 95th (ft)	274	0	218	127	144	39
Internal Link Dist (ft)	483			989	323	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	816	2352	1505	736
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.12	0.55	0.39	0.25	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 15.5		Intersection LOS: B	
Intersection Capacity Utilization 64.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	450	1	1	1175	1	1
Future Vol, veh/h	450	1	1	1175	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	93	93	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	484	1	1	1263	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	485	0	1750	243
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	1265	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	1076	-	85	758
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	264	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1076	-	85	758
Mov Cap-2 Maneuver	-	-	-	-	198	-
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	264	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	314	1076	-	-	-
HCM Lane V/C Ratio	0.008	0.001	-	-	-
HCM Control Delay (s)	16.6	8.3	-	-	-
HCM Lane LOS	C	A	-	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

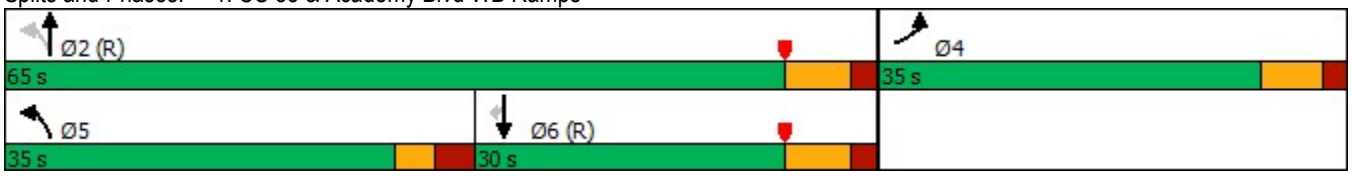
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	275	400	300	475	1000	75
Future Volume (vph)	275	400	300	475	1000	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.131			
Satd. Flow (perm)	1770	1583	244	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		430				68
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	416	
Travel Time (s)	11.0			14.6	5.7	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.95	0.95
Adj. Flow (vph)	296	430	323	511	1053	79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	296	430	323	511	1053	79
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	22.8	100.0	66.7	67.7	45.7	45.7
Actuated g/C Ratio	0.23	1.00	0.67	0.68	0.46	0.46
v/c Ratio	0.73	0.27	0.77	0.21	0.65	0.10
Control Delay	46.3	0.4	37.6	5.4	26.4	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	0.4	37.6	5.4	26.4	7.8
LOS	D	A	D	A	C	A
Approach Delay	19.1			17.9	25.1	
Approach LOS	B			B	C	
Queue Length 50th (ft)	175	0	129	46	262	4
Queue Length 95th (ft)	246	0	254	68	#500	39
Internal Link Dist (ft)	483			989	336	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	620	2395	1616	760
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.27	0.52	0.21	0.65	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 21.3		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



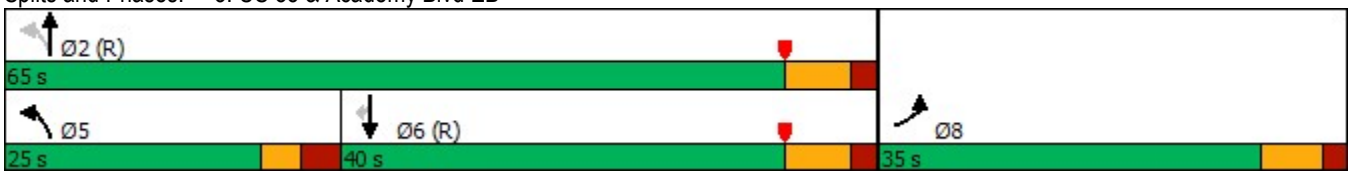
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	80	221	256	1249	346	165
Future Volume (vph)	80	221	256	1249	346	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	525			0
Storage Lanes	1	1	1			1
Taper Length (ft)	25		140			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor	0.83					
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.462			
Satd. Flow (perm)	1473	1583	861	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		240				179
Link Speed (mph)	35			50	50	
Link Distance (ft)	617			1166	1069	
Travel Time (s)	12.0			15.9	14.6	
Confl. Peds. (#/hr)	165					
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Growth Factor	300%	100%	100%	100%	100%	100%
Adj. Flow (vph)	261	240	269	1315	376	179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	261	240	269	1315	376	179
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	8		5	2	6	
Permitted Phases		Free	2			6
Detector Phase	8		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		25.0	65.0	40.0	40.0
Total Split (%)	35.0%		25.0%	65.0%	40.0%	40.0%
Maximum Green (s)	28.5		19.0	58.0	33.0	33.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	21.0	100.0	68.5	69.5	52.0	52.0
Actuated g/C Ratio	0.21	1.00	0.68	0.70	0.52	0.52
v/c Ratio	0.70	0.15	0.38	0.53	0.20	0.20
Control Delay	46.6	0.2	8.3	9.1	4.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.6	0.2	8.3	9.1	4.1	0.4
LOS	D	A	A	A	A	A
Approach Delay	24.4			8.9	2.9	
Approach LOS	C			A	A	
Queue Length 50th (ft)	155	0	56	187	17	0
Queue Length 95th (ft)	221	0	111	298	30	m0
Internal Link Dist (ft)	537			1086	989	
Turn Bay Length (ft)			525			
Base Capacity (vph)	522	1583	771	2460	1841	909
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.15	0.35	0.53	0.20	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 4 (4%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 55.7%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: US 85 & Academy Blvd EB



Intersection	
Int Delay, s/veh	0

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	1175	1	1	750	1	1
Future Vol, veh/h	1175	1	1	750	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	93	93	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1237	1	1	806	1	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1238	0	2046	619
Stage 1	-	-	-	-	1238	-
Stage 2	-	-	-	-	808	-
Critical Hdwy	-	-	4.13	-	6.63	6.93
Critical Hdwy Stg 1	-	-	-	-	5.83	-
Critical Hdwy Stg 2	-	-	-	-	5.43	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	-	560	-	55	432
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	437	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	560	-	55	432
Mov Cap-2 Maneuver	-	-	-	-	163	-
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	436	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	20.4
HCM LOS			C

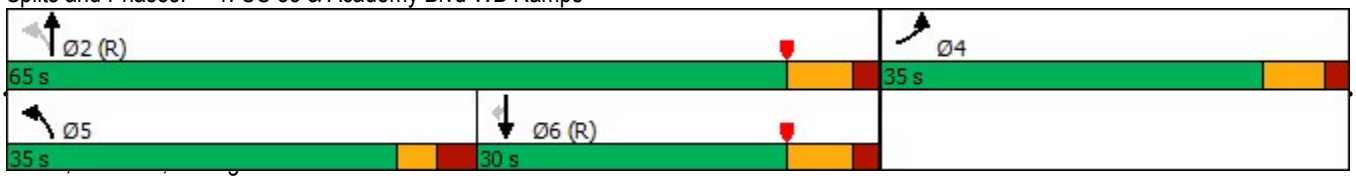
Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	237	560	-	-	-
HCM Lane V/C Ratio	0.011	0.002	-	-	-
HCM Control Delay (s)	20.4	11.4	-	-	-
HCM Lane LOS	C	B	-	-	-
HCM 95th %tile Q(veh)	0	0	-	-	-

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	300	175	425	880	355	100
Future Volume (vph)	300	175	425	880	355	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.428			
Satd. Flow (perm)	1770	1583	797	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		190				109
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	393	
Travel Time (s)	11.0			14.6	5.4	
Peak Hour Factor	0.92	0.92	0.95	0.95	0.92	0.92
Adj. Flow (vph)	326	190	447	926	386	109
Shared Lane Traffic (%)						
Lane Group Flow (vph)	326	190	447	926	386	109
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	24.0	100.0	65.5	66.5	42.5	42.5
Actuated g/C Ratio	0.24	1.00	0.66	0.66	0.42	0.42
v/c Ratio	0.77	0.12	0.63	0.39	0.26	0.15
Control Delay	47.3	0.2	14.6	7.2	21.6	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.3	0.2	14.6	7.2	21.6	5.7
LOS	D	A	B	A	C	A
Approach Delay	30.0			9.6	18.1	
Approach LOS	C			A	B	
Queue Length 50th (ft)	193	0	83	87	81	0
Queue Length 95th (ft)	274	0	227	156	146	39
Internal Link Dist (ft)	483			989	313	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	813	2352	1505	736
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.62	0.12	0.55	0.39	0.26	0.15

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	450	1	1	1175	15	1	0	1	15	0	3
Future Vol, veh/h	3	450	1	1	1175	15	1	0	1	15	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	345	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	489	1	1	1237	16	1	0	1	19	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1253	0	0	490	0	0	1745	1751	245	1498	1743	1245
Stage 1	-	-	-	-	-	-	496	496	-	1247	1247	-
Stage 2	-	-	-	-	-	-	1249	1255	-	251	496	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	553	-	-	1071	-	-	61	85	756	92	86	211
Stage 1	-	-	-	-	-	-	525	544	-	212	244	-
Stage 2	-	-	-	-	-	-	211	242	-	732	544	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	553	-	-	1071	-	-	60	84	756	91	85	211
Mov Cap-2 Maneuver	-	-	-	-	-	-	60	84	-	91	85	-
Stage 1	-	-	-	-	-	-	522	541	-	211	244	-
Stage 2	-	-	-	-	-	-	207	242	-	727	541	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0.1	0	38.2	50.9
HCM LOS			E	F

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SERSWLn1
Capacity (veh/h)	111	1071	-	-	553	-	- 101
HCM Lane V/C Ratio	0.023	0.001	-	-	0.006	-	- 0.228
HCM Control Delay (s)	38.2	8.4	-	-	11.5	-	- 50.9
HCM Lane LOS	E	A	-	-	B	-	- F
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	- 0.8

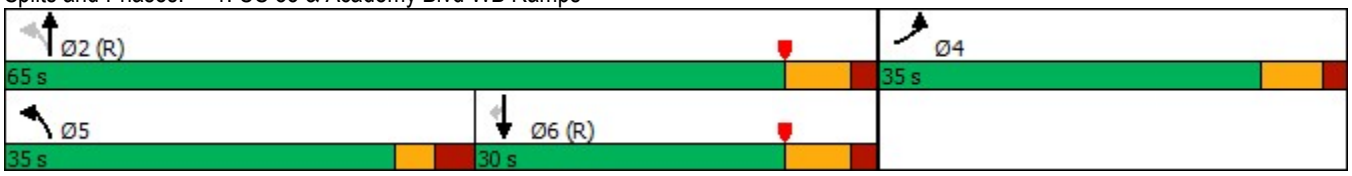
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	275	400	300	480	1105	75
Future Volume (vph)	275	400	300	480	1105	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	230			220
Storage Lanes	1	1	1			1
Taper Length (ft)	25		215			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	3539	3539	1583
Flt Permitted	0.950		0.099			
Satd. Flow (perm)	1770	1583	184	3539	3539	1583
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		430				62
Link Speed (mph)	35			50	50	
Link Distance (ft)	563			1069	380	
Travel Time (s)	11.0			14.6	5.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.95	0.95
Adj. Flow (vph)	296	430	323	516	1163	79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	296	430	323	516	1163	79
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	24			18	18	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Number of Detectors	1	1	1	2	2	1
Detector Template	Left	Right	Left	Thru	Thru	Right
Leading Detector (ft)	20	20	20	100	100	20
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	20	6	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)				94	94	
Detector 2 Size(ft)				6	6	
Detector 2 Type				Cl+Ex	Cl+Ex	
Detector 2 Channel						
Detector 2 Extend (s)				0.0	0.0	
Turn Type	Prot	Free	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		Free	2			6

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Detector Phase	4		5			
Switch Phase						
Minimum Initial (s)	5.0		5.0	15.0	15.0	15.0
Minimum Split (s)	11.5		11.0	22.0	22.0	22.0
Total Split (s)	35.0		35.0	65.0	30.0	30.0
Total Split (%)	35.0%		35.0%	65.0%	30.0%	30.0%
Maximum Green (s)	28.5		29.0	58.0	23.0	23.0
Yellow Time (s)	4.5		3.0	5.0	5.0	5.0
All-Red Time (s)	2.0		3.0	2.0	2.0	2.0
Lost Time Adjust (s)	-1.0		-1.0	-3.0	-3.0	-3.0
Total Lost Time (s)	5.5		5.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	C-Max	C-Max	C-Max
Act Effct Green (s)	22.8	100.0	66.7	67.7	45.7	45.7
Actuated g/C Ratio	0.23	1.00	0.67	0.68	0.46	0.46
v/c Ratio	0.73	0.27	0.82	0.22	0.72	0.10
Control Delay	46.3	0.4	45.1	5.3	28.1	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	0.4	45.1	5.3	28.1	8.7
LOS	D	A	D	A	C	A
Approach Delay	19.1			20.6	26.9	
Approach LOS	B			C	C	
Queue Length 50th (ft)	175	0	135	44	303	6
Queue Length 95th (ft)	246	0	236	72	#580	42
Internal Link Dist (ft)	483			989	300	
Turn Bay Length (ft)			230			220
Base Capacity (vph)	522	1583	598	2395	1616	756
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.27	0.54	0.22	0.72	0.10

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 88 (88%), Referenced to phase 2:NBTL and 6:SBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 73.7%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: US 85 & Academy Blvd WB Ramps



Intersection	
Int Delay, s/veh	0.6

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	1175	1	1	750	15	1	0	1	15	0	3
Future Vol, veh/h	3	1175	1	1	750	15	1	0	1	15	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	345	-	-	50	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	93	93	93	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	1237	1	1	806	16	1	0	1	19	0	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	822	0	0	1238	0	0	2062	2068	619	1441	2060	814
Stage 1	-	-	-	-	-	-	1244	1244	-	816	816	-
Stage 2	-	-	-	-	-	-	818	824	-	625	1244	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.93	7.33	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	805	-	-	560	-	-	36	54	432	101	55	377
Stage 1	-	-	-	-	-	-	185	245	-	370	390	-
Stage 2	-	-	-	-	-	-	369	386	-	440	245	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	805	-	-	560	-	-	35	54	432	100	55	377
Mov Cap-2 Maneuver	-	-	-	-	-	-	35	54	-	100	55	-
Stage 1	-	-	-	-	-	-	184	244	-	369	389	-
Stage 2	-	-	-	-	-	-	365	385	-	437	244	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	0	0	62.6	44.4
HCM LOS			F	E

Minor Lane/Major Mvmt	NELn1	NWL	NWT	NWR	SEL	SET	SER	SWLn1
Capacity (veh/h)	65	560	-	-	805	-	-	114
HCM Lane V/C Ratio	0.039	0.002	-	-	0.004	-	-	0.202
HCM Control Delay (s)	62.6	11.4	-	-	9.5	-	-	44.4
HCM Lane LOS	F	B	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.7

Access Permit No. 222166

TRANSPORTATION
CONSULTANTS, INC.

COLORADO
Department of
Transportation
Region 2 Traffic Section
5615 Wills Blvd Suite A
Pueblo, CO 81008
P (719) 562-5537 F (719) 546-5414

October 14, 2022

Permit No. **222166**
SH 85 El Paso County

Bradley Point LLC Steve Schnurr
2010 Fox Mountain Point
Colorado Springs, CO 80906

Dear Permittee:

1. Please review the attached State Highway Access Permit (Form #101) and all enclosed attachments.

2. If you choose NOT to act on the permit, please return the permit unsigned.

3. If you wish to APPEAL the Terms and Conditions of the permit, please refer to the attached Form 101, Pages 2 and 3 for an explanation of the appeal procedures.

4. If you ACCEPT the Permit and its Terms and Conditions and are authorized to sign as legal owner of the property or as an authorized representative, please sign and date the Access Permit form on the line marked "PERMITTEE". Your signature confirms your agreement to all the listed Terms and Conditions.

5. Provide a check or money order made payable to "CDOT" for the total amount due of $100.00 or pay via PayPal when prompted after you have executed the permit offer in DocuSign. Contact the permit author if you did not receive the PayPal link, the link can be sent via email.

6. **You must return the executed Access Permit, including all pages of terms and conditions and all attachments, with your payment to the Colorado Department of Transportation (CDOT) at the address noted below. The Department will provide you an executed copy. You may retain this cover letter for your records. If you sign via DocuSign, do nothing the Department will provide an executed copy of this permit after the fee is received.**

7. If you fail to sign and return the attached Access Permit within 60 days of the date of this transmittal letter, Colorado Department of Transportation will consider this permit withdrawn.

8. **As described in the attached Terms and Conditions, you must make a written request to obtain a Notice to Proceed. DO NOT begin any work within the State Highway Right-of-Way without a validated Access Permit and Notice to Proceed. Use of this permit without the Colorado Department of Transportation's validation shall be considered a violation of State Law.**

If you have any questions please call Michelle Regalado, Assistant Access Manager at (719) 562-5537.

Please return Access Permit and attachments to:

Michelle Regalado, Assistant Access Manager
Region 2 Traffic Section
5615 Wills Blvd Suite A
Pueblo, Colorado 81008

COLORADO DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ACCESS PERMIT

CDOT Permit No.	State Highway No / Mp / Side
222166	085A / 135.67 / Right

Permit Fee	Date of Transmittal	Region / Section / Patrol / Name	Local Jurisdiction
$300.00	10/14/2022	2 / 04 / 53 / Bauer	El Paso County

The Permittee(s):

Bradley Point LLC - Steve Schnurr
2010 Fox Mountain Point
Colorado Springs, Colorado 80906
P (719) 491-3101 E sjschnurr@comcast.net

The Applicant(s):

is hereby granted permission to have an access to the state highway at the location noted below. The access shall be constructed, maintained and used in accordance with this permit, including the State Highway Access Code and any attachments, terms, conditions and exhibits. This permit may be revoked by the Issuing Authority if at any time the permitted access and its use violate any parts of this permit. The issuing authority, the Department and their duly appointed agents and employees shall be held harmless against any action for personal injury or property damage sustained by reason of the exercise of the permit.

Location:

SH 85A ±1,796 feet south from MP 136 R
Parcel 6503400040 SH 85/87A MP 135.67 EPC

Access to Provide Service to:

LAND USE CODE	SIZE	UNITS
1000 - Other Vacant proposing Lawn/Landscaping Materials Storage	**4.61**	**Acres**

Additional Information:

Please see attached Terms and Conditions

MUNICIPALITY OR COUNTY APPROVAL
Required only when the appropriate local authority retains issuing authority.

Signature	Print Name	Date	Title

Upon the signing of this permit the permittee agrees to the terms and conditions and referenced attachments contained herein. All construction shall be completed in an expeditious and safe manner and shall be finished within 45 days from Initiation. The permitted access shall be completed in accordance with the terms and conditions of the permit prior to being used.

The permittee shall notify Ron Young with the Colorado Department of Transportation, at (719) 289-8718 at least 48 hours prior to commencing construction within the State Highway right-of-way.

The person signing as the permittee must be the owner or legal representative of the property served by the permitted access and have full authority to accept the permit and its terms and conditions.

Permittee Signature:	Print Name	Date
DocuSigned by: Steve J Schnurr 7BB91C368996483...	Steve J Schnurr	10/15/2022 | 1:24 PM MDT
Co-Permittee Signature: (if applicable)	Print Name	Date

This permit is not valid until signed by a duly authorized representative of the Department.
COLORADO DEPARTMENT OF TRANSPORTATION

Signature	Print Name	Title	Date (of issue)
DocuSigned by: Michelle Regalado 3663D690C5144402...	Michelle Regalado	Assistant Access Manager	10/18/2022 | 8:21 AM MDT

Copy Distribution: Required: 1.Region 2.Applicant 3.Staff Access Section 4.Central Files

Make copies as necessary for: Local Authority, Inspector, MTCE Patrol, Traffic Engineer

Previous editions are obsolete and may not be used

The following paragraphs are excerpts of the State Highway Access Code. These are provided for your convenience but do not alleviate compliance with all sections of the Access Code. A copy of the State Highway Access Code is available from your local issuing authority (local government) or the Colorado Department of Transportation (Department). When this permit was issued, the issuing authority made its decision based in part on information submitted by the applicant, on the access category which is assigned to the highway, what alternative access to other public roads and streets is available, and safety and design standards. Changes in use or design not approved by the permit or the issuing authority may cause the revocation or suspension of the permit.

APPEALS

1. Should the permittee or applicant object to the denial of a permit application by the Department or object to any of the terms or conditions of a permit placed there by the Department, the applicant and permittee (appellant) have a right to appeal the decision to the [Transportation] Commission [of Colorado]. To appeal a decision, submit a request for administrative hearing to the Transportation Commission of Colorado within 60 days of transmittal of notice of denial or transmittal of the permit for signature. Submit the request to the Transportation Commission of Colorado, 4201 East Arkansas Avenue, Denver, Colorado 80222-3400. The request shall include reasons for the appeal and may include changes, revisions, or conditions that would be acceptable to the permittee or applicant.

2. Any appeal by the applicant or permittee of action by a local issuing authority shall be filed with the local authority and be consistent with the appeal procedures of the local authority.

3. In submitting the request for administrative hearing, the appellant has the option of including within the appeal a request for a review by the Department's internal administrative review committee pursuant to [Code] subsection 2.10. When such committee review is requested, processing of the appeal for formal administrative hearing, 2.9(5) and (6), shall be suspended until the appellant notifies the Commission to proceed with the administrative hearing, or the appellant submits a request to the Commission or the administrative law judge to withdraw the appeal. The two administrative processes, the internal administrative review committee, and the administrative hearing, may not run concurrently.

4. Regardless of any communications, meetings, administrative reviews or negotiations with the Department or the internal administrative review Committee regarding revisions or objections to the permit or a denial, if the permittee or applicant wishes to appeal the Department's decision to the Commission for a hearing, the appeal must be brought to the Commission within 60 days of transmittal of notice of denial or transmittal of the permit.

PERMIT EXPIRATION

1. A permit shall be considered expired if the access is not under construction within one year of the permit issue date or before the expiration of any authorized extension. When the permittee is unable to commence construction within one year after the permit issue date, the permittee may request a one year extension from the issuing authority. No more than two one-year extensions may be granted under any circumstances. If the access is not under construction within three years from date of issue the permit will be considered expired. Any request for an extension must be in writing and submitted to the issuing authority before the permit expires. The request should state the reasons why the extension is necessary, when construction is anticipated, and include a copy of page 1 (face of permit) of the access permit. Extension approvals shall be in writing. The local issuing authority shall obtain the concurrence of the Department prior to the approval of an extension, and shall notify the Department of all denied extensions within ten days. Any person wishing to reestablish an access permit that has expired may begin again with the application procedures. An approved Notice to Proceed, automatically renews the access permit for the period of the Notice to Proceed.

CONSTRUCTION

1. Construction may not begin until a Notice to Proceed is approved. (Code subsection 2.4]

2. The construction of the access and its appurtenances as required by the terms and conditions of the permit shall be completed at the expense of the permittee except as provided in subsection 2.14. All materials used in the construction of the access within the highway right-of-way or on permanent easements, become public property. Any materials removed from the highway right-of-way will be disposed of only as directed by the Department. All fencing, guard rail, traffic control devices and other equipment and materials removed in the course of access construction shall be given to the Department unless otherwise instructed by the permit or the Department inspector.

3. The permittee shall notify the individual or the office specified on the permit or Notice to Proceed at least two working days prior to any construction within state highway right-of-way. Construction of the access shall not proceed until both the access permit and the Notice to Proceed are issued. The access shall be completed in an expeditious and safe manner and shall be finished within 45 days from initiation of construction within the highway right-of-way. A construction time extension not to exceed 30 working days may be requested from the individual or office specified on the permit.

4. The issuing authority and the Department may inspect the access during construction and upon completion of the access to ensure that all terms and conditions of the permit are met. Inspectors are authorized to enforce the conditions of the permit during construction and to halt any activities within state right-of-way that do not comply with the provisions of the permit, that conflict with concurrent highway construction or maintenance work, that endanger highway property, natural or cultural resources protected by law, or the health and safety of workers or the public.

DS
SJS

5. Prior to using the access, the permittee is required to complete the construction according to the terms and conditions of the permit. Failure by the permittee to abide by all permit terms and conditions shall be sufficient cause for the Department or issuing authority to initiate action to suspend or revoke the permit and close the access. If in the determination of the Department or issuing authority the failure to comply with or complete the construction requirements of the permit create a highway safety hazard, such shall be sufficient cause for the summary suspension of the permit. If the permittee wishes to use the access prior to completion, arrangements must be approved by the issuing authority and Department and included in the permit. The Department or issuing authority may order a halt to any unauthorized use of the access pursuant to statutory and regulatory powers. Reconstruction or improvement of the access may be required when the permittee has failed to meet required specifications of design or materials. If any construction element fails within two years due to improper construction or material specifications, the permittee shall be responsible for all repairs. Failure to make such repairs may result in suspension of the permit and closure of the access.

6. The permittee shall provide construction traffic control devices at all times during access construction, in conformance with the M.U.T.C.D. as required by section 42-4-104, C.R.S., as amended.

7. A utility permit shall be obtained for any utility work within highway right-of-way. Where necessary to remove, relocate, or repair a traffic control device or public or private utilities for the construction of a permitted access, the relocation, removal or repair shall be accomplished by the permittee without cost to the Department or issuing authority, and at the direction of the Department or utility company. Any damage to the state highway or other public right-of-way beyond that which is allowed in the permit shall be repaired immediately. The permittee is responsible for the repair of any utility damaged in the course of access construction, reconstruction or repair.

