

LEGEND

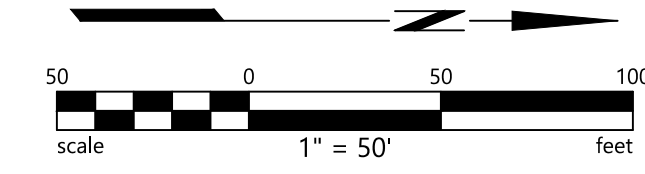
●	IRON PIPE
○	MONUMENT
○	VALVE
○	FIRE HYDRANT
○	SIGN
○	TRAFFIC SIGNAL
○	STREET LIGHT
○	LIGHT POLE
○	GUY ANCHOR
○	UTILITY POLE
---	PROPERTY LINE
---	EASEMENT
---	CENTER LINE
---	GRADE BREAK
---	FENCE
SD	STORM DRAIN
SS	SANITARY SEWER
OVH	OVERHEAD UTILITY LINE
---	UNDERGROUND GAS LINE
---	UNDERGROUND TELECOM LINE
---	WATER
---	UNDERGROUND ELECTRIC LINE
---	CONCRETE

- NOTES**
- BOUNDARY AND EASEMENT INFORMATION ARE BASED ON RECORD INFORMATION ONLY.
 - TOPOGRAPHY AND BOUNDARY DATA SHOWN ON THESE PLANS WAS PREPARED BY BKF IN JANUARY 2022.
 - ALL DISTANCES AND DIMENSIONS ARE IN FEET AND DECIMALS THEREOF.
 - THE UTILITIES SHOWN ON THIS PLAN ARE DERIVED FROM SURFACE OBSERVATIONS AND RECORD DATA. LOCATION AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.
 - ALL EXISTING UTILITY WITHIN THE PROPOSED SIDEWALK TO BE ADJUSTED TO GRADE OR RELOCATED AS NEEDED.
 - DEVELOPER SHALL BE FINANCIALLY RESPONSIBLE FOR FAIR SHARE OF OVERHEAD UNDERGROUNDING ALONG SITE FOOTAGE.
- BASIS OF BEARING**
THE COORDINATES AND BEARINGS AS SHOWN HEREON ARE BASED UPON THE CALIFORNIA STATE PLANE COORDINATE SYSTEM OF 1983, (CC83), ZONE 3, (1991.35). ALL DISTANCES SHOWN, UNLESS OTHERWISE NOTED, ARE IN TERMS OF THE U.S. SURVEY FOOT.
- BENCHMARK**
BENCHMARK: CITY OF ANTIOCH BENCHMARK 3561
ELEVATION = 13.397 (NGVD29)

- KEYNOTES**
- | | |
|---|----------|
| 1 | DEMOLISH |
| 2 | PROTECT |
| 3 | REPLACE |

- ABBREVIATIONS**
- | | |
|------|---------------------------|
| ± | MORE OR LESS |
| AC | ASPHALT CONCRETE |
| APN | ASSESSOR'S PARCEL NUMBER |
| BFP | BACKFLOW PREVENTOR |
| CONC | CONCRETE |
| DIA | DIAMETER |
| DN | DOCUMENT NUMBER |
| DW | DRIVEWAY |
| E | ELECTRIC |
| (E) | EAST |
| EP | EDGE OF PAVEMENT |
| ESMT | EASEMENT |
| G | GAS |
| GM | GAS METER |
| GYP | GUY POLE |
| HB | HOSE BIB |
| HDRL | HANDRAIL |
| HT | HEIGHT |
| INV | BOTTOM INSIDE OF PIPE |
| IP | IRON PIPE |
| (N) | NORTH |
| OVH | OVERHEAD UTILITY LINE |
| PBA | PUSH BUTTON ASSEMBLY POST |
| PG&E | PACIFIC GAS & ELECTRIC |

- | | |
|------|--------------------------|
| RCP | REINFORCED CONCRETE PIPE |
| (S) | SOUTH |
| SD | STORM DRAIN |
| SDCB | STORM DRAIN CATCH BASIN |
| SDCO | STORM DRAIN CLEAN OUT |
| SDGI | GRATE INLET |
| SDMH | STORM DRAIN MANHOLE |
| SS | SANITARY SEWER |
| SSCO | SANITARY SEWER CLEAN OUT |
| SSMH | SANITARY SEWER MANHOLE |
| SQ | SQUARE |
| TB | TOP OF BOX |
| TEL | TELECOMMUNICATION |
| TG | TOP OF GRATE |
| TV | TELEVISION |
| TYP | TYPICAL |
| UB | UTILITY BOX |
| VCP | VITRIFIED CLAY PIPE |
| W | WATER |
| (W) | WEST |
| WM | WATER METER |
| YD | YARD DRAIN |