8. In the event it becomes necessary to remove any right-of-way fence, the posts on either side of the access shall be securely braced with an approved end post before the fence is cut to prevent any slacking of the remaining fence. All posts and wire removed are Department property and shall be turned over to a representative of the Department.

9. The permittee shall ensure that a copy of the permit is available for review at the construction site at all times. The permit may require the contractor to notify the individual or office specified on the permit at any specified phases in construction to allow the field inspector to inspect various aspects of construction such as concrete forms, subbase, base course compaction, and materials specifications. Minor changes and additions may be ordered by the Department or local authority field inspector to meet unanticipated site conditions.

10. Each access shall be constructed in a manner that shall not cause water to enter onto the roadway or shoulder, and shall not interfere with the existing drainage system on the right-of-way or any adopted municipal system and drainage plan.

11. By accepting the permit, permittee agrees to save, indemnify, and hold harmless to the extent allowed by law, the issuing authority, the Department, its officers, and employees from suits, actions, claims of any type or character brought because of injuries or damage sustained by any person resulting from the permittee's use of the access permit during the construction of the access.

CHANGES IN ACCESS USE AND PERMIT VIOLATIONS

1. It is the responsibility of the property owner and permittee to ensure that the use of the access to the property is not in violation of the Code, permit terms and conditions or the Act. The terms and conditions of any permit are binding upon all assigns, successors-in-interest, heirs and occupants. If any significant changes are made or will be made in the use of the property which will affect access operation, traffic volume and or vehicle type, the permittee or property owner shall contact the local issuing authority or the Department to determine if a new access permit and modifications to the access are required.

2. When an access is constructed or used in violation of the Code, section 43-2-147(5)(c), C.R.S., of the Act applies. The Department or issuing authority may summarily suspend an access permit and immediately order closure of the access when its continued use presents an immediate threat to public health, welfare or safety. Summary suspension shall comply with article 4 of title 24, C.R.S.

MAINTENANCE

1. The permittee, his or her heirs, successors-in-interest, assigns, and occupants of the property serviced by the access shall be responsible for meeting the terms and conditions of the permit, the repair and maintenance of the access beyond the edge of the roadway including any cattle guard and gate, and the removal or clearance of snow or ice upon the access even though deposited on the access in the course of Department snow removal operations. Within unincorporated areas the Department will keep access culverts clean as part of maintenance of the highway drainage system. However, the permittee is responsible for the repair and replacement of any access-related culverts within the right-of-way. Within incorporated areas, drainage responsibilities for municipalities are determined by statute and local ordinance. The Department will maintain the roadway including auxiliary lanes and shoulders, except in those cases where the access installation has failed due to improper access construction and/or failure to follow permit requirements and specifications in which case the permittee shall be responsible for such repair. Any significant repairs such as culvert replacement, resurfacing, or changes in design or specifications, requires authorization from the Department.

DS SJS

October 14, 2022
Access Permit No. 222166
Bradley Point LLC/Steve Schnurr
Parcel 6503400040 SH 85/87 Colo Springs EL PASO | SH 085A ±1,796 feet south of MP 136 (MP 135.67R)

1. A Notice to Proceed to Construction (NTP), CDOT Form 1265, is required before beginning the construction of the access or any activity in the highway right-of-way. All submittals, documents, plans, and other items that must be completed shall be submitted and approved by the Department before a NTP to construction will be issued.

2. The access is located on the **right** side of State Highway **085A**, a distance of **±1,796** feet **south** from milepost **136** (**MP 135.67**). Property to the east is BN&SF RR right-of-way (±100 feet wide) and is elevated above the subject site by 5 feet therefore access via a local road (Bradley Rd) is not available.

3. This section of highway is a Category **NR-A** highway. The information submitted with the application requires the following improvements be designed and installed:

   a) A 36" x 36" R1-1 STOP sign shall be placed at the access for all egressing vehicular movements onto highway 85/87.
   b) Hard surface pavement will be required as detailed in item #56 for a distance of 50 feet from the edge of roadway
   c) Re-stipe a southbound left turn deceleration lane into the site where the existing painted median exists.

DS SJS

4. The Permittee/Applicant shall provide the Department with the following submittals, documents, plans and other items for review prior to the issuance of a NOTICE TO PROCEED to construction:
   a) A written request for a NOTICE TO PROCEED including the access permit number listed above.
   b) The Permittee, through a Colorado registered professional engineer, shall provide design, construction, pavement striping and signing plans to the Department for approval. Design plans must include, but not limited to, layout of auxiliary lanes, utility locations, present and proposed right-of-way lines, present and proposed traffic control devices, cross sections on 50 foot intervals (NO CONTOURS), typical sections showing proposed surfacing requirements, and seeding requirements. Upon approval and prior to issuing a NOTICE TO PROCEED improvement design plans shall be provided and shall be stamped and sealed by a Colorado registered professional engineer. The final design plans will be incorporated into this Access Permit.
   c) Cost estimate for the improvements of the highway.
   d) Traffic Report dated May 31, 2021 signed and sealed by a Colorado registered professional engineer.
   e) Recorded cross lot access easement to serve both parcels 6503400038 and 6503400040.
   f) A copy of the final recorded plat.
   g) Signature Authority Verification for Permittee

DS SJS

5. This Access Permit is issued to relocate an existing undocumented access to State Highway **085A on parcel 6503400040 (±4.61 acres)**. The existing access is located on the **right** side of State Highway **085A** at approximately milepost **135.62**. The new location of the access is on the **right** side of State Highway **085A** at approximately milepost 135.67 on parcel 6503400038 (±4.89 acres). The removal of the existing access shall include, but is not limited to, the return of highway right-of-way slopes, ditches, and fences to match existing adjacent conditions, including removal of asphalt aprons and culverts. Any asphalt removed from the highway shall result in a smooth finished edge. The removal of the access shall be completed to the satisfaction of the Senior Highway Maintenance Supervisor designated below. The access will serve (1) Landscape Material Storage Facility on 9.5 acres.

6. A pre-construction meeting/discussion shall be held with Ron Young, CDOT Access Construction Coordinator and Inspector prior to any construction within the state highway right-of-way AT LEAST 5 DAYS BEFORE STARTING WORK. To schedule meeting contact Mr. Young at (719) 289-8718 and ronaldr.young@state.co.us

7. Under no circumstances shall the construction of a private driveway by a private interest interfere with the completion of a public highway construction project. The private interest shall coordinate work the CDOT resident engineer named below.

8. The Permittee is responsible for wind and air borne erosion control measures during the construction phase. The developer is responsible for MS4 compliance; best management practice during construction should include clean project entry. The project landfall must be shaped and armored in such a way that no head-cutting will occur. No construction traffic is allowed to enter the highway along pioneered pathways through the ditches.

9. Equipment and vehicles cannot be parked in the clear zone; this includes when occupied by construction personnel; the clear zone shall be kept clear of vehicles, equipment and stockpile to prevent accidents.

10. No additional access will be allowed to State Highway **085A** between milepost135.73 and milepost 135.47 along property boundary. A recorded cross lot access agreement shall be acquired from El Paso County granting ingress/egress from parcel 6503400038 to parcel **6503400040**.

11. The Permittee shall refer to all additional standard requirements attached to this permit. This includes CDOT Form 101b, enclosed additional terms, conditions, exhibits, and noted attachments.

12. The following criteria were used to establish this Access Permit:
    a) The Application for Access Permit (CDOT Form 137) dated **June 3, 2022** and accepted by the regional office on **September 22, 2022** and all attachments.
    b) State Highway Access Code, Volume 2, CCR-601-1; Effective date March 2002
    c) The State Highway Access Category Assignment Schedule, as revised.
    d) The Colorado Department of Transportation (CDOT) M&S Standard Plans
    e) Vicinity Map
    f) Attached Details
    g) Exhibit A, "Seeding Requirements"
    h) Environmental Clearances Information Summary
    i) Approved Traffic Report, signed and sealed by Jeff Hodsdon, PE # 31684 dated June 1, 2022.
    j) Recorded Easement Agreement

13. The Permittee is required to comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) that have been adopted by the U.S. Architectural and Transportation Barriers Compliance Board (Access Board) and incorporated by the U.S. Attorney General as a federal standard. These guidelines are defining traversable slope requirements and prescribing the use of a defined pattern of truncated domes as detectable warnings at street crossings. The new Standards Plans and can be found on the Design and Construction Project Support web page at: https://www.codot.gov/business/designsupport/standard-plans.

14. It is the responsibility of the Permittee/applicant to determine which environmental clearances and/or regulations apply to the project, and to obtain any clearances that are required directly from the appropriate agency. Please refer to or request a copy of the "CDOT Environmental Clearance Information Summary" for details. FAILURE TO COMPLY WITH REGULATORY REQUIREMENTS MAY RESULT IN SUSPENSION OR REVOCATION OF YOUR CDOT PERMIT, OR ENFORCEMENT ACTIONS BY OTHER AGENCIES.

15. ALL discharges are subject to the provisions of the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations. Prohibited discharges include substances such as: wash water, paint, automotive fluids, solvents, oils or soaps.

16. Unless otherwise identified by CDOT or the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Division (WQCD) as significant sources of pollutants to the waters of

the State, the following discharges to storm water systems are allowed without a Colorado Discharge Permit System permit: landscape irrigation, diverted stream flows, uncontaminated ground water infiltration to separate storm sewers, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, footing drains; water line flushing, flows from riparian habitats and wetlands, and flow from firefighting activities. However, construction activities may require a Construction Stormwater Permit. Contact the CDOT R2 Water Quality Specialist, Troy Rice at 719-227-3260.

17. Any other discharges may require Colorado Discharge Permit(s) or separate permits from CDPHE or the appropriate agency before work begins. For additional information and forms, go to the CDPHE website at: http://www.cdphe.state.co.us/wq/PermitsUnits/wqcdpmt.html.

18. All discharges to the CDOT highway drainage system must comply with the applicable provisions of the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations and are subject to inspection by the CDOT and CDPHE. Although the City of Colorado Springs or El Paso County may or may not be a municipality that is required to obtain MS-4 permits, CDOT would like to emphasize this development devise and implement a permanent plan for periodic removal and disposal of sediment from detention facilities and for maintenance of development detention facilities. Attached is the CDOT Environmental Clearances Information Summary listing some of the more commonly encountered environmental permits/clearances that may apply to activities and contacts for questions regarding these permits/clearances.

19. This Access Permit is issued in accordance with the 2002 State Highway Access Code (2CCR 601-1) and is based in part upon the information submitted by the Permittee. This Access Permit is only for the use and purpose stated in the Application and on the Permit. Any changes, based upon existing and/or anticipated future conditions in traffic volumes, drainage, types of traffic, or other operational aspects may render this permit void, requiring a new Application for Access Permit to be submitted for review by the Department and/or Issuing Authority.

20. If necessary, minor changes, corrections and/or additions to the Permit may be ordered by the Department Inspector, other Department representative, or the local authority, to meet unanticipated site conditions. Changes may not be in violation of the State Highway Access Code. All major changes to the permit must be approved in writing by the Department prior to commencement of any work on or within the State Highway right-of-way.

21. All work is to conform to the plans referenced by this permit on file with the Colorado Department of Transportation or as modified by this Permit or a valid Notice to Proceed. If discrepancies arise, this permit and the valid Notice to Proceed shall take precedence over the plans. The Department plan review is only for the general conformance with the Department's design and code requirements. The Department is not responsible for the accuracy and adequacy of the design, dimensions, elevation or any other element, which shall be confirmed and correlated at the work site. The Department through the approval of this document assumes no responsibility for the completeness and/or accuracy of the plans.

22. The Department standards, specifications, and regulations shall override the design plans incorporated in this permit should an oversight, omission, or conflict occur. The Department assumes no liability or responsibility whatsoever for the accuracy, completeness or correctness of the Permittee's design plans. Any design plan errors are the sole responsibility of the Permittee and/or the engineer.

23. The access shall be completed in an expeditious and safe manner and shall be finished within 45 days from initiation of construction within State Highway right-of-way.

24. Backing maneuvers within and into the State Highway right-of-way are strictly prohibited. All vehicles shall enter and exit the highway right-of-way in a forward movement. Backing into the

right-of-way shall be considered a violation of the Terms and Conditions of the Access Permit and may result in the revocation of the Permit by the Department and/or Issuing Authority.

25. This access will be allowed a full movement. However, left turn movements in and out of this access may be prohibited at some future date.

26. A Fully Executed Complete Copy of this Permit and a valid Notice to Proceed to Construction must be on the job site with the contractor at all times during the construction. Failure to comply with this or any other construction requirement may result in the immediate suspension of the work by order of the Department Inspector or the Issuing Authority.

27. Any additional permits and clearances required by other Federal, State, Local Government Agencies or Ditch Companies is the responsibility of the Permittee and/or Applicant.

28. The Permittee is responsible for obtaining any necessary additional federal, state and/or local government agency permits, or clearances required for construction of the access. Approval of this access permit does not constitute verification of this action by the Permittee.

29. Whenever there is work within the highway right of way, the Permittee shall develop and implement a traffic control plan. This plan shall utilize traffic control devices as necessary to ensure the safe and expeditious movement of traffic around and through the work site as well as ensure the safety of the work force. A certified Traffic Control Supervisor or a Professional Traffic Engineer may prepare the traffic control plan. The plan shall be in conformance with the latest Manual on Uniform Traffic Control Devices (MUTCD) and other applicable standards. The plan must be submitted and approved by the Senior Maintenance Supervisor listed below five working days prior to beginning construction within the highway right of way. The approved traffic control plan will be attached to the Permit and the NOTICE TO PROCEED TO CONSTRUCTION and must be available on site throughout the duration of the construction. All work that requires traffic control shall be supervised by a registered professional traffic engineer or by a certified traffic control supervisor. The contractor in accordance with the Department Standards shall certify flagging personnel, when required.

30. If any traffic control devices are evident within 50 feet of the construction area, the Permittee/Contractor must contact Mr. Jimmy Biren, Asst. Traffic Operations Engineer, in Pueblo. Mr. Biren can be contacted in Pueblo at (719) 546-5404.

31. Five working days prior to beginning construction, the Permittee/Contractor must contact Mr. Brad Bauer, Senior Maintenance Supervisor, to coordinate the construction. Mr. Bauer can be contacted in Colorado Springs at 719-227-3203. Failure to comply with this requirement may result in the revocation of this permit.

32. Work shall BEGIN AFTER 8:30 a.m. and all equipment shall be off the right-of-way BEFORE 3:30 p.m. each day. No work is allowed within the highway right-of-way on weekends or State/Federal holidays. No construction vehicles shall be parked, or construction materials stockpiled on the highway right-of-way overnight. No private vehicles may be parked on the highway right-of-way at any time during construction.

33. Two-way traffic shall be maintained throughout the work area at all times.

34. The Annual Average Daily Traffic (AADT) volumes using this access shall not exceed 130 trips. If in the future, the traffic volumes increase by greater than 20% of the permitted number, the permittee (property owner) is required to apply for a new Access Permit and may be required to construct highway improvements.

35. The Peak Hour Volumes (PHV) volumes using this access shall not exceed:

a) 12 Morning Peak Hour Trips
b) 12 Afternoon Peak Hour Trips.

36. If the vehicular volumes exceed the state Peak Hour volumes, as determined by the Department, the appropriate warranted highway improvements shall be designed and installed within the earliest construction season unless specifically allowed otherwise, in writing by the Department. The highway improvements shall be designed and constructed by the Permittee at no cost to the Department. Failure by the Permittee to provide such warranted improvements may result in the revoking of the Access Permit and closure of the access approach.

37. All costs associated with the installation of this access are the responsibility of the Permittee. This includes the design, construction, utility relocation, testing of materials and inspection.

38. Reconstruction or improvements to the access may be required when the Permittee has failed to meet the required design and/or materials specifications. If any construction element fails within two years due to improper construction or material specifications, the Permittee shall be responsible for all repairs. Failure to make such repairs may result in the revoking of the permit and closure of the access.

39. All required access improvements shall be installed prior to the herein-authorized use of this access.

40. Signing and striping are the responsibilities of the Permittee. All signs shall be manufactured in accordance with the Manual on Uniform Traffic Control Devices (M.U.T.C.D.). The sheeting for the signs shall be highway intensity sheeting (ASTM Type III retro reflective sheeting). The Department shall approve the striping.

41. All workers within the State Highway right of way shall comply with their employer's safety and health policies/procedures and all applicable US Occupational Safety and Health Administration (OSHA) regulations- including but not limited to the applicable sections of 29 CFR Part 1910 – Occupational Safety and Health Standards and 29 CFR Part 1926 – Safety and Health Regulations for Construction.

42. Personal protective equipment (e.g. head protection, footwear, high visibility apparel, safety glasses, hearing protection, respirators, gloves, etc.) shall be worn as appropriate for the work being performed and as specified in regulation. At a minimum, all workers in the State Highway right of way, except when in their vehicles, shall wear the following personal protective equipment:
    a) Head protection that complies with the ANSI Z89.1-2014 standard;
    b) At all construction sites or whenever there is danger of injury to feet, workers shall comply with OSHA's PPE requirements for foot protection per 29 CFR 1910.136, 1926.95, and 1926.96. If required, such footwear shall meet the requirements of ASTM F 2412-05 and ASTM F 2413-05;
    c) High visibility apparel as specified in the Traffic Control provisions of this permit (at a minimum, ANSI/ISEA 107-1999, Class 2 for day time work and Class 3 required for night time work if allowed).
    d) Where any of the above-referenced ANSI standards have been revised, the most recent version of the standard shall apply.

43. All construction materials, techniques and processes shall be in conformance with the specification on the permit and shall be consistent with Department standard specifications for road construction as set forth in the latest "Standard Specifications for Road and Bridge Construction" manual.

44. The Permittee is responsible for any utilities and/or traffic control devices disrupted by the construction of this access and all expense incurred for repair. There are existing utilities on the highway right-of-way by permit. Owners of those utilities must be contacted. Any work necessary to protect existing permitted utilities, such as encasements, bulwarks, etc. will be the responsibility of the Permittee.
    a) The Permittee is hereby advised that other utilities may exist within the proposed permit area. Permittee shall implement any and all measures to protect any existing utilities from damage.
    b) Non-Destructive Air-vacuum Excavation (potholing) to expose the utilities being surveyed to determine their exact depth and location maybe necessary before any work commences. A core hole saw cut is the recommended method of entry through pavement for potholing. Flowfill is required for backfill of the core hole under the pavement or on the roadway.
    c) The vacuum excavation technique is used not only to expose utilities but also for other uses that are benefited by the non-invasive/non-destructive, environmentally friendly technology such as dewatering or drill fluid/saw cutting fluid removal.
    d) The Contractor shall utilize a spotter to assist in the visual inspection of all excavation work as it progresses near existing CDOT Intelligent Transportation Systems fiber optic line conduits, pull boxes and manholes. The Contractor shall provide a spotter to aid equipment operators when construction activities are near marked or unmarked fiber lines.
    e) The spotter shall observe all excavation work as it progresses to ensure that no damage occurs to existing underground fiber lines. When the spotter has visual sight of the underground conduit, the spotter shall notify the equipment operator of the proximity to the conduit and begin to guide the excavation work. The spotter shall guide all excavation work around the conduit to ensure no damage occurs.

45. It is the responsibility of the permittee to comply with the Subsurface Utility Engineering (SUE) requirements as defined in the ASCE 38 (American Society for Civil Engineering).

46. Additional CDOT permits are required for work involving water, sanitary sewer, gas, electrical, telephone and landscaping within the right-of-way.

47. Any damage to existing highway facilities shall be repaired immediately at no cost to the Department and prior to continuing other work. Any mud or other material tracked or otherwise deposited on the roadway shall be removed daily or as ordered by the Department inspector.

48. The Department Inspector or the Issuing Authority may suspend any work due to noncompliance with the provisions of this permit, adverse weather or traffic conditions, concurrent highway construction or maintenance in conflict with permit work or any condition deemed unsafe for workers or the general public. The work may be resumed upon notice from the Department Inspector or Issuing Authority.

49. The Permittee shall maintain adequate, unobstructed sight distance in both directions from the access. When determining the distance between accesses, the point of tangent shall be used where a radius is present, or the beginning of the curb cut. The minimum sight distance that shall be maintained along the highway for the access shall be 400 feet. The minimum sight distance that shall be maintained for the vehicle entering the highway shall be 850 feet.

50. Any landscaping or potentially obstructing objects such as but not limited to advertising signs, structures, trees, and bushes, shall be designed, placed, and maintained at a height not to interfere with the sight distance needed by any vehicle using the access. Planting of tree(s), which will be over 4 inches in caliper at maturity, will not be allowed within 30 feet of the edge of the traveled way. All other objects shall not exceed a total height of thirty inches from the top of final grade. The Department will require any object or landscaping that becomes unsightly or is considered to be a traffic hazard to be removed by the Permittee at no cost to the Department.

51. The access width, for an access without curbs, shall be measured exclusive of the radii or flares. The width of any non-traversal median is not counted as part of the access width. Only the travel portion is measured.

52. The equivalent turning radii of the access shall accommodate the turning radius of the largest vehicle using the access on a daily basis. Where roadway shoulders are present, the radius is measured to the edge of the closest lane. Where roadway shoulders are not present, the minimum access radii is 25 feet.

53. The access width shall be 36 feet at the right-of-way line.

54. Valley gutters are not allowed.

55. The areas behind the curb and sidewalk shall have a down slope away from the roadway of at least one-percent.

56. The access shall be surfaced upon completion of earthwork construction and prior to being used. The access shall be surfaced from the highway roadway to the right-of-way line.

    a) The access have a hard surface pavement for a minimum distance of 50 feet from the traveled way. The first 50 feet of the access shall be surfaced with 6 inches of compacted Hot Mix Asphalt Type SX(100) PG64-22 and 12 inches of Aggregate Base Course (Class 6). The remainder of the access within the right-of-way shall have 12 inches of Aggregate Base Course (Class 6).
    b) If patching is required due to saw cutting, 6 inches of Hot Mix Asphalt Type SX(100) PG64-22 shall be used. The material will be placed in 3 lifts. Or match existing or 6 inches of Hot Mix Asphalt shall be used, whichever is greater. The material will be placed in 3 lifts.
    c) If hard surfacing (concrete or bituminous pavement) abuts existing pavement, the existing pavement shall be saw cut and removed a minimum of one (1) foot back from the existing edge of pavement.
    d) Compaction of Hot Mix Asphalt shall be in accordance to section 401.17 of the Department's standard specifications. Compaction of the Aggregate Base Course shall comply with section 304.06.
    e) Compaction of sub-grade, embankments and backfills shall be in accordance to section 203.07 of the Department's standard specification.
    f) Placement of base course materials shall be in accordance with section 304.04 of the standard specifications. Compaction shall be in conformance with AASHTO procedure T-99.
    g) If frost, water or moisture is present in the sub-grade, no surfacing materials shall be placed until all frost, water or moisture is gone or removed.
    h) A delay in installation of the Hot Mix Asphalt until April due to seasonal restrictions is allowed provided adequate temporary gravel surfacing is substituted.

57. For any access that is not a curb cut, including streets and private access using curb returns, the first 20 feet beyond the closest highway lane, including speed change lanes or the distance to the side drain, whichever is greater, shall slope down and away from the highway at a two percent grade to ensure proper drainage control.

58. Within the right-of-way, maximum grades shall be limited to eight percent for all accesses except field and residential.

59. The horizontal axis of an access to the highway shall be at a right angle to the centerline of the highway and extend a minimum of 40 feet from the edge of pavement or to the right-of-way line, whichever is greater.

60. An access that has a gate across it shall be designed so that the longest vehicle using it can clear the roadway when the gate is closed.

61. It is the responsibility of the Permittee to prevent all livestock from entering the State Highway right of way at this access location. Any livestock that does enter the highway right of way shall be the sole responsibility of the Permittee.

62. Any current or proposed cattle guard shall be maintained fully within the property boundaries and all repairs are the sole responsibility of the property owner.

63. Fill slopes and cut slopes shall be constructed to the slope of the existing highway near the access.

64. Soil preparation including topsoil, seeding and mulching is required with the highway right-of-way on all disturbed areas not surfaced and those areas beyond the highway that may erode and send debris into the highway right-of-way. The Department or local municipality shall provide minimum seed mixes, types and rates of seeding and preparation. (See attached Exhibit)

65. In the event it becomes necessary to remove any right-of-way fence, the posts on either side of the entrance shall be securely braced with an approved end post before the fence is cut to prevent any slacking of the remaining fence. This shall be in conformance with the Department's Standard M-607-1.

66. All right-of-way fence posts and wire removed are Department property and shall be turned over to a representative of the Department.

67. Installation of any traffic control device necessary for the safe and proper operation and control of the access shall be required by the permit at the cost of the Permittee.

68. All traffic control devices within the highway or other public right-of-way or access that serve the general public shall conform to the M.U.T.C.D.

69. Prior to removing any existing highway signs within the limits of the construction activities, the Permittee must contact Mr. Walter Garcia in Pueblo. Mr. Garcia can be contacted at (719) 546-5767.

70. Physical separation and delineation along a property frontage such as curb and gutter or fencing, may be required when necessary to ensure that access will be limited to permitted locations.

    a) Survey markers or monuments must be preserved in their original positions. Notify Mr. Dennis Pirtle, CDOT Land Surveyor, at (719) 546-5746 immediately upon damage to or discovery of any such markers or monuments at the work site.
    b) Any survey markers or monuments disturbed during the execution of this permit shall be repaired and/or replaced immediately to the satisfaction of the CDOT Land Surveyor at the expense of the Permittee.
    c) All survey procedures and minimum tolerances shall be in conformance with the Department Survey Manual and the "Manual of Instruction for the Survey of Public Lands of the United States" 1972 and section 38-53-101 et seq, C.R.S.
    d) Monuments shall conform to Department Standard M-629-1.

71. Each access shall be constructed in a manner that shall not cause water to enter onto the roadway or shoulder, and shall not interfere with the existing drainage system in the right-of-way or any adopted municipal system and drainage plan.

72. The highway drainage system is for the protection of the state highway right-of-way, structures, and appurtenances. It is not designed nor intended to serve the drainage requirement of abutting

or other properties beyond undeveloped historical flow. Drainage to the state highway right-of-way shall not exceed the undeveloped historical rate of flow.

73. The Permittee shall provide, at their own expense, drainage structures for access that will become an integral part of the existing drainage system. Drainage structures under the access should extend beyond the access radius to accommodate the side slopes.

74. All drainage appurtenances required for detention and release shall be located and fully maintainable outside the highway right-of-way

75. This Permit hereby replaces all previous access permit(s) for this ownership, which now become null and void.

76. A certificate of insurance naming the Colorado Department of Transportation (CDOT) as an additional insured is required to be submitted before work begins. The CDOT Access Permit number shall be on the certificate of insurance.

77. The Permittee or the contractor shall be required to provide comprehensive general liability and property damage insurance naming the Department and the issuing authority (if applicable) as an additional insured party, in the amounts of not less than $600,000 per occurrence and automobile liability insurance of $600,000 combined single limit bodily injury and property damage for each accident, during the period of access construction. By accepting the permit, the Permittee agrees to save, indemnify, and hold harmless to the extent allowed by law, the issuing authority, the Department, its officers, and employees from suits, actions, claims of any type or character brought because of injuries or damage sustained by any person resulting from the Permittee's use of the access permit during the construction of the access.

78. No interference with traffic will be allowed after 12:00 Noon the day before a 3- or 4-day holiday weekend, as listed under 108.06 of the Standard Specifications for Road and Bridge Construction.

79. Traffic control and work hours on state highways, interstates and freeways will be allowed as determined by the CDOT Inspector for this permit and area only.

80. CDOT retains the right to perform any necessary maintenance work in this area.

81. Notify the Department of Transportation Inspector, Ron Young (ronaldr.young@state.co.us) in Pueblo at (719) 289-8718 upon completion of the access construction for a final inspection and to request a Letter of Acceptance. Cost estimate for improvements of the highway shall be submitted to the Access Inspector at the time of acceptance. Please note that there is a 2-year warranty period for all construction elements. The 2-year warranty period begins with the date of the acceptance letter.

82. READ ALL ADDITIONAL STANDARD REQUIREMENTS ON THE ATTACHED FORM 101 AND OTHER TERMS AND CONDITIONS ON THESE ATTACHED SHEETS. A COPY OF THIS PERMIT MUST BE ON THE JOB SITE WITH THE CONTRACTOR. Call for an inspection of forms at least one working day prior to placing any concrete. The Colorado Department of Transportation inspection is not an approval of the grade or alignment of the work. The contractor and/or engineer are responsible for the proper grade and alignment. Minor changes or additions may be ordered by the field inspector to meet field conditions. Any survey markers or monuments disturbed during the execution of this permit shall be repaired immediately at the expense of the permittee. Minimum cover for buried utilities shall be 48 inches.

COLORADO DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY ACCESS PERMIT APPLICATION

Issuing authority application acceptance date:

Instructions: ***Please print or type***

- Contact the Colorado Department of Transportation (CDOT) or your local government to determine your issuing authority.
- Contact the issuing authority to determine what plans and other documents are required to be submitted with your application.
- Complete this form (some questions may not apply to you) and attach all necessary documents and Submit it to the issuing authority.
- Submit an application for each access affected.
- If you have any questions contact the issuing authority.
- For additional information see CDOT's Access Management website at **https://www.codot.gov/business/permits/accesspermits**

1) Property owner (Permittee)		2) Applicant or Agent for permittee (if different from property owner)	
BRADLEY POINT LLC			
Street address: 2010 FOX MOUNTAIN POINT		Mailing address	
City, state & zip: COLO SPGS CO 80906	Phone #: 719-491-3101	City, state & zip	Phone # (required)
E-mail address: sjschnurr@comcast.net		E-mail address if available	

3) Address of property to be served by permit (required)
HIGHWAY 85-87 (El Paso County parcel Nos. 6503400038,6503400040)

4) Legal description of property: If within jurisdictional limits of Municipality, city and/or County, which one?

county	subdivision	block	lot	section	township	range
El Paso	[See Attached]					

5) What State Highway are you requesting access from?
085A

6) What side of the highway? ☐ N ☐ S ■ E ☐ W

7) How many feet is the proposed access from the nearest mile post?
3535 feet (■ N ☐ S ☐ E ☐ W) from: 135

How many feet is the proposed access from the nearest cross street?
600 feet (■ N ☐ S ☐ E ☐ W) from: Acad. Blvd WB Ramp Int.

8) What is the approximate date you intend to begin construction?
6/15/2022

9) Check here if you are requesting a:
☐ new access ☐ temporary access (duration anticipated:) ☐ improvement to existing access
☐ change in access use ☐ removal of access ■ relocation of an existing access (provide detail)

10) Provide existing property use
Vacant

11) Do you have knowledge of any State Highway access permits serving this property, or adjacent properties in which you have a property interest?
■ no ☐ yes, if yes - what are the permit number(s) and provide copies: and/or, permit date:

12) Does the property owner own or have any interests in any adjacent property?
■ no ☐ yes, if yes - please describe:

13) Are there other existing or dedicated public streets, roads, highways or access easements bordering or within the property?
■ no ☐ yes, if yes - list them on your plans and indicate the proposed and existing access points.

14) If you are requesting agricultural field access - how many acres will the access serve?
N/A

15) If you are requesting commercial or industrial access please indicate the types and number of businesses and provide the floor area square footage of each.

business/land use	square footage	business	square footage
Lawn/Landscaping Materials Storage	9.5 ac		

16) If you are requesting residential developement access, what is the type (single family, apartment, townhouse) and number of units?

type	number of units	type	number of units
N/A			

17) Provide the following vehicle count estimates for vehicles that will use the access. Leaving the property then returning is two counts.

Indicate if your counts are ☐ peak hour volumes or ■ average daily volumes.	# of passenger cars and light trucks at peak hour volumes	# of multi unit trucks at peak hour volumes
	10	120
# of single unit vehicles in excess of 30 ft.	# of farm vehicles (field equipment)	**Total count of all vehicles**
0		130

18) Check with the issuing authority to determine which of the following documents are required to complete the review of your application.

a) Property map indicating other access, bordering roads and streets.
b) Highway and driveway plan profile.
c) Drainage plan showing impact to the highway right-of-way.
d) Map and letters detailing utility locations before and after development in and along the right-of-way.
e) Subdivision, zoning, or development plan.
f) Proposed access design.
g) Parcel and ownership maps including easements.
h) Traffic studies.
i) Proof of ownership.

1- It is the applicant's responsibility to contact appropriate agencies and obtain all environmental clearances that apply to their activities. Such clearances may include Corps of Engineers 404 Permits or Colorado Discharge Permit System permits, or ecological, archeological, historical or cultural resource clearances. The CDOT Environmental Clearances Information Summary presents contact information for agencies administering certain clearances, information about prohibited discharges, and may be obtained from Regional CDOT Utility/Special Use Permit offices or accessed via the CDOT Planning/Construction-Environmental-Guidance webpage: **https://www.codot.gov/programs/environmental/resources/guidance-standards/environmental-clearances-info-summary-august-2017/view**

2- All workers within the State Highway right of way shall comply with their employer's safety and health policies/ procedures, and all applicable U.S. Occupational Safety and Health Administration (OSHA) regulations - including, but not limited to the applicable sections of 29 CFR Part 1910 - Occupational Safety and Health Standards and 29 CFR Part 1926 - Safety and Health Regulations for Construction.

Personal protective equipment (e.g. head protection, footwear, high visibility apparel, safety glasses, hearing protection, respirators, gloves, etc.) shall be worn as appropriate for the work being performed, and as specified in regulation. At a minimum, all workers in the State Highway right of way, except when in their vehicles, shall wear the following personal protective equipment: High visibility apparel as specified in the Traffic Control provisions of the documentation accompanying the Notice to Proceed related to this permit (at a minimum, ANSI/ISEA 107-1999, class 2); head protection that complies with the ANSI Z89.1-1997 standard; and at all construction sites or whenever there is danger of injury to feet, workers shall comply with OSHA's PPE requirements for foot protection per 29 CFR 1910.136, 1926.95, and 1926.96. If required, such footwear shall meet the requirements of ANSI Z41-1999.

Where any of the above-referenced ANSI standards have been revised, the most recent version of the standard shall apply.

3- The Permittee is responsible for complying with the Revised Guidelines that have been adopted by the Access Board under the American Disabilities Act (ADA). These guidelines define traversable slope requirements and prescribe the use of a defined pattern of truncated domes as detectable warnings at street crossings. The new Standards Plans and can be found on the Design and Construction Project Support web page at:
https://www.codot.gov/business/civilrights/ada/resources-engineers

If an access permit is issued to you, it will state the terms and conditions for its use. Any changes in the use of the permitted access not consistent with the terms and conditions listed on the permit may be considered a violation of the permit.

The applicant declares under penalty of perjury in the second degree, and any other applicable state or federal laws, that all information provided on this form and submitted attachments are to the best of their knowledge true and complete.

I understand receipt of an access permit does not constitute permission to start access construction work.

Applicant or Agent for Permittee signature	Print name	Date

If the applicant is not the owner of the property, we require this application also to be signed by the property owner or their legally authorized representative (or other acceptable written evidence). This signature shall constitute agreement with this application by all owners-of-interest unless stated in writing. If a permit is issued, the property owner, in most cases, will be listed as the permittee.

Property owner signature	Print name	Date
Stephen J. Schnurr, Manager, Member	Stephen J. Schnurr	6-1-2022

LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
Colorado Springs, CO 80909
(719) 633-2868
FAX (719) 633-5430
E-mail: lsc@lsctrans.com
Website: http://www.lsctrans.com

MEMORANDUM

DATE: June 3, 2022

TO: Arthur Gonzales – Access Manager

FROM: Jeffrey C. Hodsdon, P.E. - LSC Transportation Consultants, Inc.

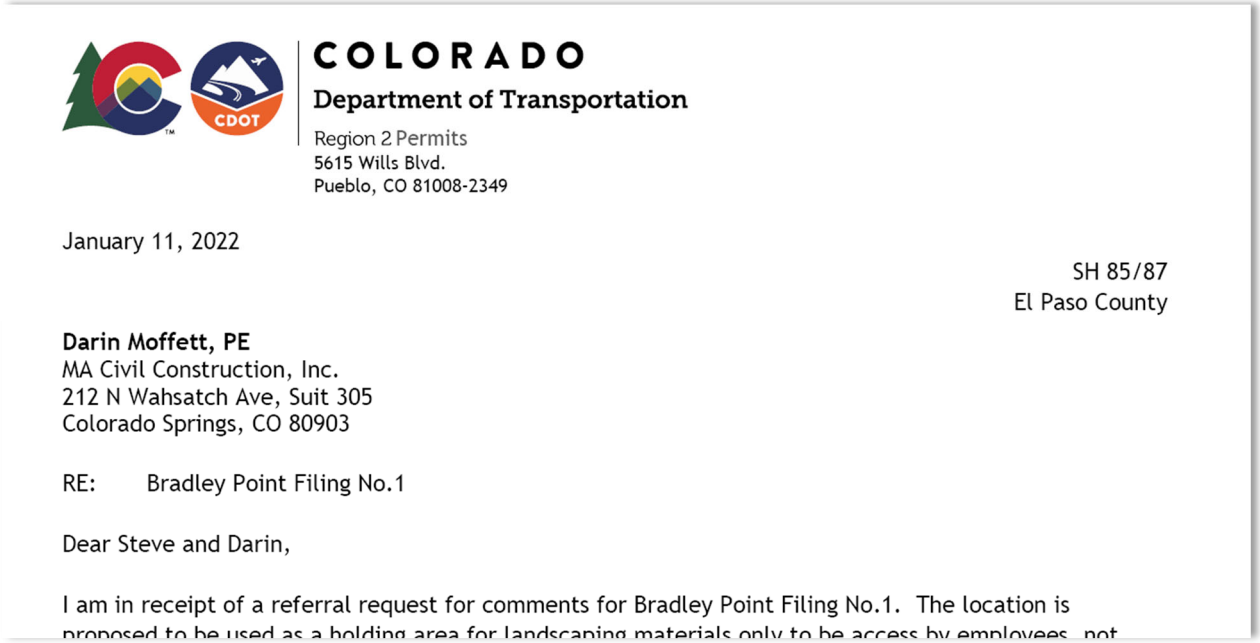
SUBJECT: Access Permit Application - Letter of Intent
Bradley Point Filing No. 1
El Paso County PCD File No. MS-21-002
LSC #204800

Location: State Highway 85A at South Academy Boulevard Interchange

Application Packet Items:

- CDOT Form #137 - Colorado State Highway Access Permit Application Form
  - Completed and signed by the Permittee/Property Owner
- Updated TIS dated 5/31/2022
- Responses to CDOT comments
- This letter of intent
- Proof of Ownership
- Site Plan (copy of TIS Figure 2)
- Legal Description
- Other documents available on EDARP as needed: El Paso County PCD File No. MS-21-002

Comment Letter Heading (for quick reference):



COLORADO
Department of Transportation
Region 2 Permits
5615 Wills Blvd.
Pueblo, CO 81008-2349

January 11, 2022

SH 85/87
El Paso County

Darin Moffett, PE
MA Civil Construction, Inc.
212 N Wahsatch Ave, Suit 305
Colorado Springs, CO 80903

RE: Bradley Point Filing No.1

Dear Steve and Darin,

I am in receipt of a referral request for comments for Bradley Point Filing No.1. The location is proposed to be used as a holding area for landscaping materials only to be access by employees not

Please see LSC documents prepared in response to this letter:

- LSC Updated TIS Report (5/31/2022)
- LSC Responses to CDOT comments

Land Use:

- 9.5-acre site (site is comprised of two legal parcels with the same owner) - storage of lawn and landscaping product and truck transportation of this product to/from an off-site location. Please refer to the “Land Use and Access” section in the TIS report.

Access:

- The property currently has a single full-movement access onto US Highway 85. The access is planned to shift 215 feet to the north of its current location. The new access location, preferred by CDOT, would be located 600 feet north of the signalized westbound ramps intersection (US Highway 85/South Academy Boulevard). The access would align with the frontage road access on the west side of the highway. Please refer to the "Land Use and Access" section in the TIS report and Figure 2 of the TIS.
- The current access location would be closed.

Summary of Proposed Highway Improvements:

- The painted center median within US Highway 85 on the north side of the proposed access intersection (also the west-side, existing "mini frontage road" intersection) would be restriped for a dedicated southbound left-turn lane for traffic turning into the site access from the north. Please refer to the TIS report for analysis and additional details.

EL PASO COUNTY - COLORADO

6503400040
HIGHWAY 85-87

Total Market Value
$180,730

OVERVIEW

Owner:	**BRADLEY POINT LLC**
Mailing Address:	**2010 FOX MOUNTAIN PT COLORADO SPRINGS CO, 80906-6909**
Location:	**HIGHWAY 85-87**
Tax Status:	**Taxable**
Zoning:	**M**
Plat No:	**-**
Legal Description:	**TR IN SEC 3-15-66 DESC AS FOLS: COM AT INTERSEC OF N LN S2SW4 OF SEC 34-14-66 W/A LN BEING 30.0 FT SWLY & PARA W/ C/L OF FORMER MAIN LN DENVER & RIO GRANDE WESTERN R/R TH SELY 30.0 FT SWLY & PARA W/ SD C LN, TH S 20<28'27" E 2042.86 FT, TH ALG ARC OF CUR TO TO L HAVING A RAD OF 2802.58 FT A C/A OF 20<20'52" AN ARC DIS OF 995.29 FT, TH S 40<48'39" E 3584.05 FT FOR POB, TH S 89<00'48" E 411.47 FT, S 36<33'39" E 610.08 FT TO A PT ON THE NLY R/W LN ACADEMY BLVD, TH S 48<16'19" W 256.26 FT, N 40<49'56" W 824.02 FT, S 89<42'05" W 6.59 FT, N 40<48'39" W 58.45 FT TO POB**

MARKET & ASSESSMENT DETAILS

	Market Value	Assessed Value
Land	**$180,730**	**$52,410**
Improvement	**$0**	**$0**
Total	**$180,730**	**$52,410**

No buildings to show.

LAND DETAILS

Sequence Number	Land Use	Assessment Rate	Area	Market Value
1	VACANT LAND = 1 AND < 5 ACRES	29.000	4.61 Acres	$180,730

SALES HISTORY

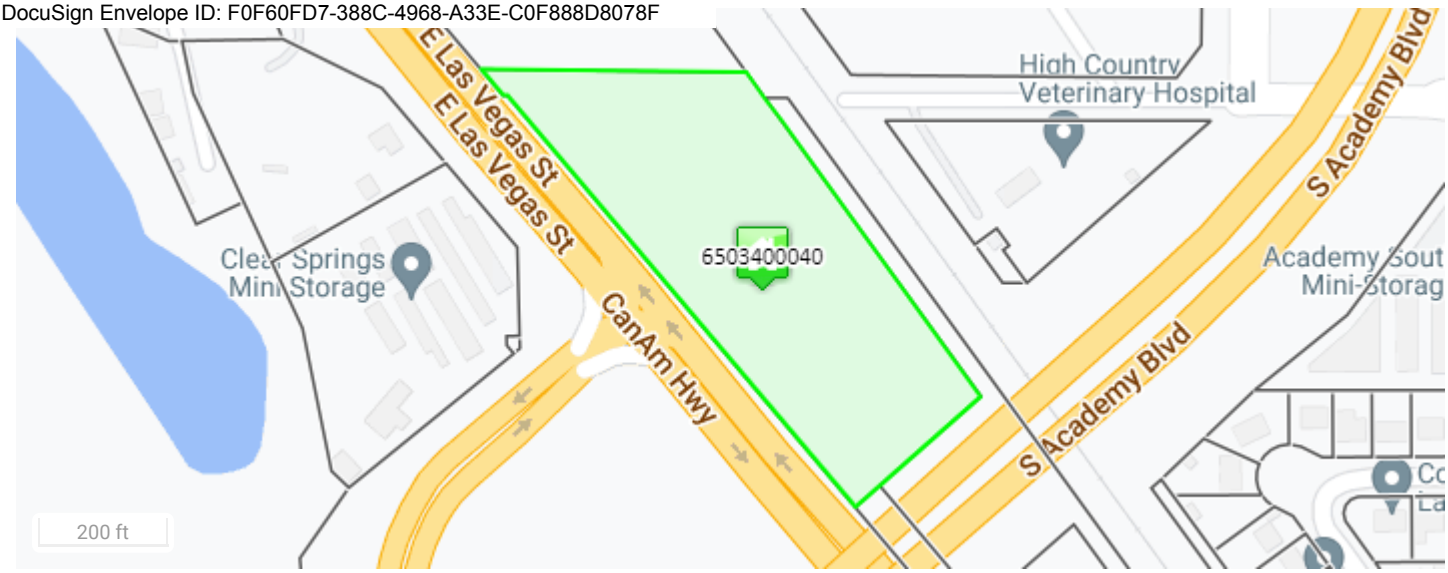
	Sale Date	Sale Price	Sale Type	Reception
+	01/26/2021	$0	-	221015787
+	10/13/2015	$160,000	Good sale; Vacant land	215111375

TAX ENTITY AND LEVY INFORMATION

County Treasurer Tax Information

Tax Area Code: **DDM** Levy Year: **2021** Mill Levy: **79.007**

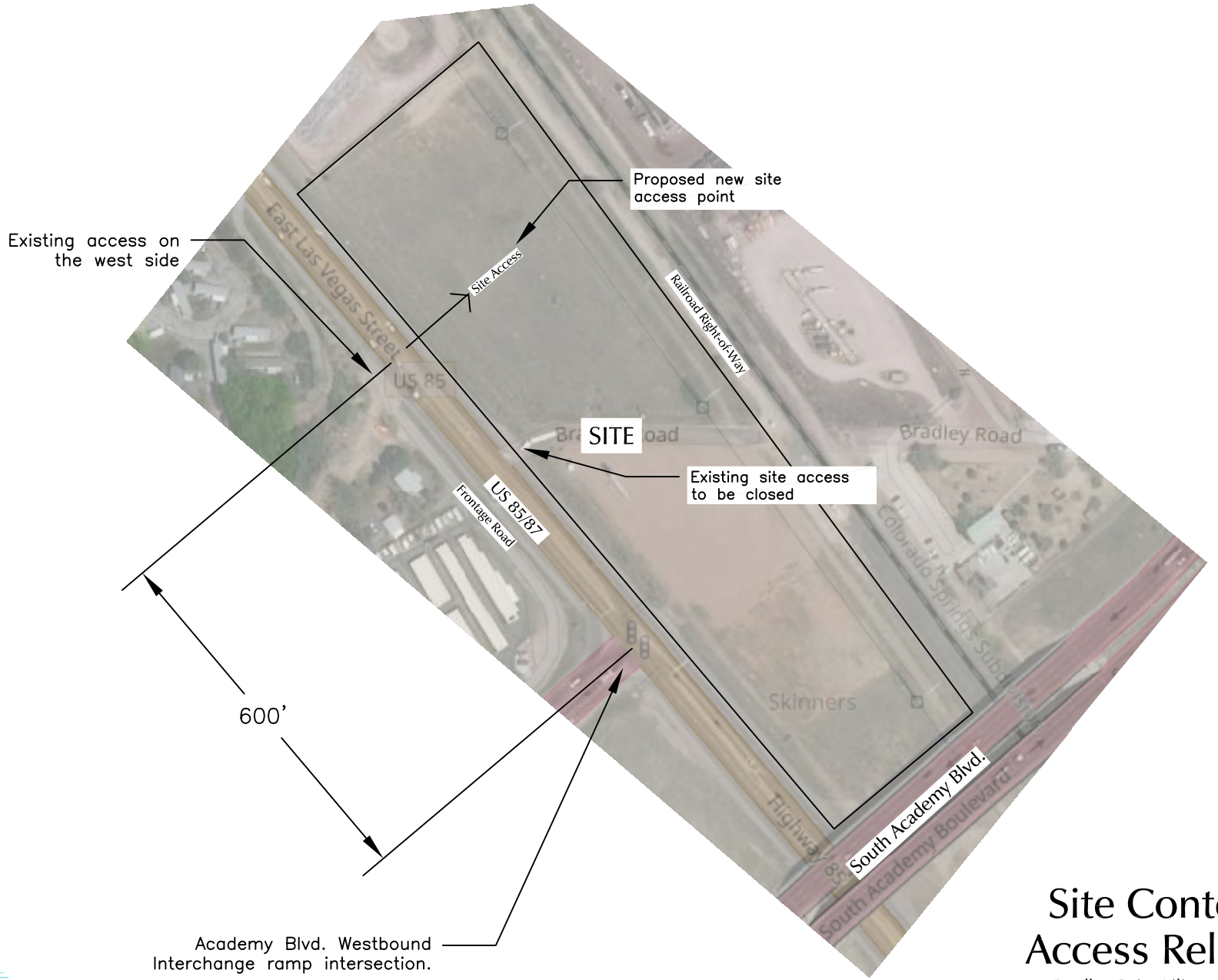
Taxing Entity	Levy	Contact Name/Organization	Contact Phone
EL PASO COUNTY	7.120	FINANCIAL SERVICES	(719) 520-6400
EPC ROAD & BRIDGE (UNSHARED)	0.330	-	(719) 520-6498
WIDEFIELD SCHOOL NO 3	49.384	TERRY KIMBER	(719) 391-3026
SECURITY FIRE PROTECTION	16.400	RICH BUTLER	(719) 392-3271
SECURITY SANITATION	0.651	ROY HEALD	(719) 392-3475
SECURITY WATER	4.283	ROY HEALD	(719) 392-3475
SOUTHEASTERN COLO WATER CONSERVANCY	0.839	JAMES BRODERICK	(719) 948-2400
EL PASO COUNTY CONSERVATION	0.000	MARIAH HUDSON	(719) 600-4706



No Photo Available

Disclaimer

We have made a good-faith effort to provide you with the most recent and most accurate information available. However, if you need to use this information in any legal or official venue, you will need to obtain official copies from the Assessor's Office. Do be aware that this data is subject to change on a daily basis. If you believe that any of this information is incorrect, please call us at (719) 520-6600.