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18TH STREET DEVELOPMENT - EAST
APN 051-052-056, PERMIT#: GP-22-02, SP-22-01, PD-22-01, UP-22-03, AR-22-03
ANTIOCH, CA

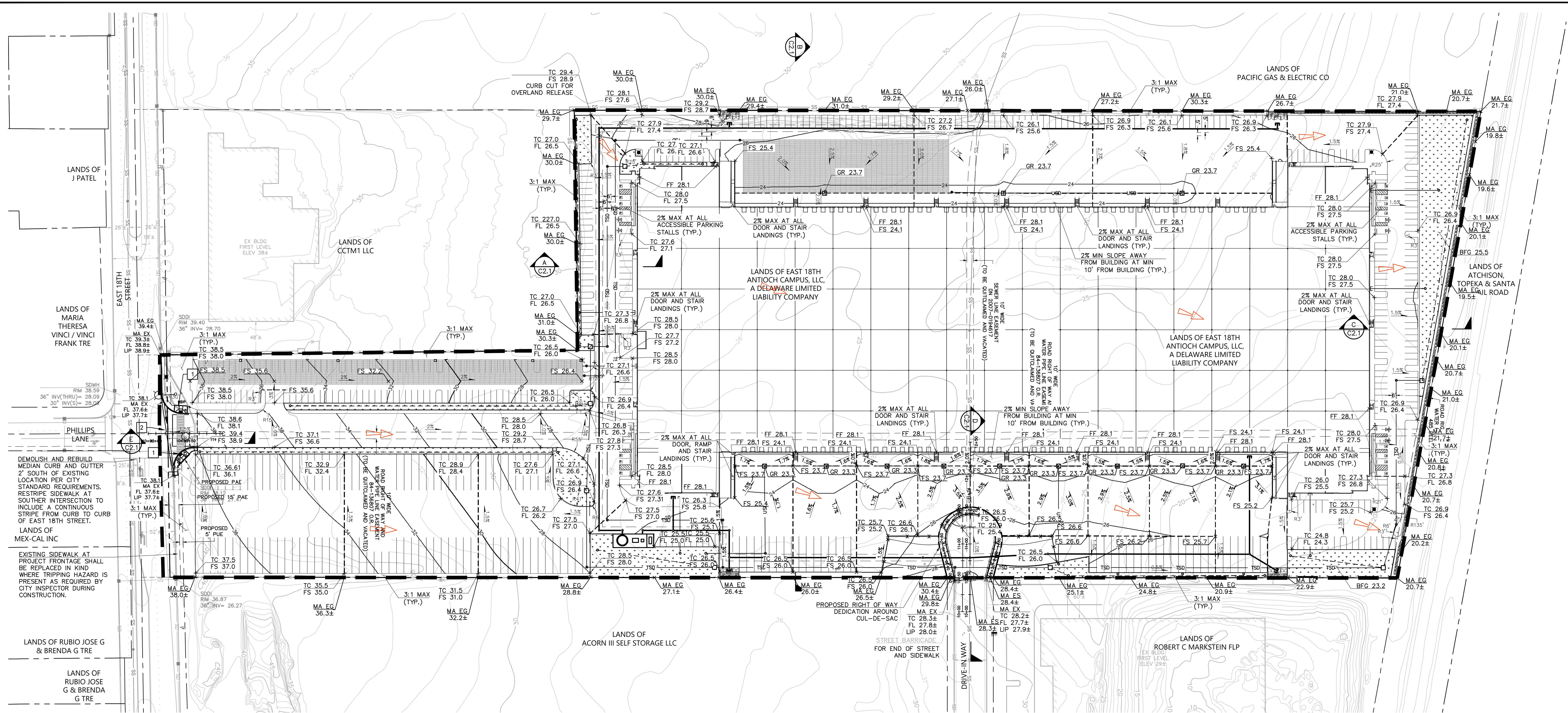
EXISTING CONDITIONS

No.	Revisions

Date: 06/20/2022
Scale: AS SHOWN
Design: AZ
Drawn: DBL, MK
Approved: MS
Job: 18-2022/025