TRANSPORTATION CONSULTANTS, INC.

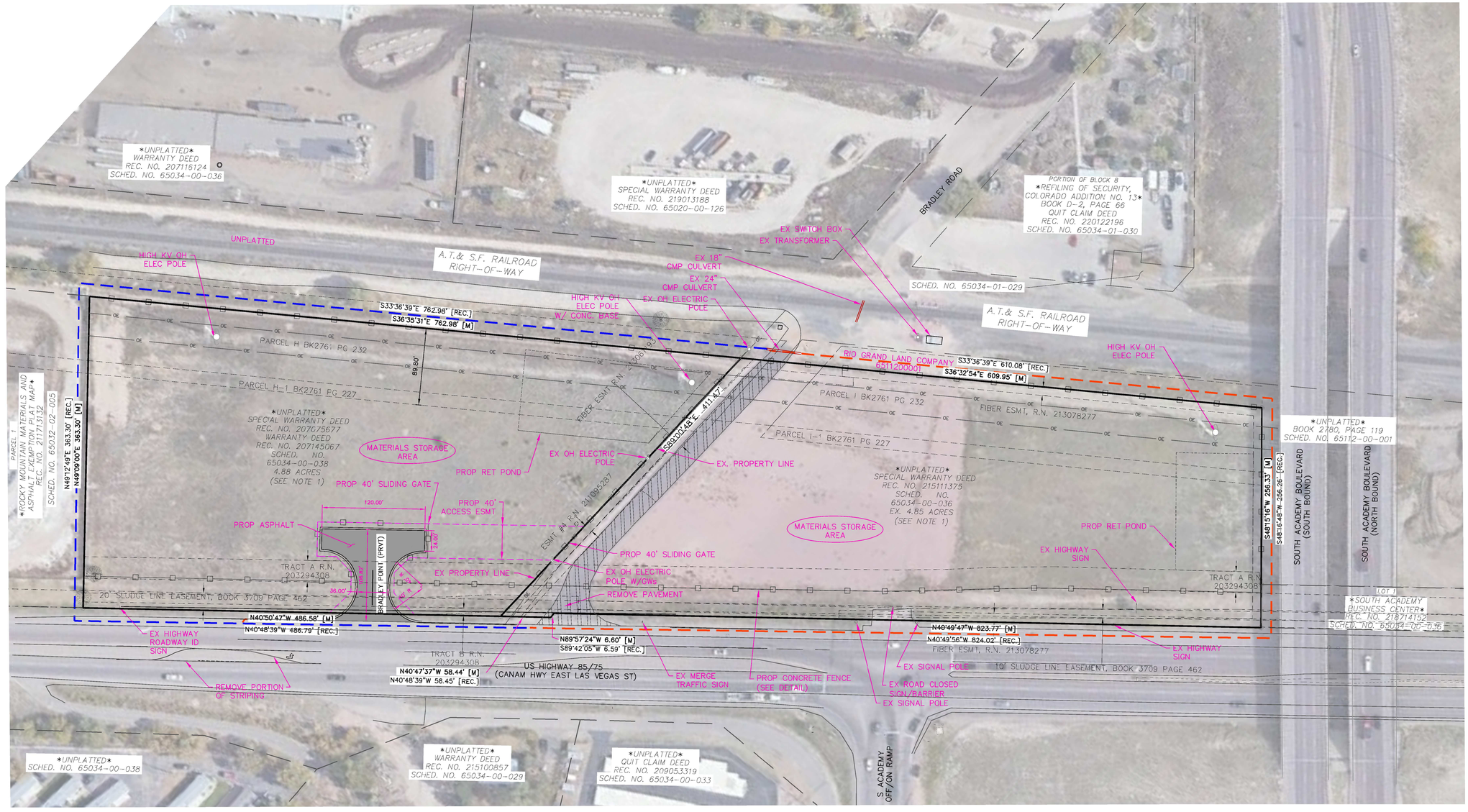
Figure 2

Site Context and Access Relocation

Bradley Point Filing 1 (LSC #204800)

BRADLEY POINT FILING NO. 1 - SITE PLAN EXHIBIT

AP NO. 65034-00-038 AND AP NO. 65034-00-040 ON HIGHWAY 85/87 (EAST LAS VEGAS STREET)
IN SECTION 3, T15S R66W, 6th P.M., EL PASO COUNTY, COLORADO



LEGEND

- EXISTING SITE BOUNDARY
- OE — OVERHEAD ELECTRICAL
- PROP CONCRETE FENCE
- ADJACENT PROPERTY BOUNDARY
- PHASE 2 BOUNDARY
- PHASE 1 BOUNDARY

NOTE 1:

PARCELS ARE UNDER THE SAME OWNERSHIP

1" = 60'

0 15 30 60 120

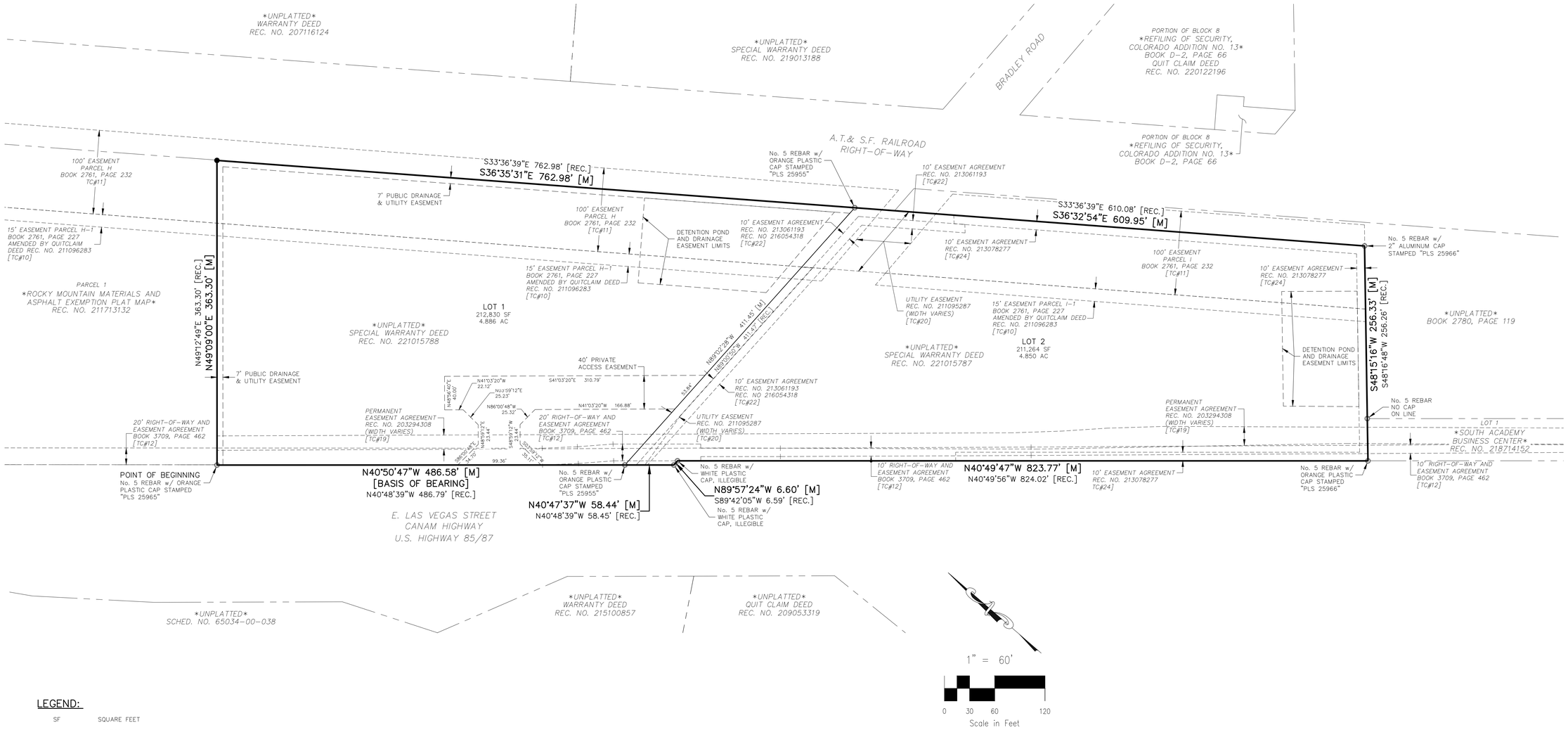
Scale in Feet

M&S CIVIL CONSULTANTS, INC.
102 E. PIKES PEAK AVE., 5TH FLOOR
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485

File: O:\70074A SOUTH PLANT 85-87\SOUTH PLANT 85-87\dwg\Eng Exhibits\Site Planning Exhibit.dwg Plotstamp: 9/15/2022 12:15 PM

BRADLEY POINT FILING NO. 1

A TRACT OF LAND IN THE SOUTHEAST QUARTER (SE 1/4) OF SECTION 3,
T15S, R66W, OF THE 6TH P.M., EL PASO COUNTY , COLORADO



LEGEND:

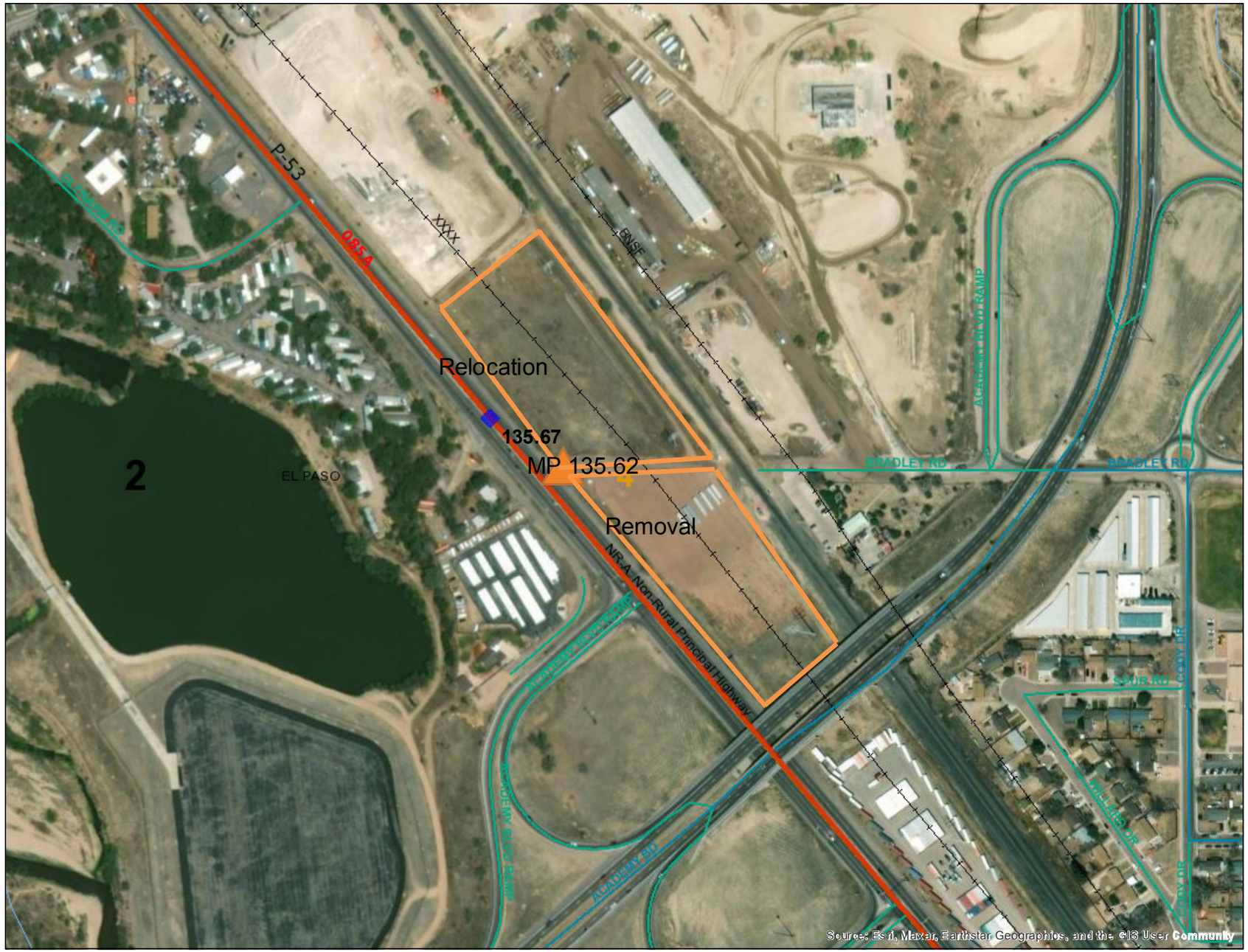
SF	SQUARE FEET
(xxxx)	ADDRESS
●	SET ORANGE PLASTIC SURVEYORS CAP ON No 5 REBAR, CAP IS STAMPED "M&S CIVIL PLS 25966", FLUSH WITH GROUND, UNLESS NOTED OTHERWISE
○	FOUND ORANGE PLASTIC SURVEYORS CAP ON No 5 REBAR, CAP IS STAMPED "PLS 25966", FLUSH WITH GROUND, UNLESS NOTED OTHERWISE
———	BOUNDARY LINE
———	PROPERTY LINE
- - - - - -	EASEMENT LINE
— — — —	ADJACENT PROPERTY LINE
— — — —	EXISTING RIGHT OF WAY LINE
- - - - - -	EXISTING EASEMENT
NOT A PART	PARCELS INDICATED WITH ASTERISK "*" ARE NOT A PART OF THIS SUBDIVISION

FINAL PLAT
BRADLEY POINT FILING NO. 1
JOB NO. 70-074
DATE PREPARED: 01/29/2021
DATE REVISED: 06/17/2022

PCD FIL. NO. SF-21-002

CIVIL CONSULTANTS,INC.
212 N. WAHSATCH AVE., STE 305
COLORADO SPRINGS, CO 80903
PHONE: 719.955.5485

222166 Relocate Bradley Point SH85/87 MP 135.67 EPC



Legend

Find Route Point

- Override 1
- Find Route Line
- Milepoints

Highways: Access Categories

- FW: Interstate System; Freeway Facils
- EX: Expressway, Major Bypass
- RA: Regional Highway
- RB: Rural Highway
- NRA: Non-Rural Principal Highway
- NRB: Non Rural Arterial
- NRC: Non Rural Arterial
- Highways
- Frontage Roads
- Major Roads
- Local Roads
- Rail Lines
- Streams
- Engineering Regions
- Maintenance Sections
- Counties

Created:

Date: 9/26/2022

Time: 2:39:33 PM

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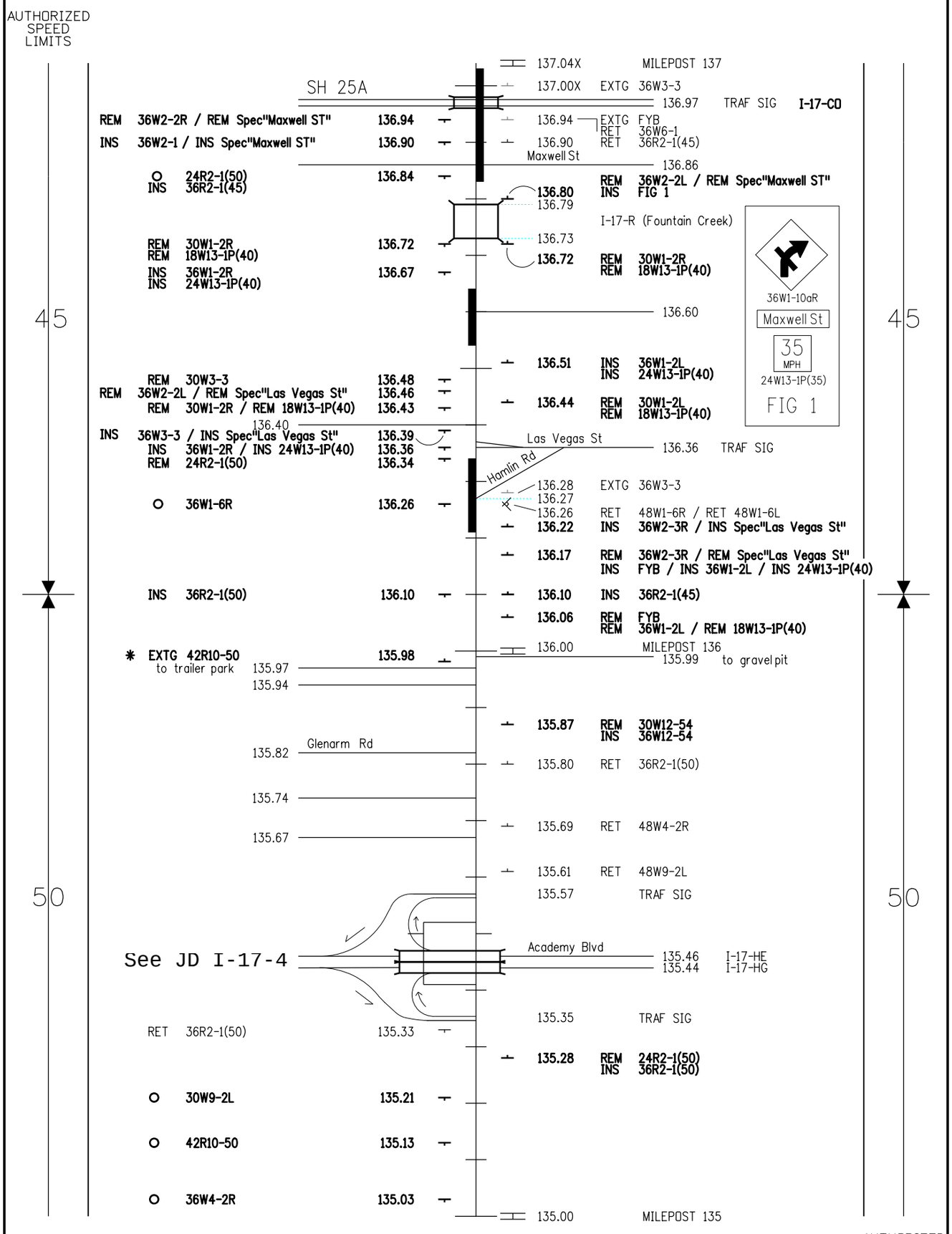
Colorado Department of Transportation

AUTHORIZED SPEED LIMITS AND RECOMMENDED TRAFFIC CONTROL DEVICES



Traffic Engineer

Date: _____

FILE	MEMO	Implemented with changes as marked
M085A_135_2	6681	Date: _____ By: _____

SH 85A FROM SH 25A SW OF FOUNTAIN TO SH 25A IN COLORADO SPRINGS

SUPERSEDES SHEET 5, MEMO 6200, 07-19-00

Version 2011.05.04
Drawn By: AF

COLORADO DEPARTMENT OF TRANSPORTATION Environmental Clearances Information Summary

PURPOSE - This summary is intended to inform entities external to CDOT that may be entering the state highway right-of-way to perform work related to their own facilities (such as Utility, Special Use or Access Permittees), about some of the more commonly encountered environmental permits/clearances that may apply to their activities. This listing is not all-inclusive - additional environmental or cultural resource permits/clearances may be required in certain instances. Appropriate local, state and federal agencies should be contacted for additional information if there is any uncertainty about what permits/clearances are required for a specific activity. **IMPORTANT – Please Review The Following Information Carefully – Failure to Comply With Regulatory Requirements May Result In Suspension or Revocation of Your CDOT Permit, Or Enforcement Actions By Other Agencies.**

CLEARANCE CONTACTS - As indicated in the permit/clearance descriptions listed below, the following individuals or agencies may be contacted for additional information:

- Colorado Department of Public Health and Environment (CDPHE): General Information – (303) 692-2035
  Water Quality Control Division (WQCD): (303) 692-3500
  Environmental Permitting Website https://www.colorado.gov/pacific/cdphe/all-permits
- CDOT Water Quality Program Manager: (303) 757-9343 https://www.codot.gov/programs/environmental/water-quality
- CDOT Asbestos Project Manager: Phil Kangas, (303) 512-5519
- Colorado Office of Archaeology and Historic Preservation: (303) 866-5216
- U.S. Army Corps of Engineers, District Regulatory Offices: Omaha District (NE CO), Denver Office (303) 979-4120
  http://www.nwo.usace.army.mil/Missions/RegulatoryProgram/Colorado.aspx
  Sacramento Dist. (Western CO), Grand Junction Office (970) 243-1199
  http://www.spk.usace.army.mil/Missions/Regulatory.aspx Albuquerque
  District (SE CO), Pueblo Office (719)-543-9459
  http://www.spa.usace.army.mil/Missions/RegulatoryProgramandPermits.aspx
- CDOT Utilities, Special Use and Access Permitting: (303) 757-9654 https://www.codot.gov/business/permits

Wildlife Resources - Disturbance of wildlife shall be avoided to the maximum extent practicable. Entry into areas of known or suspected threatened or endangered species habitat will require special authorization from the CDOT permitting office. If any threatened or endangered species are encountered during the progress of the permitted work, work in the subject area shall be halted and the CDOT Regional Permitting Office and Region Planning and Environmental Manager shall be contacted immediately. Authorization must be provided by CDOT prior to the continuation of work. Information about threatened or endangered species may be obtained from the CDOT website, http://www.codot.gov/programs/environmental/wildlife/guidelines, or the Colorado Parks and Wildlife (CPW) website, http://www.cpw.state.co.us/learn/Pages/SOC-ThreatenedEndangeredList.aspx. Additional guidance may be provided by the appropriate Region Planning and Environmental Manager (RPEM).

Cultural Resources - The applicant must request a file search of the permit area through the Colorado Office of Archaeology and Historic Preservation (OAHP), Denver, to ascertain if historic or archaeological resources have previously been identified (http://www.historycolorado.org/oahp/file-search). Inventory of the permit area by a qualified cultural resources specialist may be necessary, per the recommendation of CDOT. If archaeological sites/artifacts or historic resources are known to exist prior to the initiation of the permitted work or are encountered as the project progresses, all work in the subject area shall be halted and the CDOT Regional Permitting Office and Region Planning and Environmental Manager shall be contacted immediately. Authorization must be provided by CDOT prior to the continuation of work. Additional guidance may be provided by the Regional Permitting Office and RPEM. ***Contact Information:*** Contact the OAHP for file searches at (303) 866-5216.

Paleontological Resources - The applicant must request a fossil locality file search through the University of Colorado Museum, Boulder (https://cumuseum.colorado.edu/research/paleontology/vertebrates/policies), and the Denver Museum of Nature and Science (http://www.dmns.org/science/collections/earth-science-collections/) to ascertain if paleontological resources have been previously identified in or near the permit area. Inventory of the permit area by a qualified paleontologist may be necessary, per the recommendation of CDOT. If fossils are encountered during the permitted work, all work in the subject area shall be halted and the CDOT Regional Permitting Office and Region Planning and Environmental Manager shall be contacted immediately. Authorization must be provided by CDOT prior to the continuation of work. Additional guidance may be provided by the Regional Permitting Office in the Permit Special Provisions. ***Contact Information:*** See the museum websites listed above for Paleontological Collections Manager contact information. Contact the CDOT Paleontologist for further information at nicole.peavey@state.co.us or (303) 7579632. The CDOT Paleontologist will not conduct a comprehensive file search independently of the museums.

Hazardous Materials, Solid Waste - The Solid Wastes Disposal Sites and Facilities Act C.R.S. 30-20-100, et al, and Regulations Pertaining to Solid Waste Disposal Sites and Facilities (6 CCR 1007-2), prohibit solid waste disposal without an approved Certificate of Designation (a landfill permit). The Colorado Hazardous Waste Act C.R.S. 25-15-301 et al, and the Colorado Hazardous Waste Regulations (6 CCR 1007-3) prohibit the transfer, storage or disposal (TSD) of hazardous waste except at permitted TSD sites. There are no permitted landfills or TSD sites within the State Highway Right of Way. Therefore, all solid or hazardous wastes that might be generated by the activities of entities entering the State Highway Right of Way must be removed from the ROW and disposed of at a permitted facility or designated collection point (e.g., for solid waste, a utility or construction company's own dumpster). If pre-existing solid waste or hazardous materials contamination (including oil or petroleum contaminated soil, asbestos, chemicals, mine tailings, etc.) is encountered during the performance of work, the permittee shall halt work in the affected area and immediately contact the CDOT Regional Permitting Office for direction as to how to proceed. ***Contact Information:*** Theresa Santangelo-Dreiling, CDOT Hazardous Materials Management Supervisor: (303) 512-5524.

Asbestos Containing Materials, Asbestos Contaminated Soil - All work on asbestos containing materials (ACM) must comply with the applicable requirements of the CDPHE Air Pollution Control Division's (APCD) Regulation 8. Disposal of ACM, and work done in asbestos-contaminated soil, must comply with the CDPHE Hazardous Materials and Waste Management Division's (HMWMD) Solid

Waste Regulations. The application for any CDOT permit must specifically identify any ACM involved in the work for which [illegible] requirements may be specified in the permit special provisions. ***Contact Info:*** CDPHE APCD and HMWMD Regulations can be accessed via the CDPHE Environmental Permitting Website listed above. Additional information **concerning clearance on CDOT projects** is available from the CDOT Asbestos Project Manager (303) 5125519, or Theresa Santangelo-Dreiling, Hazardous Materials Management Supervisor: (303) 512-5524.

Transportation of Hazardous Materials - No person may offer or accept a hazardous material for transportation in commerce unless that person is registered in conformance with the United States Department of Transportation regulations at 49 CFR, Part 171. The hazardous material must be properly classed, described, packaged, marked, labeled, and in condition for shipment as required or authorized by applicable requirements, or an exemption, approval or registration has been issued. Vehicles requiring a placard, must obtain authorization and a State HAZMAT Permit from the Colorado Public Utilities Commission. ***Contact Information:*** For authorization and more info call the Federal Motor Safety Carrier Administration, US DOT for inter- and intra-state HAZMAT Registration (303) 969-6748. Colorado Public Utilities Commission: (303) 894-2868.

Discharge of Dredged or Fill Material – 404 Permits Administered By the U.S. Army Corps of Engineers, and Section 401 Water Quality Certifications Issued by the CDPHE WQCD - Corps of Engineers 404 permits are required for the discharge of dredged or fill materials into waters of the United States, including wetlands. There are various types of 404 permits, including nationwide permits, which are issued for activities with relatively minor impacts. For example, there is a nationwide permit for utility line activities (nwp #12). Depending upon the specific circumstances, it is possible that either a "general" or "individual" 404 permit would be required. If an individual 404 permit is required, section 401 water quality certification from the CDPHE WQCD is also required. Contact the appropriate Corps District Regulatory Office for information about what type of 404 permit may be required (contact information above). Contact the CDPHE Water Quality Control Division at (303) 692-3500.

Working on or in any stream or its bank - In order to protect and preserve the state's fish and wildlife resources from actions that may obstruct, diminish, destroy, change, modify, or vary a natural existing stream or its banks or tributaries, it may be necessary to obtain a Senate Bill 40 certification from the Colorado Department of Natural Resources. A stream is defined as 1) represented by a solid blue line on USGS 7.5' quadrangle maps; and/or 2) intermittent streams providing live water beneficial to fish and wildlife; and/or 3) segments of streams supporting 25% or more cover within 100 yards upstream or downstream of the project; and/or 4) segments of streams having wetlands present within 200 yards upstream or downstream of the project measured by valley length. The CPW application, as per guidelines agreed upon by CDOT and CPW, can be accessed at https://www.codot.gov/programs/environmental/wildlife/guidelines.

Stormwater Construction Permit (SCP) and Stormwater Discharge From Industrial Facilities - Discharges of stormwater runoff from construction sites disturbing one acre or more - or certain types of industrial facilities, such as concrete batch plants - require a CDPS Stormwater Permit. ***Contact Information:*** Contact the CDPHE Water Quality Control Division at (303) 692-3500. Website: https://www.colorado.gov/pacific/cdphe/wq-construction-general-permits and https://colorado.gov/pacific/cdphe/wq-commerce-andindustry-permits.

Construction Dewatering (Discharge or Infiltration) and Remediation Activities - Discharges of water encountered during excavation or work in wet areas may require a Construction Dewatering or Remediation Activities Discharge Permit. ***Contact Information:*** For Construction Dewatering and Remediation Activities Discharge Permits, contact the CDPHE WQCD at (303) 6923500. For Applications and Instructions (CDPHE website): https://www.colorado.gov/pacific/cdphe/wq-construction-general-permits.

Municipal Separate Storm Sewer System (MS4) Discharge Permit - Discharges from the storm sewer systems of larger municipalities, and from the CDOT highway drainage system that lies within those municipalities, are subject to MS4 Permits issued by the CDPHE WQCD. For facilities that lie within the boundaries of a municipality that is subject to an MS4 permit, the owner of such facility should contact the municipality regarding stormwater related clearances that may have been established under that municipality's MS4 permit. All discharges to the CDOT highway drainage system or within the Right of Way (ROW) must comply with the applicable provisions of the Colorado Water Quality Control Act, the Water Quality Control Commission (WQCC) Regulations (https://www.colorado.gov/pacific/cdphe/wqcc-regulations-and-policies-and-water-quality-statutes) and the CDOT MS4 Permit # COS000005 (https://www.codot.gov/programs/environmental/water-quality/documents). Discharges are subject to inspection by CDOT and CDPHE. Contact the CDPHE Water Quality Control Division at (303) 692-3500 for a listing of municipalities required to obtain MS4 Permits, or go to https://www.colorado.gov/pacific/cdphe/wq-municipal-ms4-permits. For CDOT-related MS4 regulations, go to: https://www.codot.gov/programs/environmental/water-quality/stormwater-programs.html.

General Prohibition – Discharges - All discharges are subject to the provisions of the Colorado Water Quality Control Act and the Colorado Discharge Permit Regulations. Prohibited discharges include, but are not limited to, substances such as wash water, paint, automotive fluids, solvents, oils or soaps and sediment. ***Contact Information:*** Contact the CDPHE Water Quality Control Division at (303) 692-3500.

General Authorization - Allowable Non-Stormwater Discharges - Unless otherwise identified by CDOT or the WQCD as significant sources of pollutants to the waters of the State, the following discharges to stormwater systems are allowed without a Colorado Discharge Permit System permit: landscape irrigation, diverted stream flows, uncontaminated ground water infiltration to separate storm sewers, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, uncontaminated springs, footing drains, water line flushing, flows from riparian habitats and wetlands, and flow from firefighting activities. Allowable non-stormwater discharges can be found under Illicit Discharge PDD at: https://www.codot.gov/programs/environmental/water-quality/stormwater-programs.html. ***Contact Information:*** The CDPHE Water Quality Control Division (telephone #'s listed above).

Erosion and Sediment Control Practices - For activities requiring a Stormwater Construction Permit, erosion control requirements will be specified in that permit. In situations where a stormwater permit is not required, all reasonable measures should be taken to minimize erosion and sedimentation according to CDOT Standard Specifications 107.25, 208, 213 and 216 (https://www.codot.gov/business/designsupport/2011-construction-specifications/2011-Specs/2011-specs-book). All disturbances require a stabilization plan, native seeding or landscape design plan according to applicable CDOT Standard Specifications 212-217 and 623. The CDOT Erosion Control and Stormwater Quality Guide (available from the Bid Plans Office at (303) 757-9313) should be used to design erosion controls and restore disturbed vegetation.

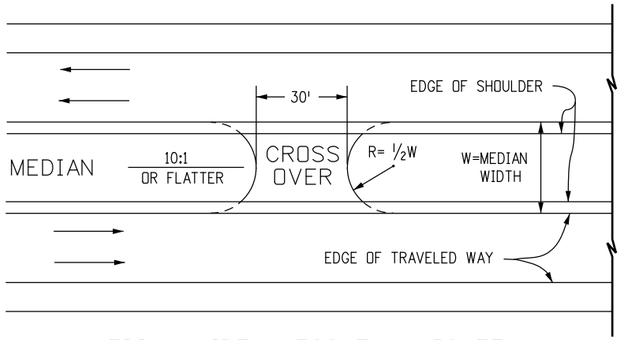
Disposal of Drilling Fluids - Drilling fluids used in operations such as Horizontal Directional Drilling may be classified as "discharges" [illegible] removed from the construction area, removed from the State Highway Right of Way, and disposed of at permitted facilities that specifically accept such wastes. Disposal of drilling fluids into storm drains, storm sewers, roadside ditches or any other type of man-made or natural waterway is prohibited by Water Quality Control and/or Solid Waste regulations. Small quantities of drilling fluid solids (less than 1 cubic yard of solids) may be left on-site after either being separated from fluids or after infiltration of the water, provided: 1) the drilling fluid consists of only water and bentonite clay, or, if required for proper drilling properties, small quantities of polymer additives that are approved for use in drinking water well drilling; 2) the solids are fully contained in a pit, and are not likely to pose a nuisance to future work in the area, 3) the solids are covered and the area restored as required by CDOT permit requirements (Utility, Special Use, or Access Permits, etc.). ***Contact Information:*** Contact CDPHE (telephone #'s listed above).

Noxious Weeds and Invasive Species Management Plan – Noxious Weeds and Invasive Species guidance can be found by contacting the Colorado Department of Agriculture (https://www.colorado.gov/pacific/agconservation/noxiousweeds) and the Colorado Division of Parks and Wildlife (http://cpw.state.co.us/aboutus/Pages/RS-NoxiousWeeds.aspx). In either case, management plans involving the control of noxious weeds associated with the permitted activity and cleaning of equipment will be required.

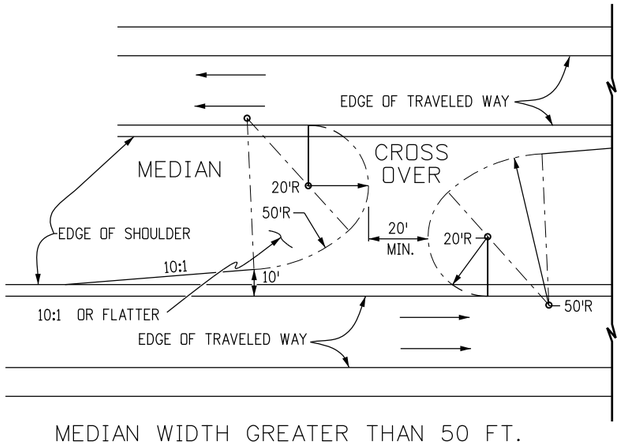
Concrete Washout - Waste generated from concrete activities shall NOT be allowed to flow into the drainage ways, inlets, receiving waters, or in the CDOT ROW. Concrete waste shall be placed in a temporary concrete washout facility and must be located a minimum of 50 feet from state waters, drainageways, and inlets. Concrete washout shall only be performed as specified by the CDOT Environmental Program and shall be in accordance to CDOT specifications and guidelines. ***Contact Information****:* Contact CDPHE or find additional information on the CDOT website: https://www.codot.gov/business/designsupport/2011-constructionspecifications/2011-Specs and refer to the specifications and their revisions for sections 101, 107 and 208.

Spill Reporting - Spills shall be contained and cleaned up as soon as possible. Spills shall NOT be washed down into the storm drain or buried. All spills shall be reported to the CDOT Illicit Discharge Hotline at (303) 512-4446 (4H20), as well as the Regional Permitting Office and Regional Maintenance Supervisor. Spills on highways, into waterways, any spill in the highway right-of-way exceeding 25 gallons, or that may otherwise present an immediate danger to the public shall be reported by calling 911, and shall also be reported to the CDPHE at 1-877-518-5608. More information can be found at https://www.colorado.gov/pacific/cdphe/emergencyreporting-line.

About This Form - Questions or comments about this Information Summary may be directed to Dan Roussin, Program Administrator, CDOT Access Management Unit, at (303) 757-9841, daniel.roussin@state.co.us



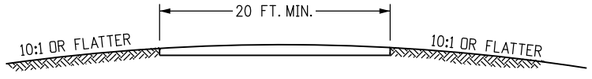
MEDIAN WIDTH LESS THAN 50 FT.



MEDIAN WIDTH GREATER THAN 50 FT.

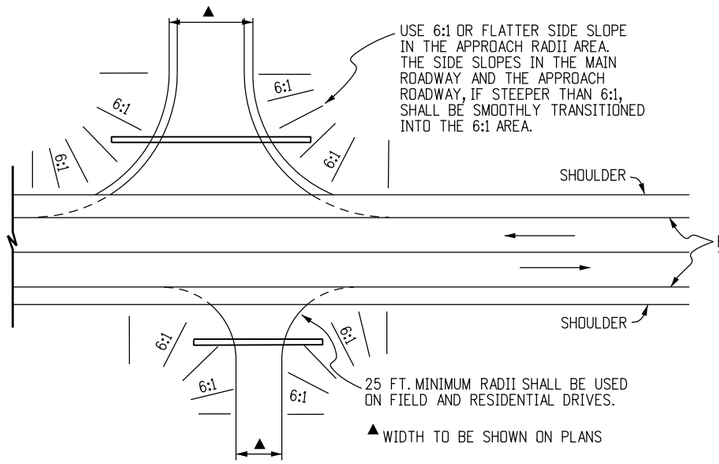
TYPICAL PLANS FOR EMERGENCY MEDIAN CROSS OVER

LOCATION OF RADIUS POINTS MAY BE ADJUSTED FOR BEST FIT



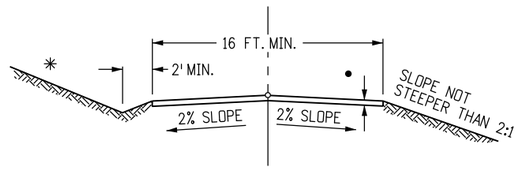
TYPICAL SECTION FOR MEDIAN CROSS OVER

ANY REQUIRED PIPE OR INLET FOR MEDIAN DRAINAGE SHALL HAVE A TRAVERSABLE DESIGN AS SPECIFIED ON THE PLANS



SIDE DRAINS SHALL BE LOCATED BEYOND THE CLEAR ZONE, OR WHEN WITHIN THE CLEAR ZONE, THEY SHALL BE INSTALLED WITH END SECTIONS CONFORMING TO A 6:1 SLOPE. FIFTY FT. RADII SHALL BE USED ON INTERSECTING ROADS, EXCEPT FOR FIELD AND RESIDENTIAL DRIVES OR UNLESS OTHERWISE SPECIFIED ON PLANS. RADII MAY BE VARIED TO SUIT FIELD CONDITIONS.

TYPICAL PLANS FOR SIDE APPROACH ROAD

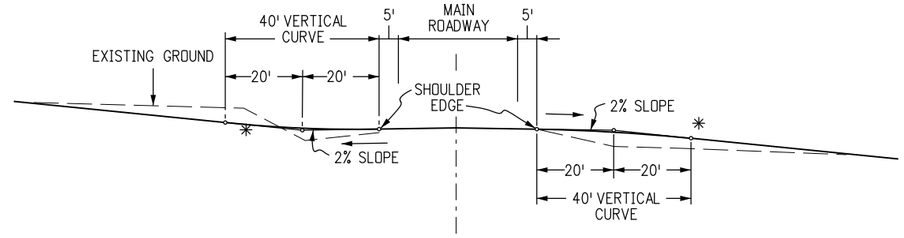


1/2 CUT SECTION 1/2 FILL SECTION

TYPICAL SECTION FOR APPROACH (ACCESS) ROAD

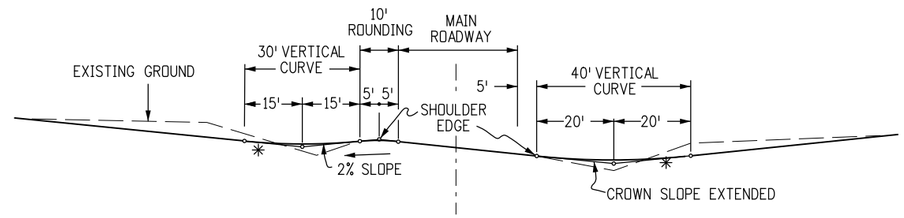
NOTE: ROAD APPROACHES WHICH REQUIRE HMA (ASPHALT) PAVEMENT SHALL BE PLACED AT THE FOLLOWING DISTANCES BACK FROM THE ROADWAY EDGE OF PAVEMENT:

1. RESIDENTIAL OR AGRICULTURAL FIELD ENTRANCES - PAVE 4 FEET BACK.
2. THREE OR MORE RESIDENCES OR COMMERCIAL PROPERTY - PAVE 20 FEET BACK OR TO ROW LINE, WHICHEVER IS LESS.
3. PUBLIC STREET - PAVE 50 FEET BACK OR TO ROW LINE, WHICHEVER IS LESS.
4. IF EXISTING ACCESS IS PAVED, THEN FEATHER NEW ASPHALT OVERLAY A MINIMUM OF 2 FEET BACK OR AS DIRECTED BY THE ENGINEER.

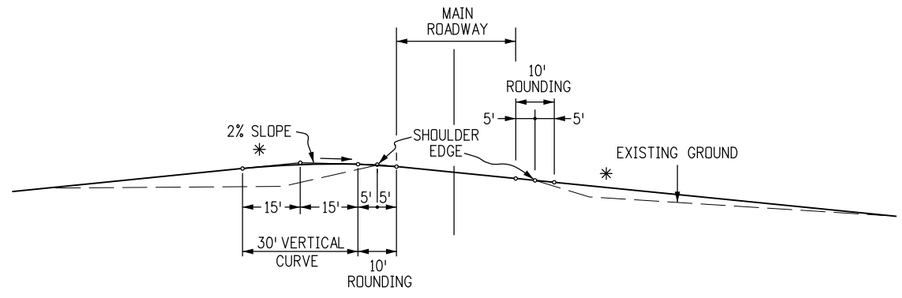


1/2 CUT SECTION 1/2 FILL SECTION

STANDARD CROWNED SECTION



SUPERELEVATED CUT SECTION



SUPERELEVATED FILL SECTION

VERTICAL ALIGNMENT SIDE APPROACH ROADS INTERSECTING MAIN ROADWAY

* TANGENT SLOPE NOT STEEPER THAN 8% BEYOND THE VERTICAL CURVE. THE SLOPE MAY BE STEEPER, IF REQUIRED, TO MEET EXISTING APPROACH SLOPE. HOWEVER, APPROACH ROAD SLOPE SHOULD NOT BE STEEPER THAN EXISTING SLOPE.

Computer File Information		Sheet Revisions	
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Last Modification Date: 07/08/13 Initials: LTA	(R-X)	07/08/13	Added notes to Approach Road Typ. Sec. detail.
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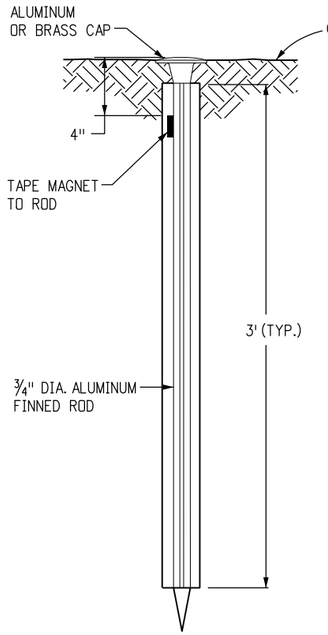
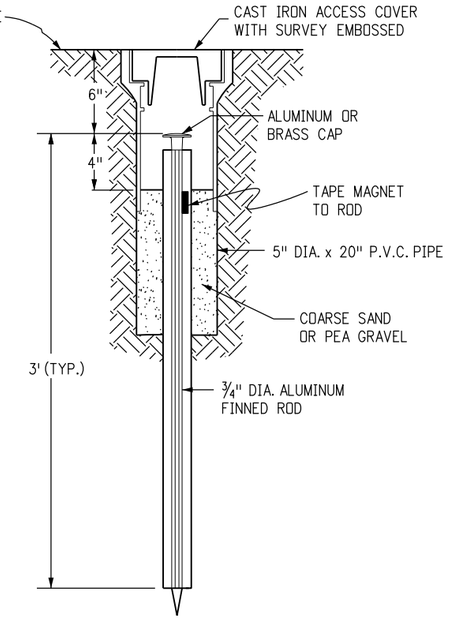
APPROACH ROADS

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO.
M-203-1
Sheet No. 1 of 1

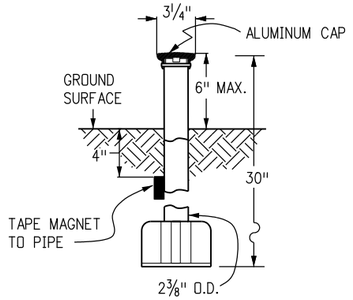


TYPE 1 MONUMENT

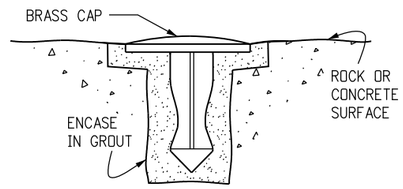


TYPE 1A MONUMENT

INCLUDES MONUMENT BOX

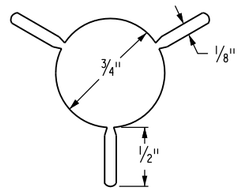


TYPE 3 MONUMENT

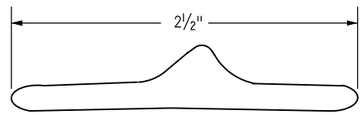


TYPE 5 MONUMENT

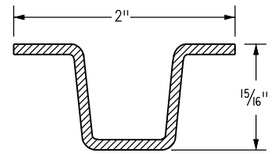
ALUMINUM CAP AND TYPE 5(S)
DETAILS SHOWN ON SHEET 2



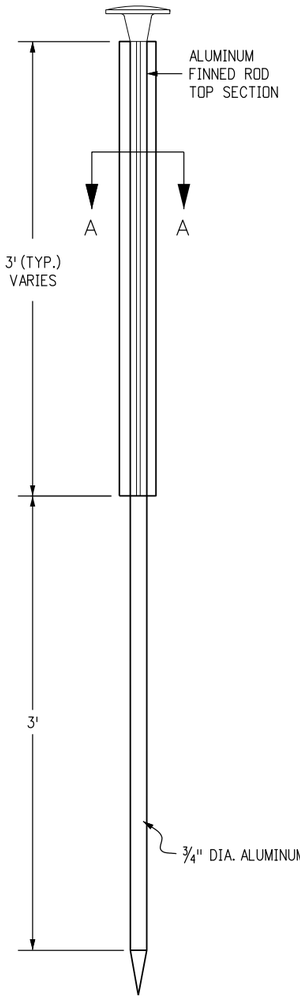
SECTION A-A



SECTION B-B

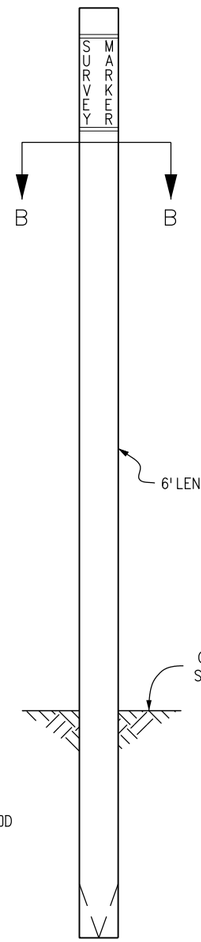


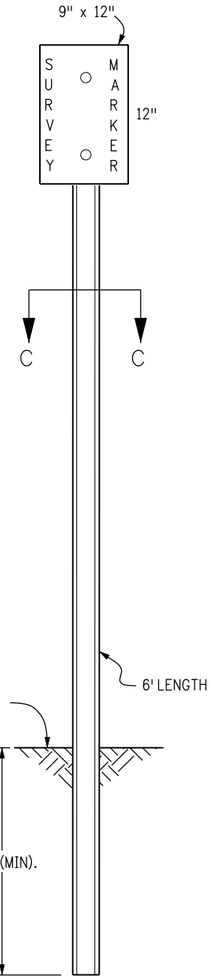
DELINEATOR POST
SECTION C-C



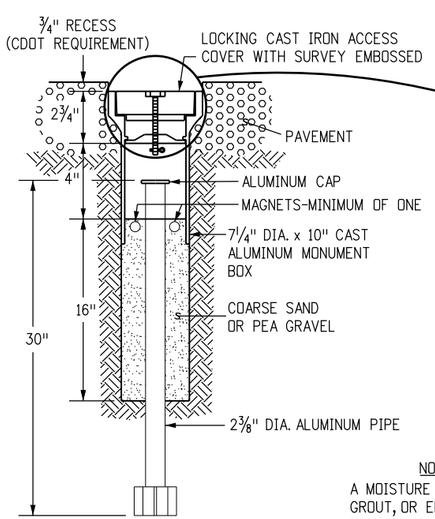
TYPE 2 MONUMENT

TYPE 2A INCLUDES MONUMENT BOX





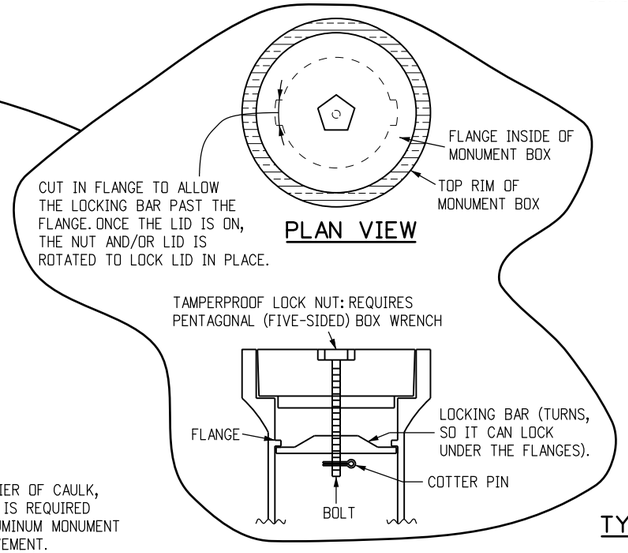
WITNESS POSTS



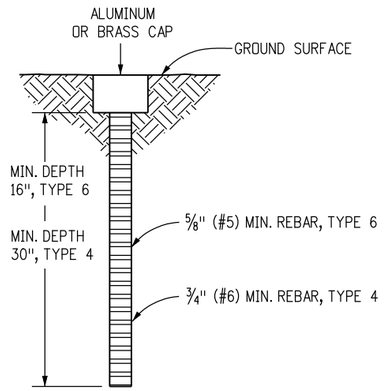
TYPE 3A MONUMENT

ROADWAY INSTALLATION
INCLUDES MONUMENT BOX

NOTE:
A MOISTURE BARRIER OF CAULK, GROUT, OR EPOXY IS REQUIRED BETWEEN THE ALUMINUM MONUMENT BOX AND THE PAVEMENT.