C1.0

1 OF 6



LEGEND

	PROPERTY LINE
	EASEMENT
	CENTER LINE
	PROPOSED UNTREATED STORM DRAIN
	PROPOSED TREATED STORM DRAIN
	LIMIT OF WORK
	GRADE BREAK
	FLOW ARROW
	STORM DRAIN MANHOLE
	STORM DRAIN CATCH BASIN
	DRAINAGE BUBBLER
	SANITARY SEWER MANHOLE
	WATER METER
	BACKFLOW PREVENTOR
	FIRE HYDRANT
	UTILITY DIRECTION OF FLOW
	STORMWATER CHAMBERS
	BIORETENTION FACILITY
	RIGHT OF WAY DEDICATION
	INFILTRATION TRENCH
	OVERLAND RELEASE ARROW

NOTES

- EXISTING UTILITIES SHOWN ON THIS PLAN SET ARE DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION, DEPTH AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.
- ALL EXISTING UTILITY BOXES, STRUCTURES, MANHOLES AND VALVES WITHIN THE LIMIT OF WORK SHALL BE ADJUSTED TO FINAL GRADE UNLESS OTHERWISE NOTED.
- PROPOSED BUILDING IS FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

KEYNOTES

- CURB RAMP PER CITY OF ANTIOCH CONSTRUCTION DETAIL ST-12
- VALLEY GUTTER PER CITY OF ANTIOCH CONSTRUCTION DETAIL ST-08

EARTHWORKS

CUT: 28,00 CY
 FILL: 8,000 CY
 IMPORT: 20,000 CY

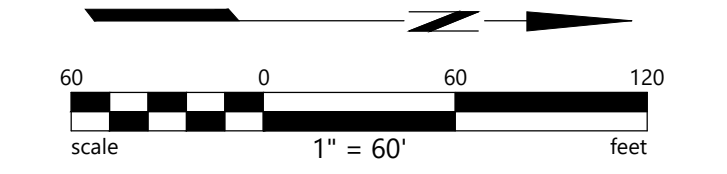
ASSUMPTIONS:

- ESTIMATE IS APPROXIMATE AND ARE BASED ON AERIAL TOPOGRAPHY, SUPPLEMENTAL SURVEY, AND AVAILABLE RECORD INFORMATION.
- THE EARTHWORKS QUANTITIES REPRESENTS EARTHWORK FROM EXISTING GRADE TO PROPOSED GRADE.

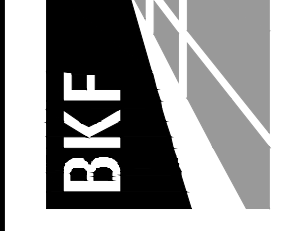
ABBREVIATIONS

±	MORE OR LESS
AC	ASPHALT CONCRETE
BW	BOTTOM OF WALL
EG	EXISTING GRADE
EX	EXISTING
FF	FINISHED FLOOR
FG	FINISHED GRADE
FL	FLOW LINE
FS	FINISHED SURFACE
GR	GRATE
MA	MATCH
MAX	MAXIMUM
MIN	MINIMUM
SD	STORM DRAIN
TC	TOP OF CURB
TW	TOP OF WALL
TSD	TREATED STORM DRAIN
USD	UNTREATED STORM DRAIN