LOCKING CAST IRON ACCESS COVER



TYPE 4 AND TYPE 6 MONUMENT

Computer File Information		Sheet Revisions	
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Last Modification Date: 07/31/19	(R-X)		
Detailer Initials: LTA	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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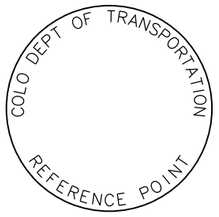
Project Development Branch JBK

SURVEY MONUMENTS

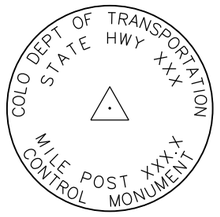
Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-629-1
Standard Sheet No. 1 of 2
Project Sheet Number:

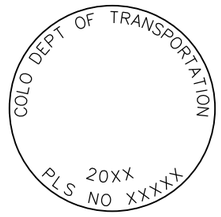


REFERENCE
MONUMENT CAP

ROW
MONUMENT CAP



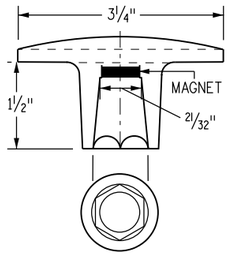
CONTROL
MONUMENT CAP



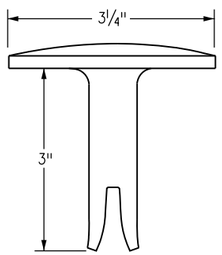
ALIQUOT CORNER
MONUMENT CAP

ALUMINUM CAP

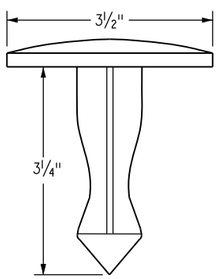
NOTE: A BLANK CAP MAY BE SUBSTITUTED IF THE APPROPRIATE CAP SHOWN ABOVE IS NOT AVAILABLE. IF A BLANK CAP IS USED, ALL INFORMATION NORMALLY INCLUDED ON THE APPROPRIATE STANDARD CAP, SHALL BE STAMPED ON THE BLANK CAP ALONG WITH SPECIFIC PROJECT INFORMATION SUCH AS PROJECT NO., DATE, POINT NO., ETC..



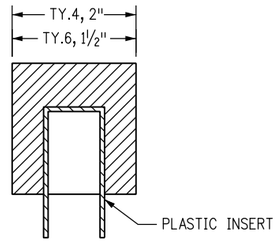
ALUMINUM CAP
USED WITH ALUMINUM ROD



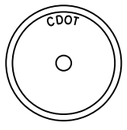
ALUMINUM CAP
TYPE 5
FOR PLACING IN EXISTING
CONCRETE OR ROCK

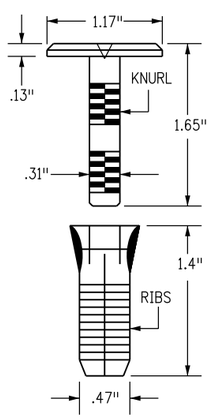


BRASS CAP
TYPE 5
FOR PLACING IN EXISTING
CONCRETE OR ROCK



ALUMINUM CAP





COPPER ALLOY CAP
TYPE 5(S)
FOR PLACING IN EXISTING
SIDEWALK, CURB, OR GUTTER

MONUMENT APPLICATION

CAP TYPE	MONUMENT TYPE									
	1	1A	2	2A	3	3A	4	5	5(S)	6
REFERENCE	X	X						X	X	X
ROW	X	X						X	X	
CONTROL			X	X				X	X	
ALIQUOT CORNER	X	X			X	X	X	X		
PERMANENT EASEMENT								X	X	X
PROJECT POINTS								X	X	X
WITNESS POST* (REQUIRED)	X		X	X	X			X		

ALL MONUMENTATION MATERIALS WILL BE FURNISHED BY CDOT

THE MONUMENT TYPE SHALL MEET THE MINIMUM STANDARDS AS DETERMINED BY THE COLORADO STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS RULES (STATE BOARD RULES).
THE CDOT SURVEY COORDINATOR SHALL APPROVE ALL EXCEPTIONS FOR STAMPING MONUMENTS DIFFERING FROM THE STANDARDS.

TYPE 1 AND TYPE 1A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR ROW OR REFERENCE MONUMENTS OR MAY BE USED FOR AN ALIQUOT CORNER MONUMENT. WHEN USED AS AN ALIQUOT CORNER MONUMENT, INSTALLATION AND RECORD FILING REQUIREMENTS SHALL BE AS STATED FOR TYPE 3 AND TYPE 3A MONUMENTS.
MONUMENTS SHALL BE INSTALLED BY ATTACHING THE PROPER SIZE TIP TO ONE END OF A SECTION OF FINNED ROD, AND A 3 IN. LONG X ¾ IN. DIA. STAINLESS STEEL ADAPTER TO THE OTHER END. THE DRIVER IS THEN PLACED OVER THE STAINLESS STEEL ADAPTER FOR THE HAMMER TO CONTACT. TYPE 1 MONUMENTS SHALL USE A MINIMUM 3 FT. SECTION OF FINNED ROD. WHEN SUBSURFACE ROCK OR CONCRETE IS ENCOUNTERED LESS THAN 3 FT. BELOW THE GROUND SURFACE, THE ROD SHALL BE EMBEDDED IN THE ROCK OR IN CONCRETE AT LEAST 6 IN. AND GROUTED IN PLACE. THE ROD MAY BE SHORTENED TO ACCOMMODATE THE CONDITIONS.
WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED.
TYPE 1A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 2 AND TYPE 2A ALUMINUM FINNED ROD MONUMENTS

THIS MONUMENT SHALL BE USED FOR HORIZONTAL AND VERTICAL CONTROL MONUMENTS. WHEN UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, ADDITIONAL SECTIONS OF ROD SHALL BE ADDED TO ACHIEVE STABILITY. HORIZONTAL AND VERTICAL STABILITY ARE REQUIRED. IN MOST SOIL CONDITIONS THE TYPE 2 MONUMENT IS EMBEDDED 6 FT. INTO THE GROUND.
THE MONUMENT SHALL BE INSTALLED BY FIRST ATTACHING THE PROPER SIZE TIP TO A 3 FT. LONG X ¾ IN. DIA. ROD, THEN DRIVING THE ROD AT LEAST 30 IN. INTO THE GROUND. ADDITIONAL 3 FT. LONG X ¾ IN. FINNED ROD SECTIONS SHALL BE ADDED AND DRIVEN FLUSH WITH THE GROUND UNTIL THE MONUMENT IS IN A STABLE POSITION. THE FINS ARE BENT OVER USING PLIERS TO ACCOMMODATE INSTALLING THE CAP. THE CAP IS FIRMLY SEATED ONTO THE LAST FINNED SECTION OF ROD USING A DEAD BLOW SLEDGE HAMMER.
TYPE 2A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 3 AND TYPE 3A ALUMINUM PIPE MONUMENTS

THIS MONUMENT SHALL BE USED FOR AN ALIQUOT CORNER MONUMENT. THE INSTALLATION OF THIS MONUMENT AND RECORD FILING SHALL BE DONE IN ACCORDANCE WITH THE STATE BOARD RULES. ALSO REFER TO THE CDOT SURVEY MANUAL AND THE BUREAU OF LAND MANAGEMENT REQUIREMENTS FOR MONUMENT INSTALLATION. THE LAND SURVEYOR'S LICENSE NUMBER AND THE YEAR SHALL BE STAMPED ON THE CAP.
TYPE 3A MONUMENT INCLUDES MONUMENT BOX. A LOCKING CAST IRON ACCESS COVER SHALL BE INSTALLED WHEN THE MONUMENT IS LOCATED IN THE ROADWAY PAVEMENT.

TYPE 4 ALUMINUM MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF REPLACING THE ENTIRE MONUMENT WHEN REBAR IS IN PLACE AT AN ALIQUOT CORNER LOCATION. REFER TO THE STATE BOARD RULES. A MINIMUM 2 IN. DIA. CAP SHALL BE USED ON ¾ IN. (#6) REBAR.

TYPE 5 BRASS/ALUMINUM CAP MONUMENT

THIS MONUMENT MAY BE INSTALLED IN LIEU OF ALL OTHER CDOT MONUMENTS, WHEN THE POSITION IS LOCATED IN CONCRETE OR STABLE ROCK FORMATION.

TYPE 5(S) COPPER ALLOY CAP MONUMENT - SMALL

THIS MONUMENT MAY BE INSTALLED IN LIEU OF A TYPE 5 MONUMENT, WHEN THE POSITION IS LOCATED IN A CONCRETE SIDEWALK, CURB OR GUTTER, OR WHEN SETTING A TYPE 5 WOULD COMPROMISE THE INTEGRITY OF THE RECEIVING STRUCTURE.

STAMPING REQUIREMENTS:

- "RP", WHEN THE APPLICATION IS A REFERENCE POINT.
- "ROW", POINT NUMBER, "LS", AND REGISTRATION NUMBER WHEN THE APPLICATION IS A ROW POINT.
- "CP" AND A UNIQUE IDENTIFIER PROVIDED BY THE REGION SURVEY COORDINATOR, WHEN THE APPLICATION IS A CONTROL POINT.
- "PE", POINT NUMBER, "LS", AND REGISTRATION NUMBER, WHEN THE APPLICATION IS A PERMANENT EASEMENT POINT.
- "PP" AND POINT NUMBER, WHEN THE APPLICATION IS A PROJECT POINT.

TYPE 6 ALUMINUM MONUMENT

THIS MONUMENT SHALL BE USED FOR PERMANENT EASEMENTS, PROJECT BENCH MARKS, PROJECT POINTS, AND REFERENCES. AN ALUMINUM CAP WITH A MINIMUM DIAMETER OF 1 ½ IN., SHALL BE USED ON ⅝ IN. (#5) MINIMUM REBAR.

* WITNESS POSTS

THE WITNESS POST WILL BE SUPPLIED BY CDOT AND INSTALLATION SHALL BE INCLUDED IN THE WORK. IT SHALL BE DRIVEN WITHIN 1 FT. OF THE MONUMENT WHEN POSSIBLE. A DELINEATOR POST WITH A 9 IN. X 12 IN. METAL SIGN PANEL MAY BE USED IN LIEU OF THE PLASTIC POST. THIS POST SHALL CONFORM TO STANDARD PLAN S-612-1. A REQUIRED WITNESS POST MAY BE OMITTED WITH THE APPROVAL OF THE ENGINEER IF THE WITNESS POST LOCATION IS WITHIN A TRAVELED WAY, DRIVEWAY, OR ACCESS OPENING.

Computer File Information		Sheet Revisions	
Creation Date: 07/31/19		Date:	Comments
Designer Initials: JBK	(R-X)		
Last Modification Date: 07/31/19	(R-X)		
Detailer Initials: LTA	(R-X)		
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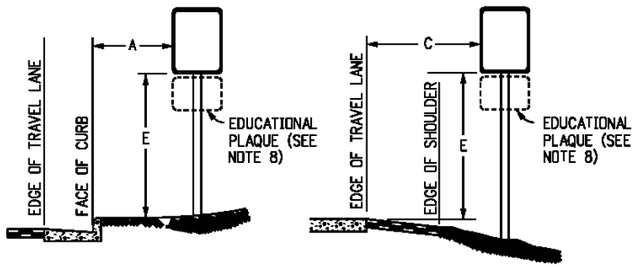
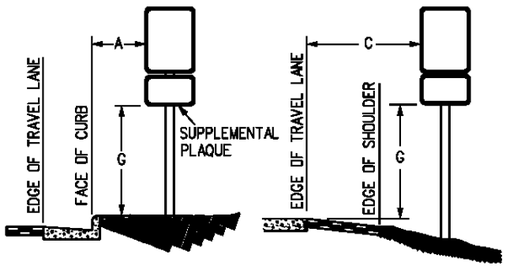
SURVEY MONUMENTS

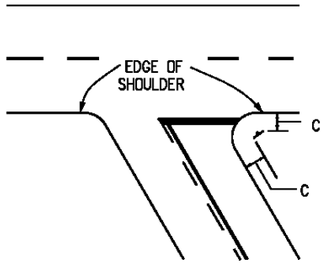
Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-629-1
Standard Sheet No. 2 of 2
Project Sheet Number:

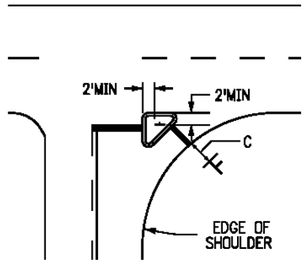




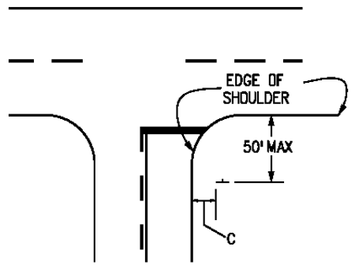
REGULATORY, RECREATIONAL AND CULTURAL INFORMATION SIGN PLACEMENT



ACUTE ANGLE INTERSECTION



CHANNELIZED INTERSECTION



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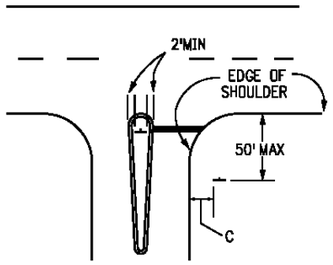
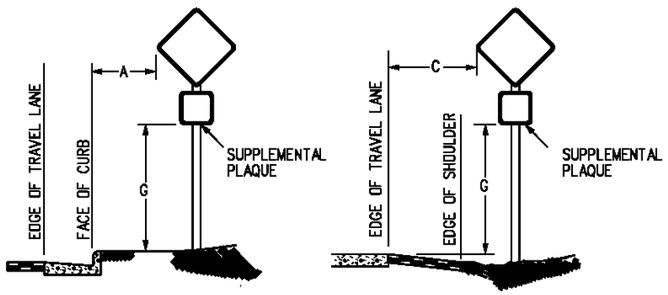


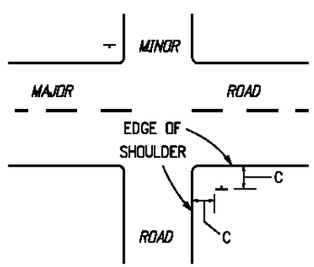
DIVISIONAL ISLAND

GENERAL NOTES

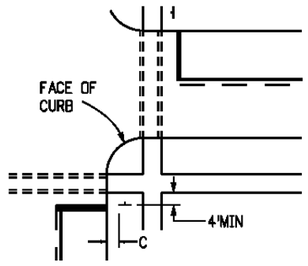
1. THE ENGINEER WILL ESTABLISH GRADES AND LOCATIONS FOR ALL SIGN POSTS IN ACCORDANCE WITH DETAILS SHOWN ON THE PLANS.
2. SPECIAL CARE SHALL BE TAKEN IN SIGN LOCATION TO ENSURE AN UNOBSTRUCTED VIEW OF EACH SIGN.
3. MINIMUM POST EMBEDMENT SHALL BE 3 FT. FOR U-2 POSTS AND 4-IN X 4-IN TIMBER POSTS, AND 5 FT FOR 6-IN X 6-IN TIMBER POSTS. SEE APPLICABLE STANDARDS FOR FOOTING DEPTH.
4. IF A SHOULDER IS WIDER THAN 6 FT., THE MINIMUM LATERAL OFFSET DISTANCE SHOULD BE 6 FT. FROM THE EDGE OF SHOULDER, EXCEPT FOR MILE MARKER SIGNS. SEE FIGURE 2A-2(B) OF THE 2009 MUTCD.
5. NORMAL LATERAL PLACEMENT IS MEASURED FROM THE EDGE OF THE TRAVEL LANE.
6. IN URBAN AREAS, A LATERAL CLEARANCE OF 1 FT FROM THE CURB FACE IS PERMISSIBLE WHERE SIDEWALK WIDTH IS LIMITED OR WHERE EXISTING POLES ARE CLOSE TO THE CURB.
7. TYPICAL POST MOUNTING HEIGHTS FROM GROUND TO BOTTOM OF SIGN PANEL ARE 7 OR 8 FT. OTHER HEIGHTS MAY BE REQUIRED WHEN SIGNS ARE MOUNTED ON STEEPER FILL OR CUT SLOPES.
8. "EDUCATIONAL PLAQUES" FOR SYMBOL SIGNS WILL NOT BE CONSIDERED WHEN DETERMINING VERTICAL PLACEMENT. FOR INFORMATION OF EDUCATIONAL PLAQUES, SEE PAGE 3 OF THE 2012 CDOT GUIDE SIGNING POLICIES & PROCEDURES, AND SECTION 2M.06 OF THE 2009 MUTCD.
9. WHEN LATERAL PLACEMENT IS 30 FT OR MORE FOR SIGNS WITHOUT A SUPPLEMENTAL PLAQUE, VERTICAL PLACEMENT D MAY BE REDUCED TO 5 FT WHEN LATERAL PLACEMENT IS 30 FT OR MORE FOR SIGNS WITH A SUPPLEMENTAL PANEL, VERTICAL PLACEMENT F DOES NOT DOES NOT APPLY - USE ONLY VERTICAL PLACEMENT H.
10. NORMAL ANGULAR PLACEMENT IS 0 DEG. SIGNS CLOSER THAN 30 FT. SHOULD BE TURNED SLIGHTLY AWAY TO MINIMIZE SPECULAR REFLECTION. SIGNS PLACED 30 FT. OR MORE SHOULD GENERALLY BE TURNED TOWARD THE ROAD.
11. THE EXIT PANEL IS MOUNTED ON THE RIGHT HAND SIDE FOR RIGHT HAND EXITS AND THE LEFT SIDE FOR LEFT HAND EXITS.
12. POST SHALL BE INSTALLED PLUMB, VERTICAL DEVIATION SHALL NOT EXCEED ½-IN. IN 10 FT.
13. ON ALL TWO-LANE, UNDIVIDED HIGHWAYS, THE MILE MARKER AND POST SHALL BE INSTALLED ON THE RIGHT SHOULDER IN THE ASCENDING DIRECTION WITH THE MILE MARKER PANELS DISPLAYED ON THE FRONT AND BACK SIDE OF THE POST.
14. ON ALL UNDIVIDED MULTI-LANE AND DIVIDED HIGHWAYS, AND INTERSTATES, THE MILE MARKER AND POST SHALL BE INSTALLED ON THE OUTSIDE SHOULDER (OR SIDEWALK IF APPLICABLE) IN BOTH DIRECTIONS OF TRAVEL.
15. VERTICAL SPACING BETWEEN SIGN PANELS SHALL BE 1 TO 1½ IN., TYPICAL.



WARNING SIGN PLACEMENT



MINOR CROSSROAD



URBAN INTERSECTION

TYPICAL LOCATIONS-STOP SIGNS AND YIELD SIGNS

PLACEMENT TABLES

KEY	LATERAL PLACEMENT: ALL CLASSES OF STREETS AND HIGHWAYS	
	MINIMUM	NORMAL
A	2'-0"	15'-0"PLUS CURB
B	2'-0"	30'-0" OR MORE INCLUDES CURB
C	2'-0"	6'-0"PLUS EDGE OF 6'+ WIDE SHOULDER. IF NONE, 15'-0" FROM EDGE OF TRAVEL LANE.

KEY	VERTICAL PLACEMENT: FREEWAYS AND EXPRESSWAYS		CONVENTIONAL STREETS AND HIGHWAYS			
			URBAN		RURAL	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
D	7'-0" OR NOTE NO. 9	12'-0"	7'-0"	8'-0"	5'-0"	8'-0"
E	7'-0"	8'-0"	7'-0"	8'-0"	5'-0"	8'-0"
F	8'-0" OR NOTE NO. 9	12'-0"	8'-0"	9'-0"	5'-0"	9'-0"
G	6'-0"	7'-0"	6'-0"	7'-0"	4'-0"	7'-0"
H	5'-0"	10'-0"	6'-0"	7'-0"	4'-0"	7'-0"

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Sheet Revisions	
Date:	Comments

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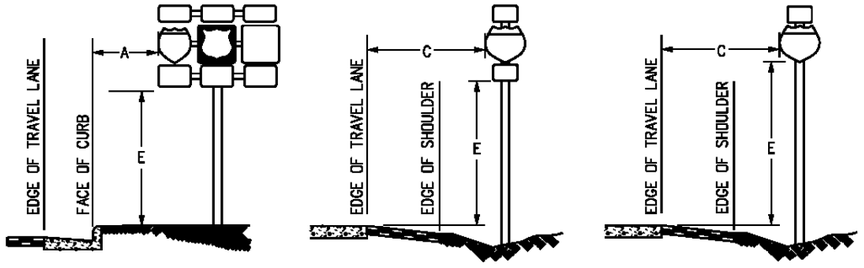
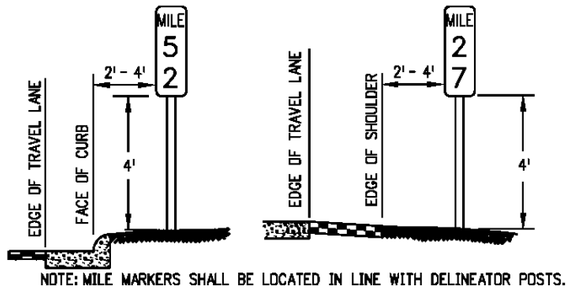
GROUND SIGN PLACEMENT

Issued By: Traffic & Safety Engineering Branch July 31, 2019

STANDARD PLAN NO.
S-614-1
Standard Sheet No. 1 of 2
Project Sheet Number:

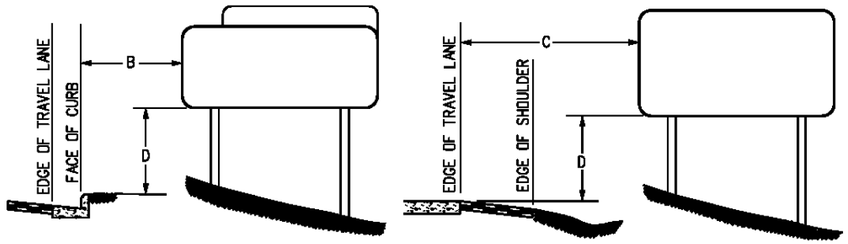


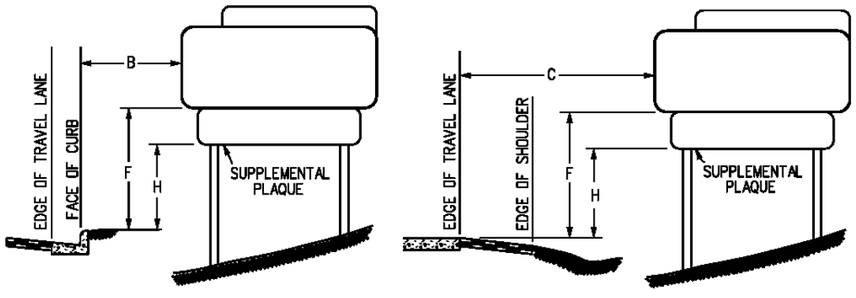
ROUTE MARKER ASSEMBLY PLACEMENT



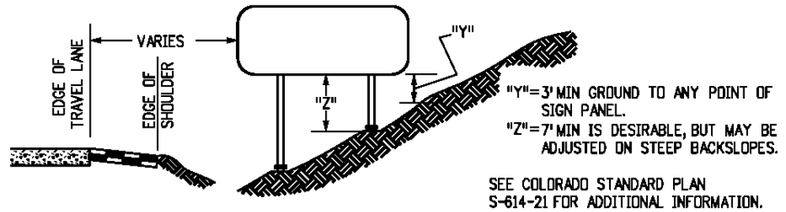
NOTE: MILE MARKERS SHALL BE LOCATED IN LINE WITH DELINEATOR POSTS.

MILE MARKER PLACEMENT

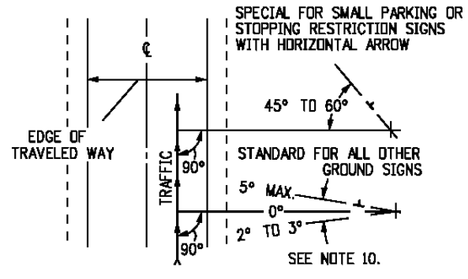




CLASS III SIGN PLACEMENT



CLASS III SIGNS, PANEL GROUND CLEARANCE



ANGULAR PLACEMENT

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GROUND SIGN PLACEMENT

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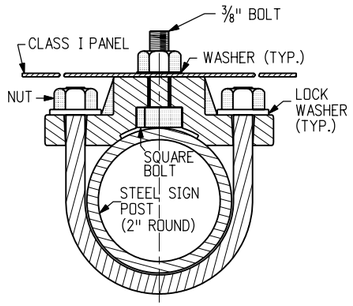
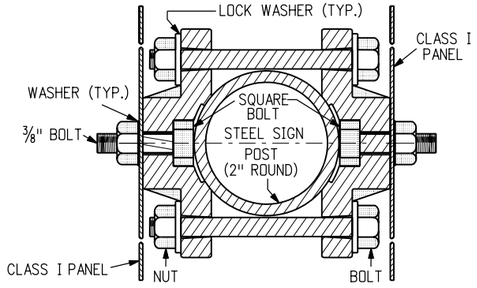
STANDARD PLAN NO.
S-614-1
Standard Sheet No. 2 of 2
Project Sheet Number:

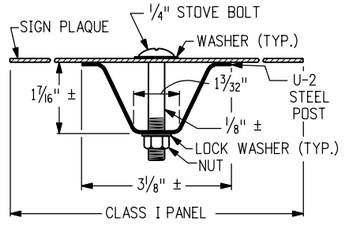
TYPICAL SINGLE BRACKET



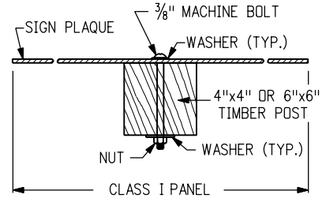
TYPICAL BACK TO BACK



TYPICAL ROUND STEEL POLE SECTION



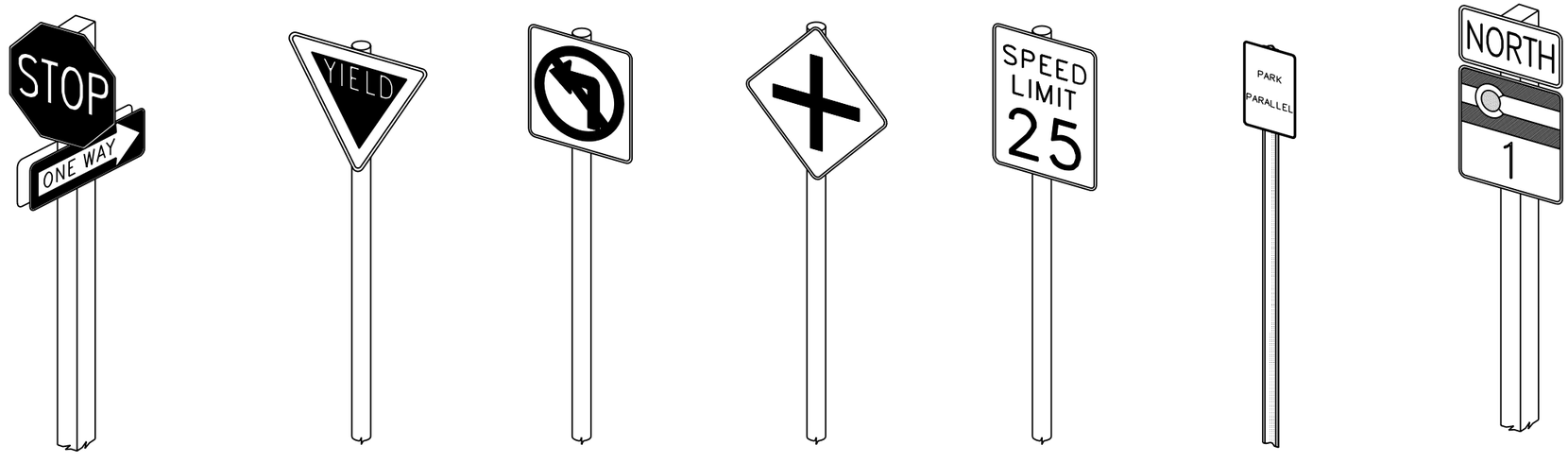
TYPICAL U-2 POST SECTION



TYPICAL TIMBER POST SECTION

GENERAL NOTES

1. CLASS I SIGN PANELS ARE ALL THOSE THAT DO NOT REQUIRE BACKING ZEES. CLASS I PANELS SHALL GENERALLY BE 0.100" MINIMUM THICKNESS SINGLE SHEET ALUMINUM, BUT 0.080" THICKNESS MAY BE USED FOR SIGN PANELS WHERE BOTH THE HORIZONTAL AND VERTICAL DIMENSIONS ARE LESS THAN 36 IN.
2. CLASS I SIGN PANELS SHALL BE FASTENED TO THE U-2 POST WITH 2-1/4 IN. STOVE BOLTS AND TO TIMBER POSTS WITH 2-3/8 IN. MACHINE BOLTS. SEE STANDARD PLANS S-614-20 AND S-614-22 FOR EXCEPTIONS.
3. A WASHER SHALL BE PLACED BETWEEN THE BOLT HEAD AND THE FACE OF THE SIGN PANEL. A 1 1/2 IN. DIA. WASHER SHALL BE PLACED UNDER THE NUT ON THE BACK OF THE TIMBER POST.
4. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED OR CADMIUM PLATED.
5. ALL SIGNS SHALL BE FABRICATED USING RETROREFLECTIVE SHEETING CONFORMING TO ASTM D4956. THE TYPE SHALL BE AS DESCRIBED IN THE STANDARD SPECIFICATIONS AND/OR AS SHOWN ON THE PLANS.
6. FOR SIGN PLACEMENT SEE STANDARD PLAN S-614-1.
7. U-2 POSTS MAY ONLY BE USED FOR DELINEATORS, MILE MARKERS AND STRUCTURE NUMBER PLAQUES. "U" SHAPE STEEL POSTS SHALL BE A UNIFORM FLANGED CHANNEL SECTION MADE FROM HOT ROLLED STRUCTURAL STEEL, RE-ROLLED RAIL STEEL, OR NEW BILLET STEEL HAVING A MINIMUM YIELD STRENGTH OF AT LEAST 30,000 PSI, AND A MINIMUM TENSILE STRENGTH OF AT LEAST 50,000 PSI. U" SHAPE POSTS SHALL WEIGH 2 LBS/FT, EXCEPT THAT A MILL TOLERANCE OF MINUS 3 1/2% OF THE WEIGHT OF ANY ONE POST WILL BE ALLOWED. "U" SHAPE POSTS SHALL HAVE 5/16 IN. HOLES DRILLED OR PUNCHED ON 1IN. OR 2 IN. CENTERS FOR THE TOP 4 FEET OF THE POST AS A MINIMUM, WITH THE FIRST HOLE 1 1/2 IN. FROM THE TOP OF THE POST. COLOR OF POSTS SHALL BE INTERSTATE GREEN.
8. VERTICAL SPACING BETWEEN PANELS ON THE SAME POST SHALL BE 1 IN. TO 1 1/2 IN.



TYPICAL CLASS I GROUND SIGNS

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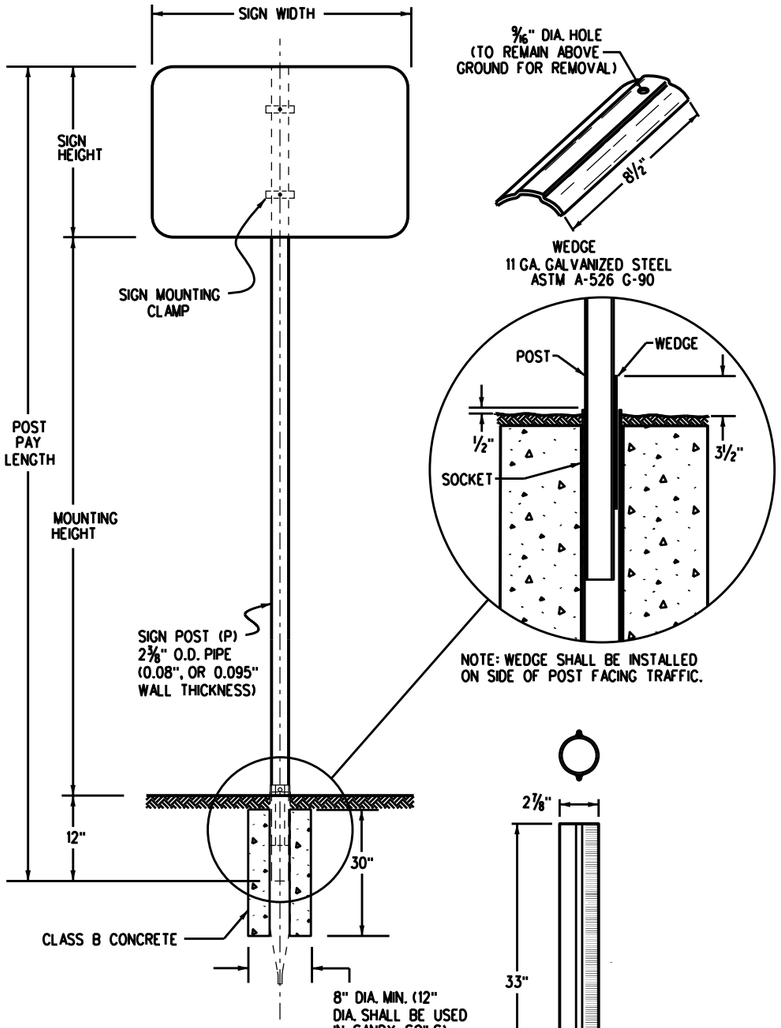
CLASS I SIGNS

Issued By: Safety & Traffic Engineering Branch July 4, 2006

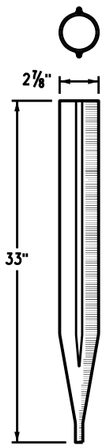
STANDARD PLAN NO.
S-614-2
Sheet No. 1 of 1

TUBULAR STEEL POSTS
(SOCKET SYSTEM) (FOR USE WITH ALL P-POST INSTALLATIONS)
(SEE SHEET 2 FOR P1 AND P2 POST INSTALLATIONS)



WEDGE
11 GA. GALVANIZED STEEL
ASTM A-526 G-90

NOTE: WEDGE SHALL BE INSTALLED ON SIDE OF POST FACING TRAFFIC.



TUBULAR CONCRETE FOOTING
12 GA. GALVANIZED
STEEL ASTM - 787

POST NOTES

THE POST MAY BE PRE-PUNCHED WITH ⅜" DIA. HOLES AND THE SIGN MOUNTED DIRECTLY TO THE POST, OR AN APPROVED MOUNTING CLAMP MAY BE USED TO MOUNT THE SIGN TO THE POST. IF THE POST IS PRE-PUNCHED, THE HOLES SHALL BE SPACED THE FOLLOWING DISTANCES FROM THE TOP:

1", 3", 10", 16", 21", 23", 24", 27", 33", 37", 39", AND 45"

SIGNPOST SELECTION GUIDE (90 MPH WIND LOAD DESIGN)
(FOR SOCKET SYSTEM AND SLIPBASE INSTALLATIONS USING P, P1 OR P2 POSTS)

7' MOUNTING HEIGHT

SIGN HEIGHT (FT) \ SIGN WIDTH (FT)	1	2	2.5	3	4	5	6	7	8	9	10	11	12*
1	P	P	P	P	P	P1	SIZES NOT USED						
2	P	P	P	P	P	P1							
2.5	P	P	P	P	P1	P1							
3	P	P	P	P1	P1	P1					TWO P2'S		
4	P	P1	P1	P1	P1	P1	TWO P1'S						
5	SIZES NOT USED		P1	P1	P1	P1							
6			P1	P1	P1	▼P2			TWO P2'S		THREE P2'S		
7			P1	P1	▼P2				TWO P2'S			SEE CHART NOTE 5.	

▼ SEE CHART NOTE 4.

8' MOUNTING HEIGHT

SIGN HEIGHT (FT) \ SIGN WIDTH (FT)	1	2	2.5	3	4	5	6	7	8	9
1	P	P	P	P	P	P1	SIZES NOT USED			
2	P	P	P	P	P1	P1				
2.5	P	P	P	P1	P1	P1				
3	P	P	P1	P1	P1	P1	TWO P1'S			
4	P	P1	P1	P1	P1	P1				
5	SIZES NOT USED		P1	P1	P1	▼P2				TWO P2'S
6			P1	P1	P1	▼P2				
7			P1	P1	TWO P1'S	TWO P1'S	TWO P2'S		SIZES NOT USED	

9' MOUNTING HEIGHT

SIGN HEIGHT (FT) \ SIGN WIDTH (FT)	1	2	2.5	3	4	5	6	7	8	9
1	P	P	P	P	P	P1	SIZES NOT USED			
2	P	P	P	P	P1	P1				
2.5	P	P	P	P1	P1	P1				
3	P	P	P1	P1	P1	P1	TWO P1'S			
4	P	P1	P1	P1	P1	P1				
5	SIZES NOT USED		P1	P1	P1	▼P2				TWO P2'S
6			P1	P1	▼P2	TWO P1'S			TWO P2'S	
7			P1	P2	TWO P1'S	TWO P1'S		TWO P2'S		SIZES NOT USED

CHART NOTES

1. TYPICAL POST MOUNTING HEIGHTS FROM GROUND TO BOTTOM OF SIGN PANEL ARE 7, 8 OR 9 FEET. OTHER HEIGHTS MAY BE REQUIRED WHEN SIGNS ARE MOUNTED ON STEEPER FILL OR CUT SLOPES.
2. FOR SIGNS MOUNTED ON TWO POSTS, THE MINIMUM DISTANCE BETWEEN POSTS SHALL BE 2 FEET AND THE MAXIMUM DISTANCE SHALL BE 8 FEET. DISTANCE FROM POST TO EDGE OF SIGN PANEL(S) SHALL BE 0 TO 4 INCHES. WHEN BACKING ZEES ARE USED, POSTS SHALL BE INSTALLED WITH A MINIMUM OF 2 INCHES TO THE EDGE OF THE BACKING ZEE.
3. ALL SIGN PANELS GREATER THAN 60 INCHES IN WIDTH MUST BE MOUNTED ON TWO POSTS TO PREVENT TURNING.
4. THE POST SIZES SHOWN ARE THE MINIMUM SIZES REQUIRED. TWO P1 POSTS MAY BE SUBSTITUTED WHERE ONE P2 POST IS INDICATED. P2 POSTS MAY SUBSTITUTED FOR P1 POSTS WHEN DIRECTED BY THE ENGINEER. W-SHAPE BEAM MAY BE SUBSTITUTED FOR P2 POSTS WHEN DIRECTED BY THE ENGINEER.
5. USE W-SHAPE BEAMS ONLY FOR SIGN POSTS.

GENERAL NOTES

1. SIGNS BETWEEN 37 IN. AND 60 IN. WIDTH WITH ONE POST INSTALLATION REQUIRE A T OR U SIGN SUPPORT BRACKET IN ADDITION TO THE BACKING ZEE REQUIREMENTS. WHEN DIRECTED BY THE ENGINEER, SIGN PANELS LESS THAN 48 IN. IN WIDTH MAY ATTACHED DIRECTLY TO T OR U BRACKETS WITHOUT ZEES.
2. U-BRACKETS MAY BE USED FOR MULTIPLE SIGN INSTALLATIONS.
3. FOR BACKING ZEE REQUIREMENTS AND DETAILS, SEE STANDARD PLANS S-614-3 AND S-614-4.
4. THE CONTRACTOR SHALL INSTALL THE POSTS PER THE MANUFACTURER'S RECOMMENDATIONS WITHOUT ADDITIONAL COMPENSATION.

POST SPECIFICATIONS

POST SIZE	OUTSIDE DIAMETER	WALL THICKNESS	MATERIAL	** COATING	MAX ALLOW MOMENT	PAID FOR AS:
P	2.375"	.080"	ASTM-513	ASTM A-653 G-210 WITH 3.0 MIL POLYMER COATING PER ASTM A123 CLEAR COATING	1.47 KIP FT	STEEL SIGN SUPPORT (2 INCH ROUND)
P1	2.875"	.160"	ASTM-513		4.02 KIP FT	STEEL SIGN SUPPORT (2½ INCH ROUND NP-40)
P2	2.875"	.276"	ASTM-500	GC HOT DIPPED PER ASTM-123	5.13 KIP FT	STEEL SIGN SUPPORT (2½ INCH ROUND SCH 80)

** COLOR POWDER COATING MAY BE ADDED ACCORDING TO MANUFACTURER SPECIFICATIONS FOR SPECIAL LOCATIONS WHEN SHOWN ON THE PLANS.

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R-1

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TUBULAR STEEL SIGN SUPPORT DETAILS

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STANDARD PLAN NO.
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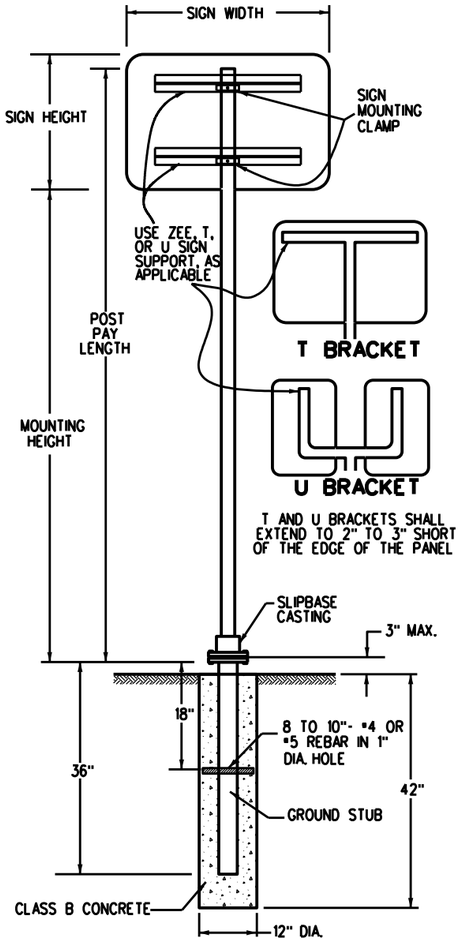
Standard Sheet No. 1 of 7
Project Sheet Number:

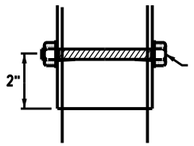


TUBULAR STEEL POST
(WITH SLIPBASE)
(FOR USE WITH ALL P1 AND P2 POST INSTALLATIONS)
(SEE SHEET 1 FOR P-POST INSTALLATIONS)

DIMENSIONS FOR MOUNTING CLAMP (ALL DIMENSION ARE IN INCHES)

STANDARD PIPE SIZE	A	B	C	D	E	F	G	K	L	R_1	R_2
2	3¾	2¾	1½	1⅛	½	3/16	1	2 11/16	1 7/32	¼	1 3/16
2½	4¼	3¼	2	1¼	½	¼	1	3 3/16	1 5/32	½	1 7/16

T AND U BRACKET ATTACHMENT



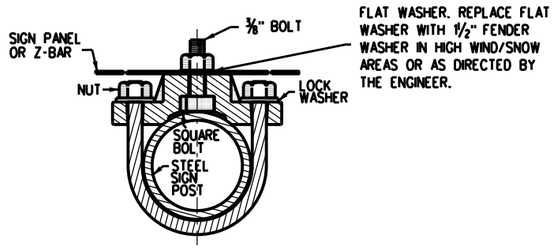
½" x 4½" INCH LONG ZINC-PLATED OR GALVANIZED, GRADE 5 HEX BOLT. 2 FLAT AND 1 LOCK WASHER REQUIRED.

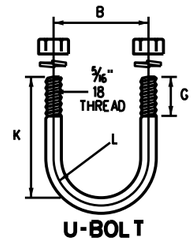
REPLACE FLAT WASHERS WITH 1½" FENDER WASHER IN HIGH WIND/SNOW AREAS OR AS DIRECTED BY THE ENGINEER.

PIPE CLAMP CASTING

PIPE CLAMP CASTING SHALL BE ASTM B26 OR B108 ALUMINUM ALLOY A444.0-T4 OR 356.0-F. ALL SIGN MOUNTING CLAMP PARTS NOT MADE FROM ALUMINUM SHALL BE GALVANIZED STEEL IN CONFORMANCE WITH ASTM A153 OR STAINLESS STEEL.

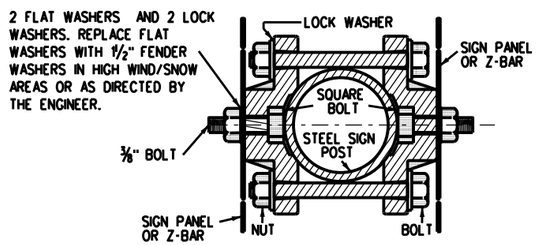
TYPICAL SINGLE BRACKET

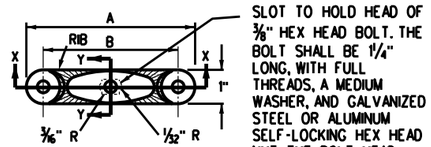




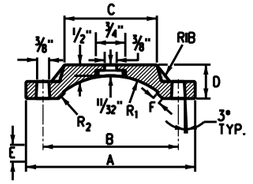
U-BOLT TO BE MADE IN ACCORDANCE WITH STANDARD MANUFACTURING PROCEDURE. ¼" OR 5/18" DIAMETER STOCK IS PERMISSIBLE. AMERICAN STANDARD REGULAR SEMI-FINISHED HEX NUTS AND SPRING LOCKWASHERS.

TYPICAL BACK TO BACK

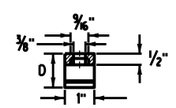




SLOT TO HOLD HEAD OF ⅜" HEX HEAD BOLT. THE BOLT SHALL BE 1¼" LONG, WITH FULL THREADS, A MEDIUM WASHER, AND GALVANIZED STEEL OR ALUMINUM SELF-LOCKING HEX HEAD NUT. THE BOLT HEAD MUST NOT TURN IN THE SLOT.



SECTION X-X



SECTION Y-Y

DETAILS FOR SIGN PANEL ATTACHMENT

MOUNTING CLAMP FOR SOCKET OR SLIPBASE

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Created By: SCL		12/29/20	BOLT LENGTH IN "Y" AND "U BRACKET ATTACHMENT" WASHER REQUIREMENTS IN SIGN PANEL ATTACHMENT
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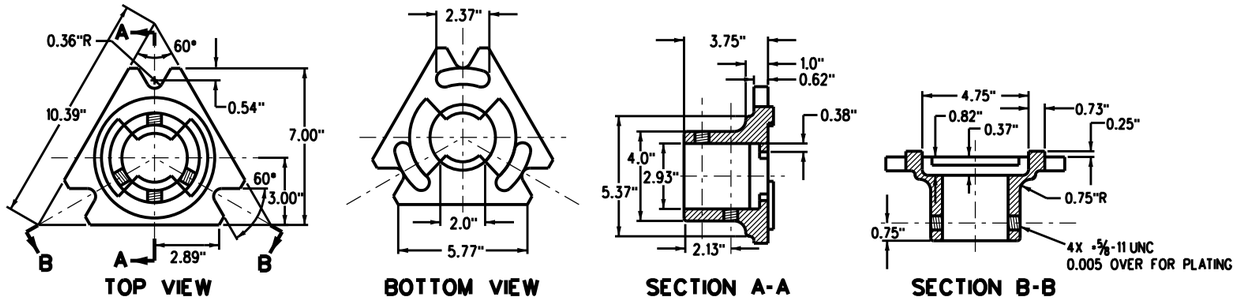
TUBULAR STEEL SIGN SUPPORT DETAILS

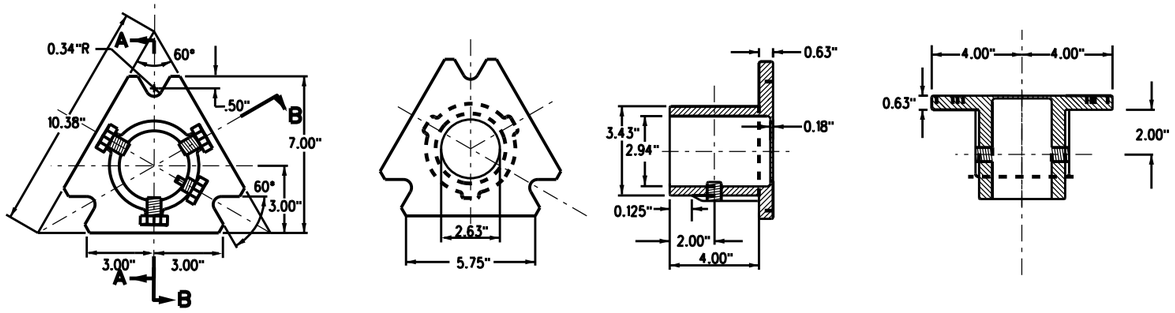
Issued By: Traffic & Safety Engineering Branch July 31, 2019

STANDARD PLAN NO.
S-614-8
Standard Sheet No. 2 of 7
Project Sheet Number:



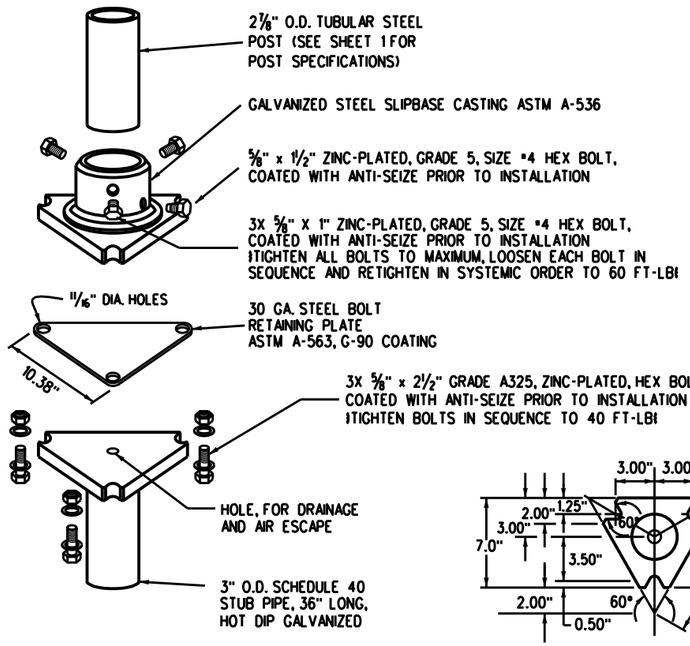
SLIPBASE CASTING 1

DIRECTION OF TRAVEL

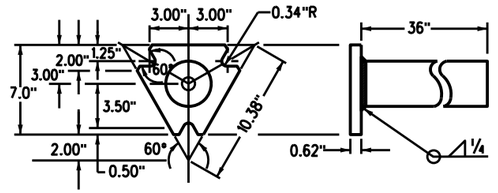


SLIPBASE CASTING 2

DIRECTION OF TRAVEL



TYPICAL ASSEMBLY



SLIPBASE STUB BASE

SLIPBASE CASTING REQUIREMENTS

FOR 2-7/8 INCH POSTS (P1 OR P2 POSTS)
GALVANIZED STEEL SLIPBASE CASTING ASTM-536

MOUNTING HARDWARE

- 3 - EACH ⅝ x 2½ INCH LONG HEX BOLT
- 3 - EACH ⅝ x 1 INCH LONG ZINC-PLATED, GRADE 5 SIZE #4 HEX BOLT
- 1 - EACH ⅝ x 1½ INCH LONG ZINC-PLATED, GRADE 5 SIZE #4 HEX BOLT
- 1 - EACH 30 GAUGE STEEL BOLT RETAINING PLATE ASTM A-563, G-90 COATING

ALL HARDWARE WILL BE GALVANIZED OR ZINC PLATED.