18th St - 05-20-2022 11:30am



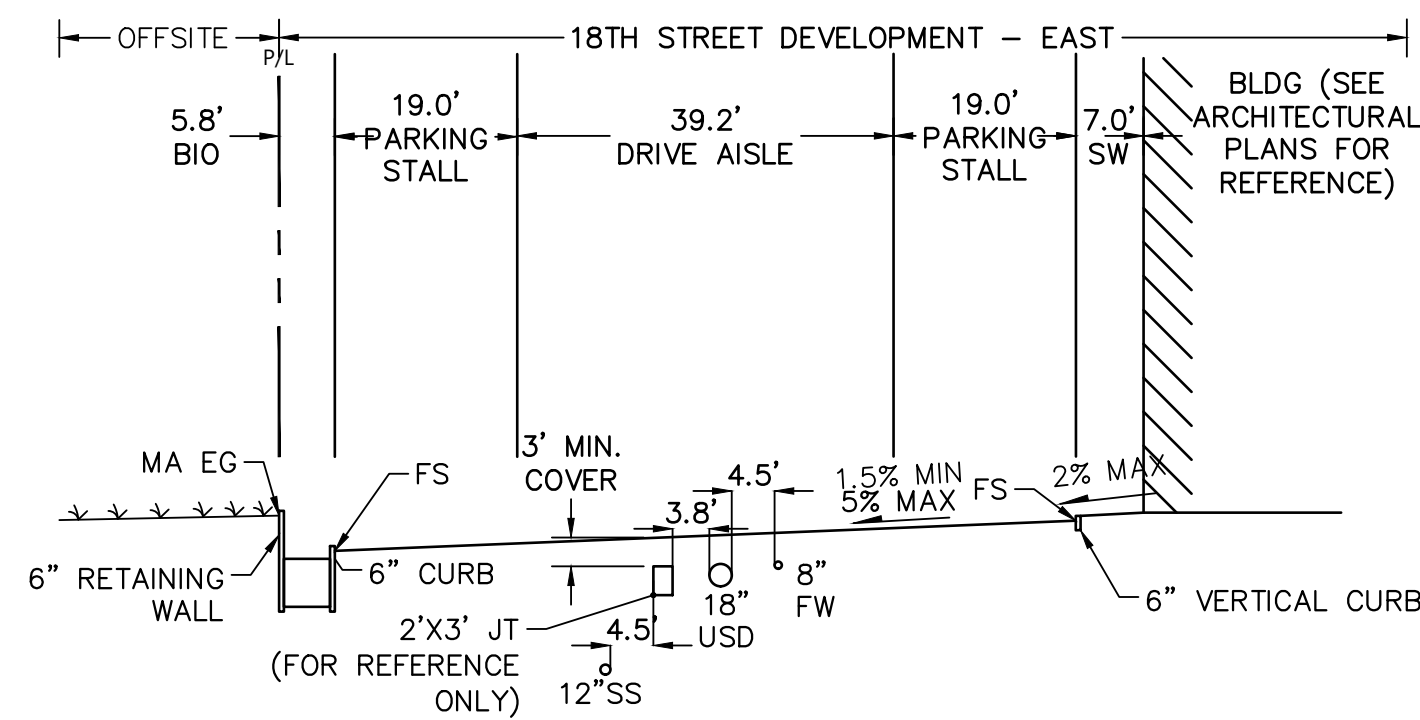
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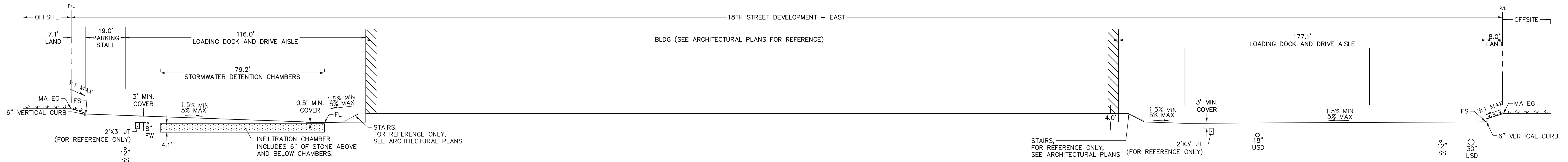
18TH STREET DEVELOPMENT - EAST
 APN 051-052-056, PERMIT#: GP-22-02, SP-22-01, PD-22-01, UP-22-03, AR-22-03
 ANTIOCH, CA