INSTALLATION REQUIREMENTS

ALL HEX BOLTS SHALL BE COATED WITH ANTI-SEIZE PRIOR TO INSTALLATION

TUBULAR STEEL SIGN SUPPORT SLIPBASE NOTES

1. REFER TO SIGNING PLANS FOR SIGN LOCATIONS AND HEIGHT
2. MINUMUM ALLOWABLE TENSION CAPACITY FOR WEDGE ANCHORS = 3000 LBS.
3. MAXIMUM ALLOWABLE MOMENT FOR SIGN BASE = 5.13 kip-ft.
4. PAY ITEM "STEEL SIGN SUPPORT(X-INCH ROUND)(SLIPBASE)" SHALL INCLUDE STUB BASE, CASTING AND NECESSARY HARDWARE (SLIPBASE CASTING MOUNTING HARDWARE AS SHOWN ON STD S-614-8, SHEET 3)
5. PAY ITEM "STEEL SIGN SUPPORT CASTING" SHALL INCLUDE CASTING AND NECESSARY MOUNTING HARDWARE (SLIPBASE CASTING MOUNTING HARDWARE AS SHOWN ON STD S-614-8, SHEET 3)
6. PAY ITEM "STEEL SIGN GROUND STUB BASE (36)" SHALL INCLUDE SLIPBASE STUB BASE

CAST-IN-PLACE SLIPBASE FOR NEW INSTALLATIONS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12		Date:	Comments
Created By: KEN	R-1	12/29/20	⅝" x 2½" HEX BOLTS FROM GRADE 5, SIZE #4 TO GRADE A325 IN "TYPICAL ASSEMBLY"
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STANDARD PLAN NO.
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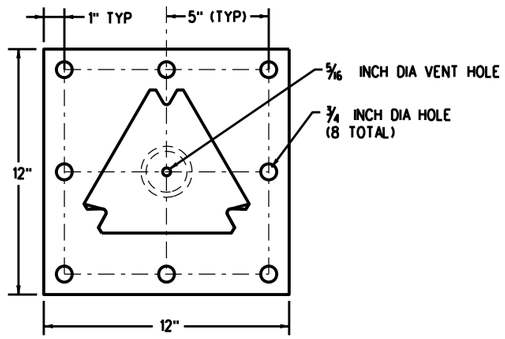
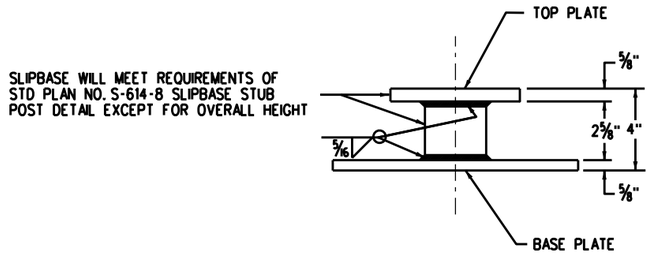
Project Sheet Number:





SURFACE MOUNT SLIPBASE BASE PLATE

SURFACE MOUNT SLIPBASE BASE PLATE FABRICATION REQUIREMENTS

BASE PLATE - 3/4 INCH ASTM A 36 PLATE STEEL
PIPE STUB - 3 INCH NOMINAL SCHEDULE 80, ASTM A-500 GRADE B
TOP PLATE - MEET REQUIREMENTS OF STD PLAN NO. S-614-8, SHEET 3

MEET ASTM A-123 GALVANIZING AFTER FABRICATION IS COMPLETE

SURFACE MOUNT SLIPBASE TUBULAR STEEL SIGN BASE REQUIREMENTS

FOR 2-7/8 INCH POSTS (P1 OR P2 POSTS)
FOR CONCRETE SURFACES GREATER THAN 7 INCHES THICK
FOR CONCRETE SURFACES GREATER THAN 12 INCHES IN WIDTH

MOUNTING HARDWARE

- 8 - EACH 5/8 x 5 1/2 INCH LONG "HILTIKWIK HUS-EZ SCREW ANCHORS
- 16 - EACH 5/8 INCH FLAT WASHERS
- 8 - EACH 5/8 INCH LOCK WASHERS
- 8 - EACH 5/8 INCH NUTS

ALL HARDWARE WILL BE GALVANIZED OR ZINC PLATED.

INSTALLATION REQUIREMENTS:

DRILL: (8) - 5/8 INCH HOLES 6 INCH DEEP, CLEAN HOLE PRIOR TO INSTALLING ANCHORS

USE ADDITIONAL WASHERS FOR SHIMMING TO LEVEL BASE PLATE.

TUBULAR STEEL SIGN SUPPORT SURFACE MOUNT SLIPBASE NOTES

1. REFER TO SIGNING PLANS FOR SIGN LOCATIONS AND HEIGHT
2. REFER TO STD PLAN NO. S-614-8, SHEET 3 FOR SLIPBASE CASTING INFORMATION
3. MINUMUM ALLOWABLE TENSION CAPACITY FOR WEDGE ANCHORS = 3000 LBS.
4. MAXIMUM ALLOWABLE MOMENT FOR SIGN BASE = 5.13 kip-ft.
5. PAY ITEM "STEEL SIGN SURFACE MOUNT BASE PLATE (SLIPBASE)" SHALL INCLUDE BASE PLATE, CASTING AND ALL NECESSARY HARDWARE (SLIPBASE CASTING MOUNTING HARDWARE AS SHOWN ON STD S-614-8, SHEET 3 AND SURFACE MOUNT SLIPBASE MOUNTING HARDWARE AS SHOWN ON STD 6-14-8, SHEET 4)
6. PAY ITEM "STEEL SIGN SURFACE MOUNT BASE PLATE" SHALL INCLUDE BASE PLATE AND NECESSARY HARDWARE (SURFACE MOUNT SLIPBASE MOUNTING HARDWARE AS SHOWN ON STD S-614-8, SHEET 4)

SURFACE MOUNT SLIPBASE FOR RETROFIT INSTALLATIONS

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TUBULAR STEEL SIGN SUPPORT DETAILS

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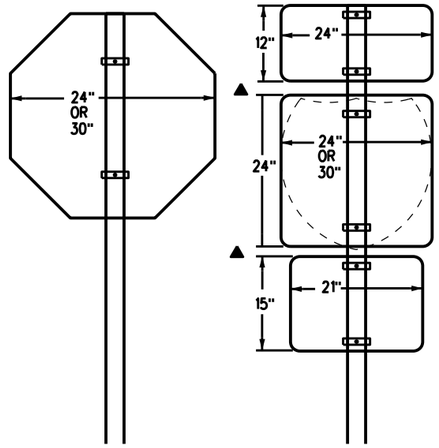
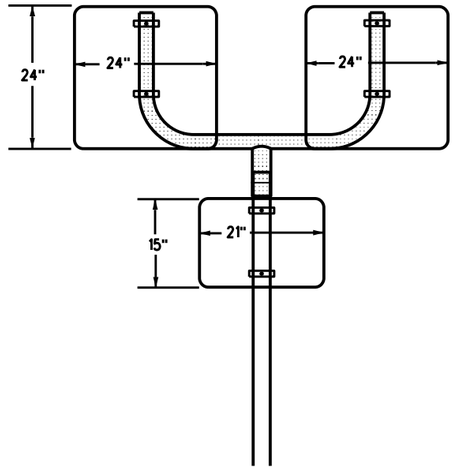
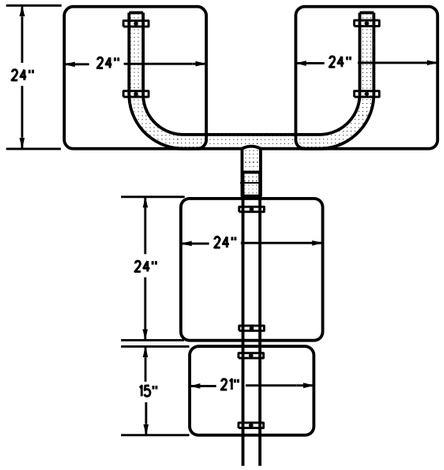
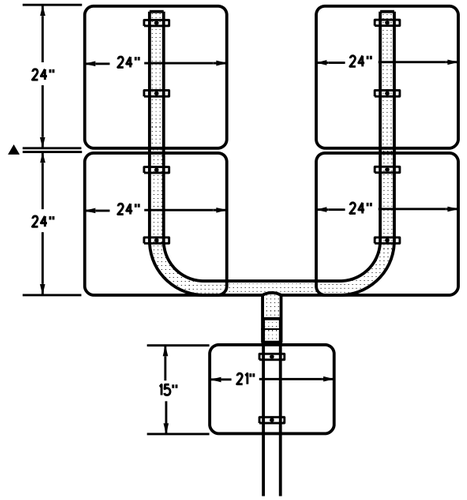
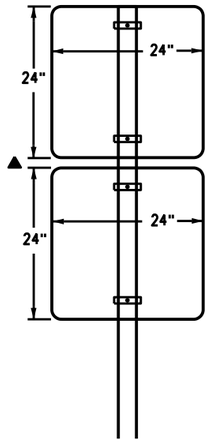
STANDARD PLAN NO.
S-614-8
Standard Sheet No. 4 of 7
Project Sheet Number:

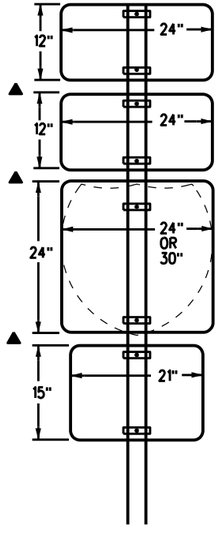


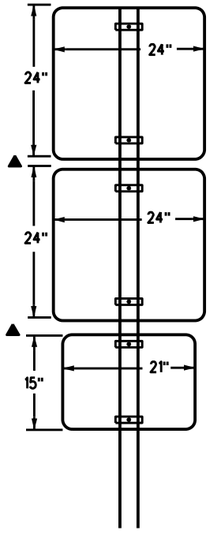




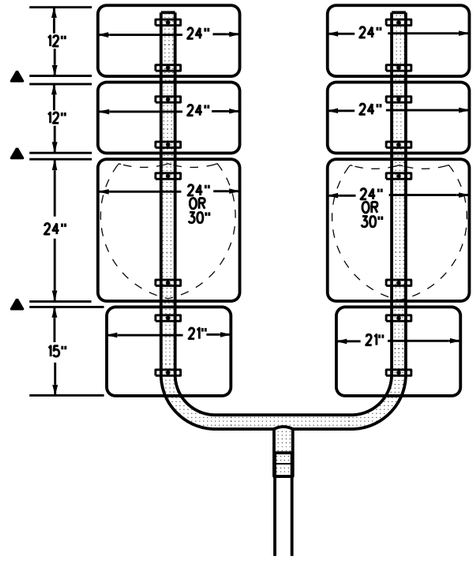








CLASS I SIGN COMBINATIONS (DIRECT ATTACHMENT)



CLASS I SIGN COMBINATIONS USING U-BRACKETS

▲ SEE NOTE 6 ON SHEET 5

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STANDARD PLAN NO.
S-614-8
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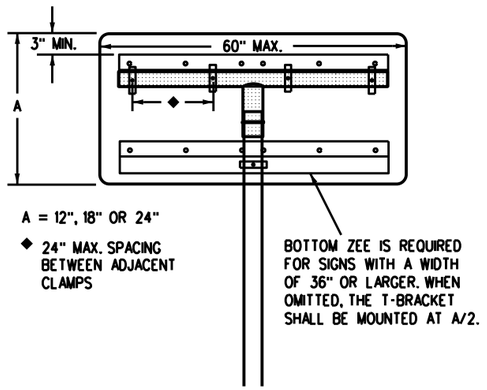
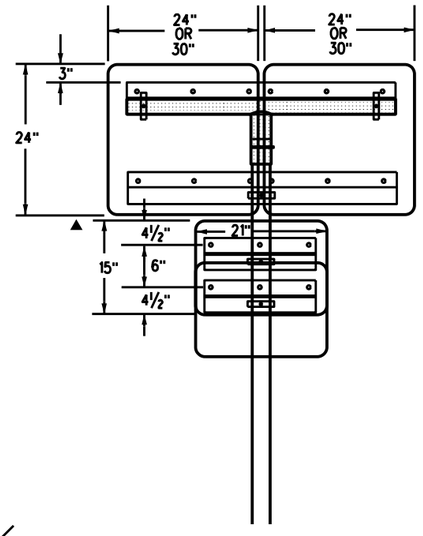
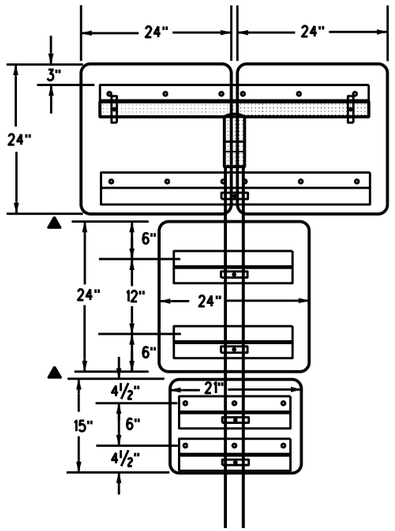


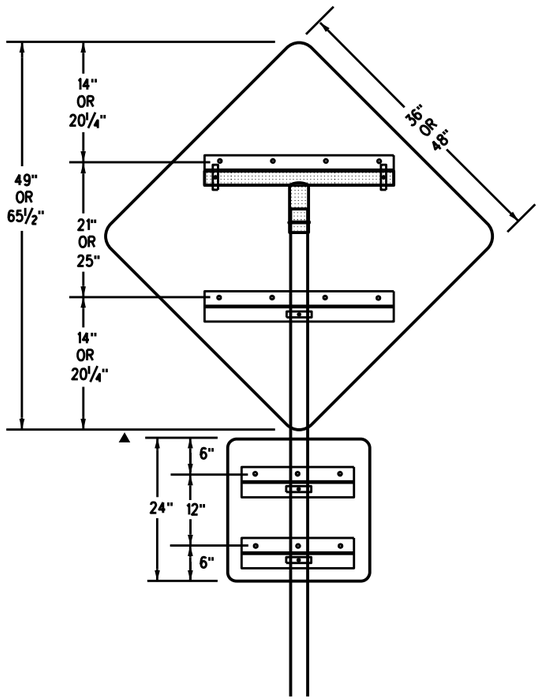


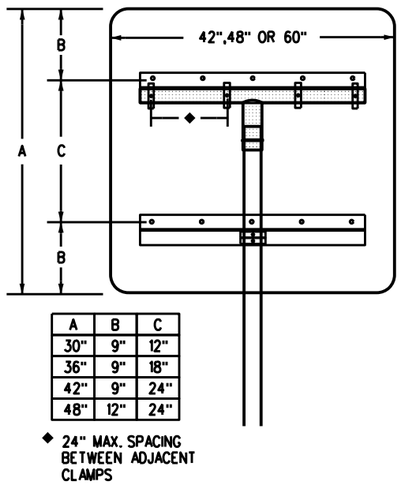


PANEL WIDTHS	ZEE LENGTH
21"	15"
24"	18"
30"	24"
36"	30"
42"	36"
45"	39"
48"	42"
54"	48"
60"	54"
36" DIAMOND	22"
48" DIAMOND	36"
24" & 24"	43"
24" & 30"	49"
30" & 30"	55"
36" & 36"	67"
45" & 36"	76"
24" & 24" & 24"	68"
24" & 24" & 30"	74"
24" & 30" & 24"	74"
30" & 24" & 30"	80"
24" & 30" & 30"	80"
30" & 30" & 30"	86"

NOTES

1. Z-BAR LENGTH SHALL BE 3 IN. (± ½ IN.) SHORT OF THE EDGE OF THE SIGN OR ROW OF SIGNS ON BOTH SIDES. THE ACCOMPANYING TABLE GIVES THE Z-BAR LENGTH FOR MOST TYPICAL PANEL COMBINATIONS.
2. FIRST AND LAST HOLES SHALL BE 2 IN. FROM EDGE OF Z-BAR. THE HOLES IN BETWEEN SHALL BE 6 IN. TO 8 IN. APART.
3. T AND U BRACKETS SHALL TERMINATE 2 IN. TO 3 IN. FROM EDGE OF SIGN PANEL. WHEN A ZEE IS CONNECTED TO A T-BRACKET, THEY SHALL BE THE SAME LENGTH EXCEPT WHEN THE ZEE MUST EXTEND BEYOND THE MAXIMUM LENGTH OF A T-BRACKET.
4. TWO MOUNTING CLAMPS ARE REQUIRED ON ZEES WHERE THERE IS ONLY ONE ZEE FOR THE PANEL AND THE ZEE IS ATTACHED TO ONLY ONE POST.
5. ZEES SHALL BE ATTACHED TO T-BRACKETS AND U-BRACKETS WITH U-BOLTS OR MOUNTING CLAMPS.
6. ▲ VERTICAL SPACING BETWEEN SIGN PANELS SHALL BE 1 IN. TO 1 IN. TYPICAL.
7. IN SPECIAL CASES U-BRACKETS MAY BE USED TO MOUNT SIGNS THAT FACE DIFFERENT DIRECTIONS. THE ENGINEER SHALL DETERMINE THE ORIENTATION OF THE SIGN PANELS AND VERIFY THAT THE MAXIMUM ALLOWABLE WIND LOADS FOR THE POST ARE NOT EXCEEDED.

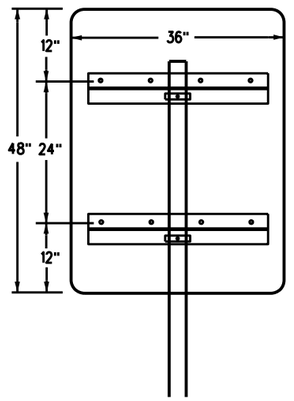


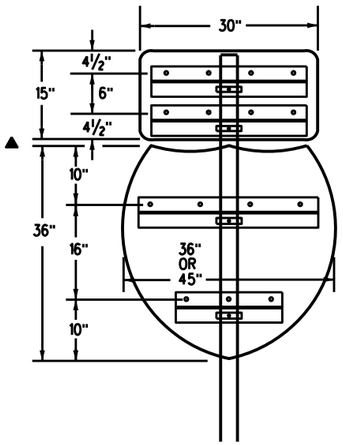


A	B	C
30"	9"	12"
36"	9"	18"
42"	9"	24"
48"	12"	24"

◆ 24" MAX. SPACING BETWEEN ADJACENT CLAMPS

CLASS II SIGN COMBINATIONS USING T-BRACKETS WITH Z-BAR





SINGLE POST CLASS II SIGNS USING Z-BAR

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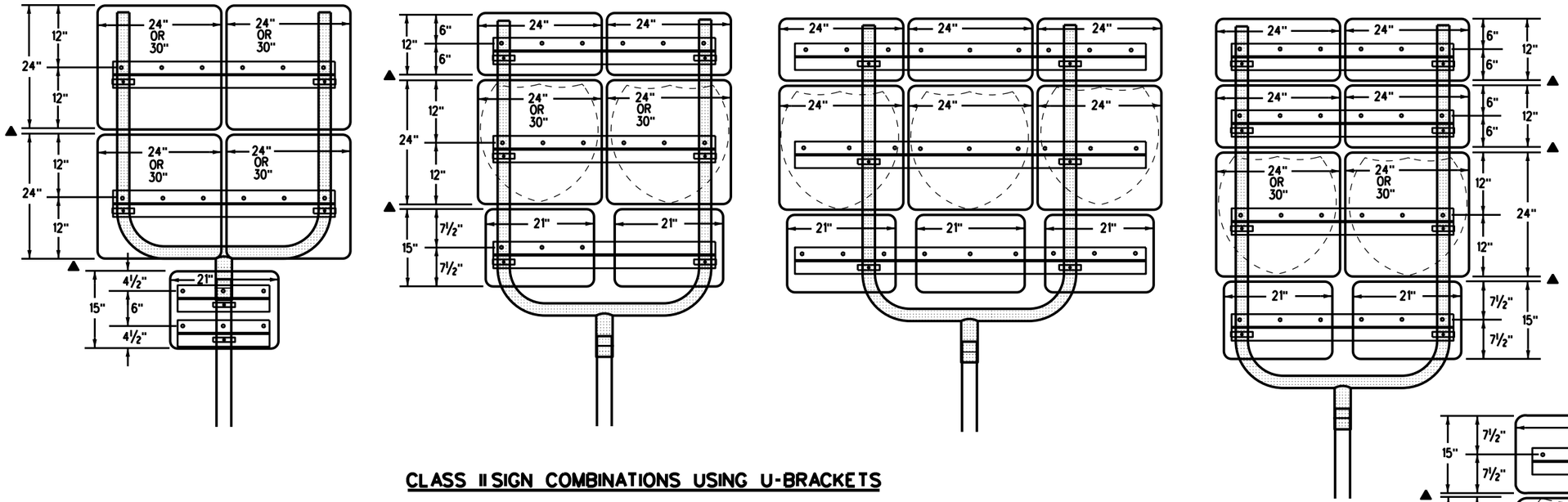
STANDARD PLAN NO.
S-614-8
Standard Sheet No. 6 of 7
Project Sheet Number:



CLASS II SIGN COMBINATIONS USING U-BRACKETS

SEE NOTE 4 ON SHEET 5

NOTE: THIS CONFIGURATION IS PREFERABLE TO USING TWO SEPARATE SIGNS.

▲ SEE NOTE 6 ON SHEET 5

CLASS II SIGN COMBINATIONS USING TWO POSTS

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STANDARD PLAN NO.
S-614-8
Standard Sheet No. 7 of 7
Project Sheet Number:

Seeding Requirements - Plains

Soil preparation, fertilizing, seeding and mulching will be required within the right-of-way limits on all disturbed areas not surfaced. The following types and rates shall be used:

COMMON NAME	BOTANICAL NAME	LBS. PLS/ACRE
Blue grama v. n.m. native	Bouteloua gracilis	3
Smooth brome v. manchar	Bromus inermis	2
Western wheat grass v. arriba	Pascopyrum smithii	5
Little bluestem	Schizachyrium scoparium	2
Buffalo grass (treated)	Buchloe dactyloides	4
	TOTAL	**16 lbs pls/acre**

COMMERCIAL FERTILIZER	ANALYSIS(%)	LBS. NUTRIENT/ACRE
Nitrogen	18	45
Phosphorus	46	115

SEEDING APPLICATION: Drill seed or hand broadcast .25"-.50" into topsoil.

MULCHING REQUIREMENT AND APPLICATION: 1 1/2 tons native hay per acre mechanically or hand crimped into topsoil.

Incorporate fertilizer to a depth of 2 to 4 inches into topsoil.