GRADING AND DRAINAGE PLAN

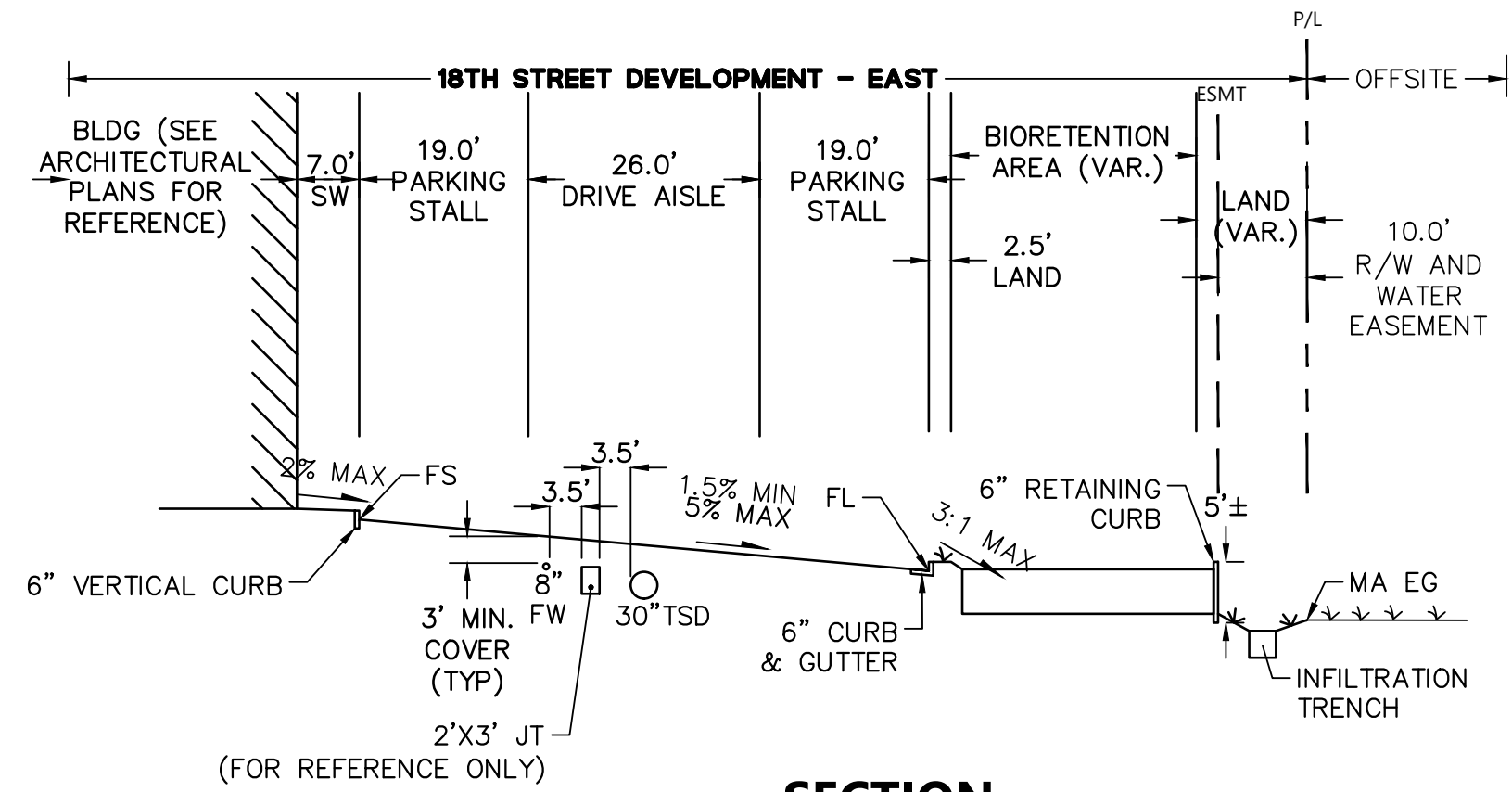
No.	Revisions
1	DATE: 08/20/2022 SCALE: AS SHOWN DESIGN: AZ DRAWN: DB, BK APPROVED: MS JOB: 18-2022-025
C2.0	
2 OF 6	



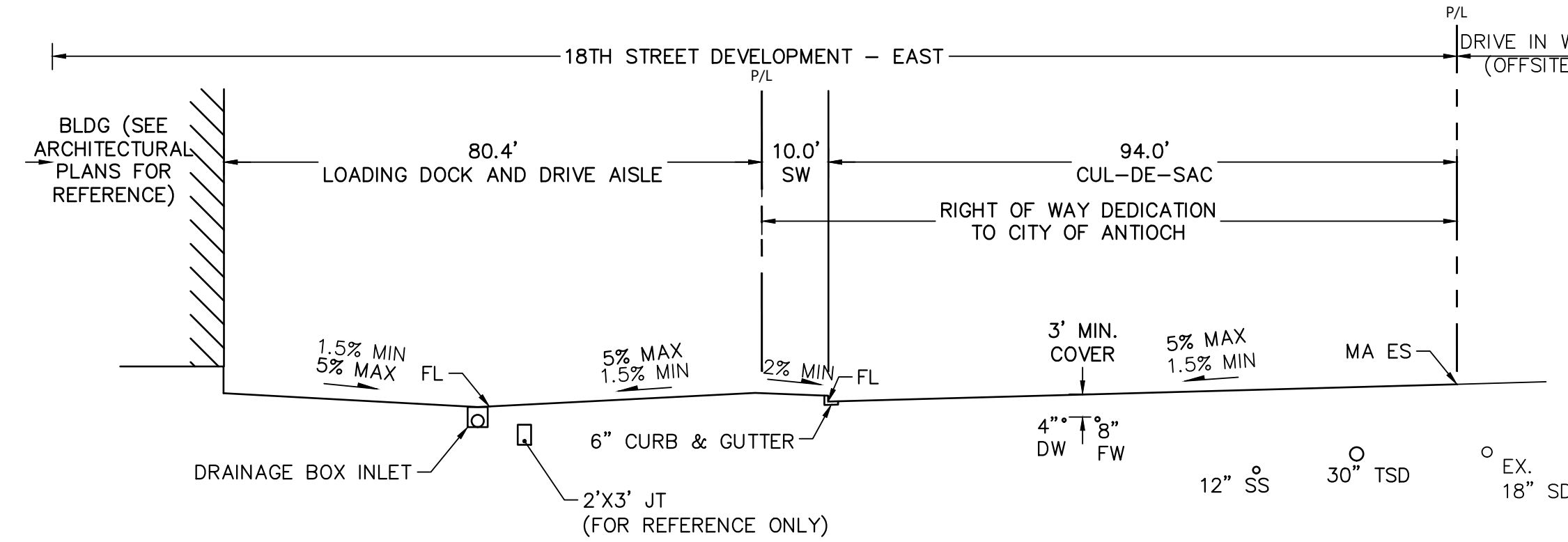
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SCALE: 1"=20'



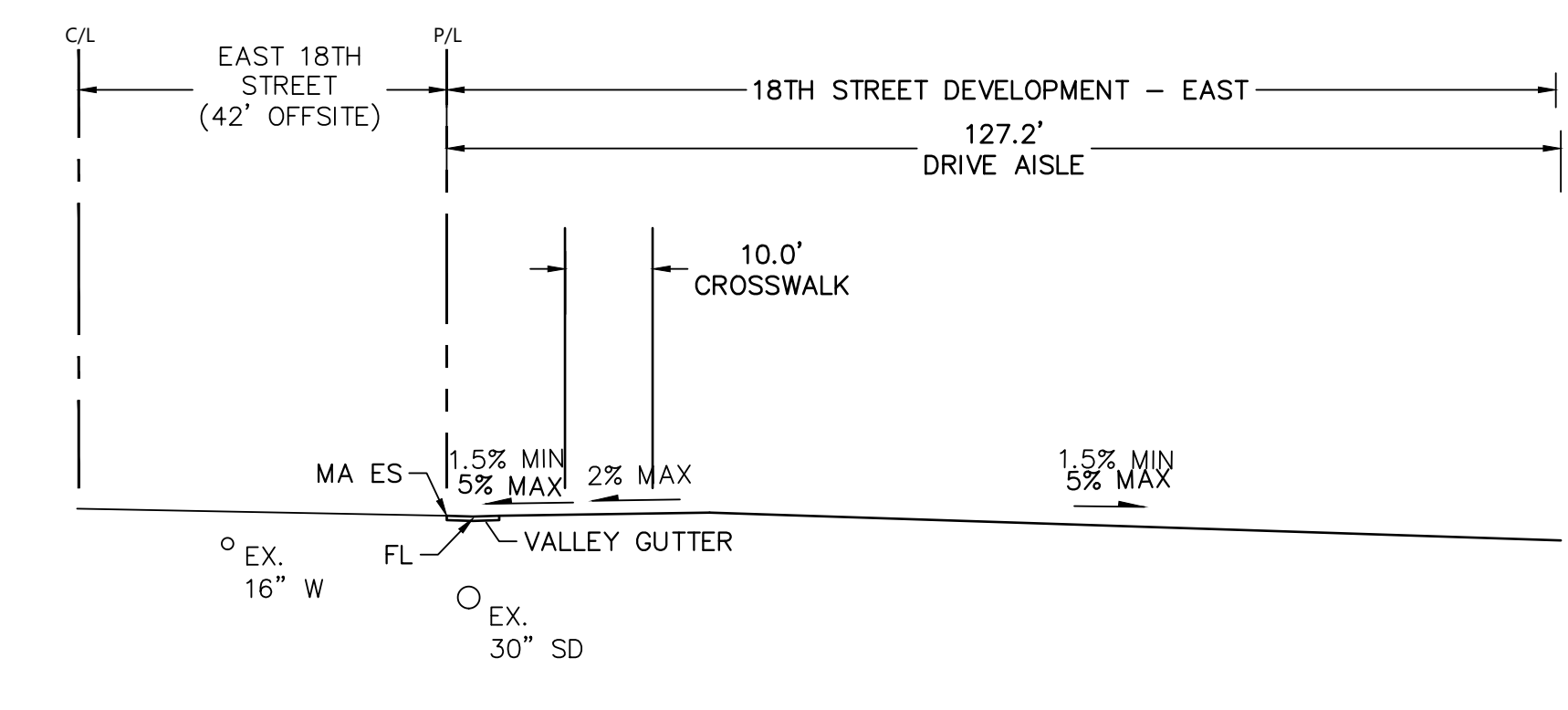
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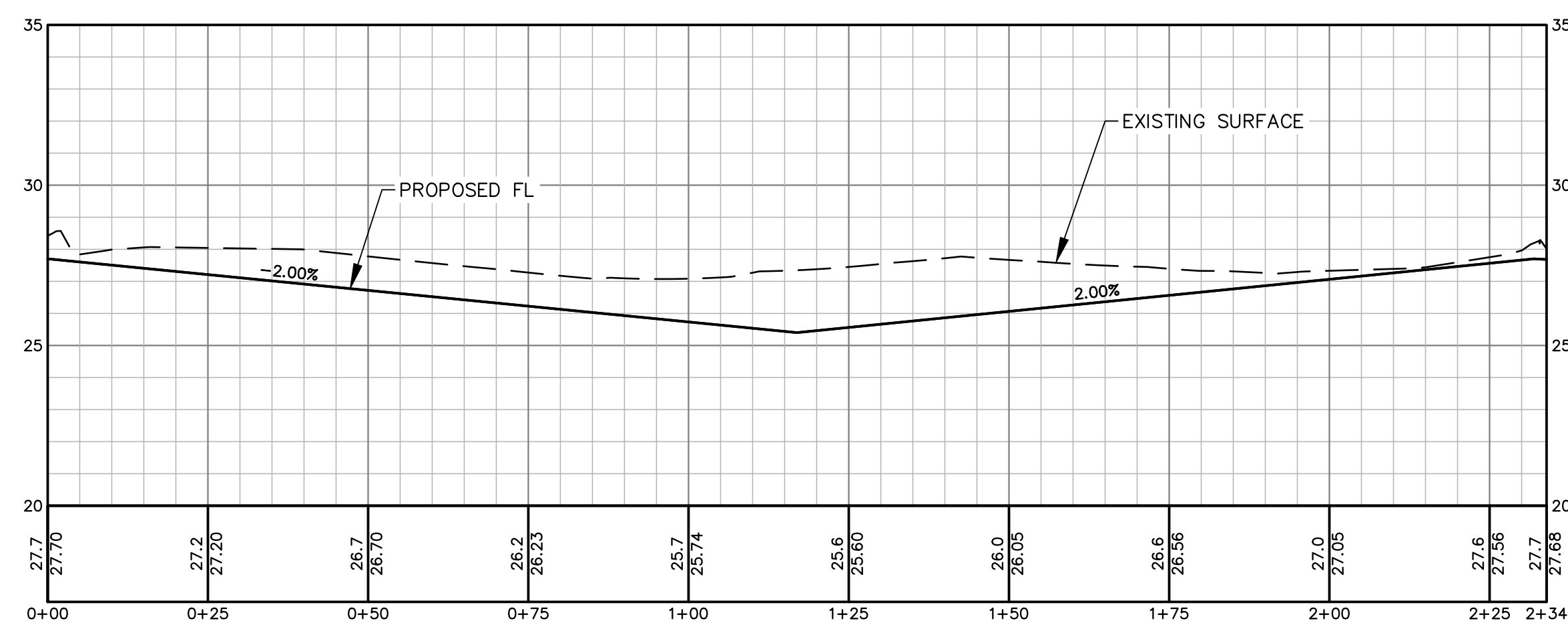
C SECTION
SCALE: 1"=20'



D SECTION
SCALE: 1"=20'



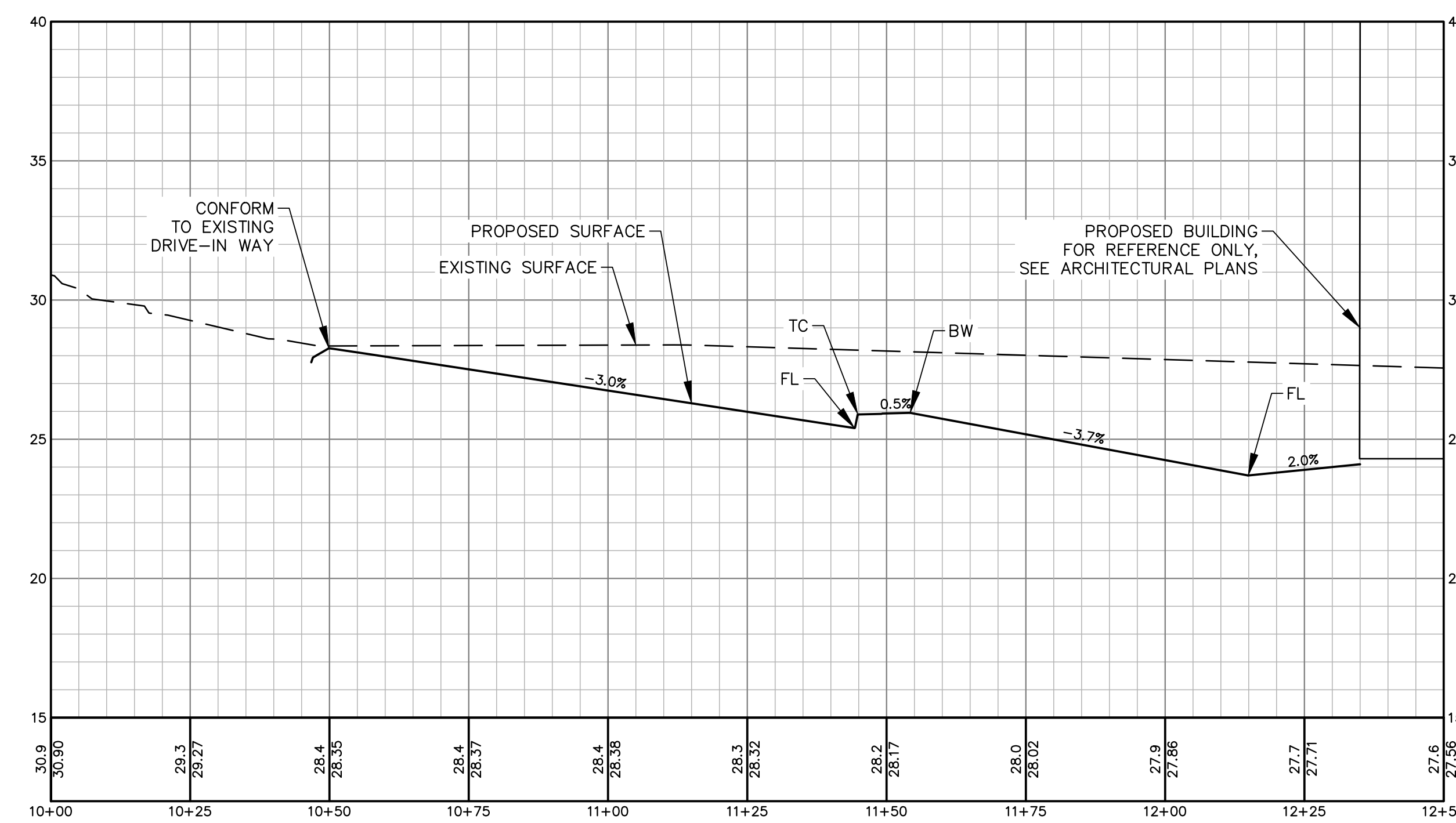
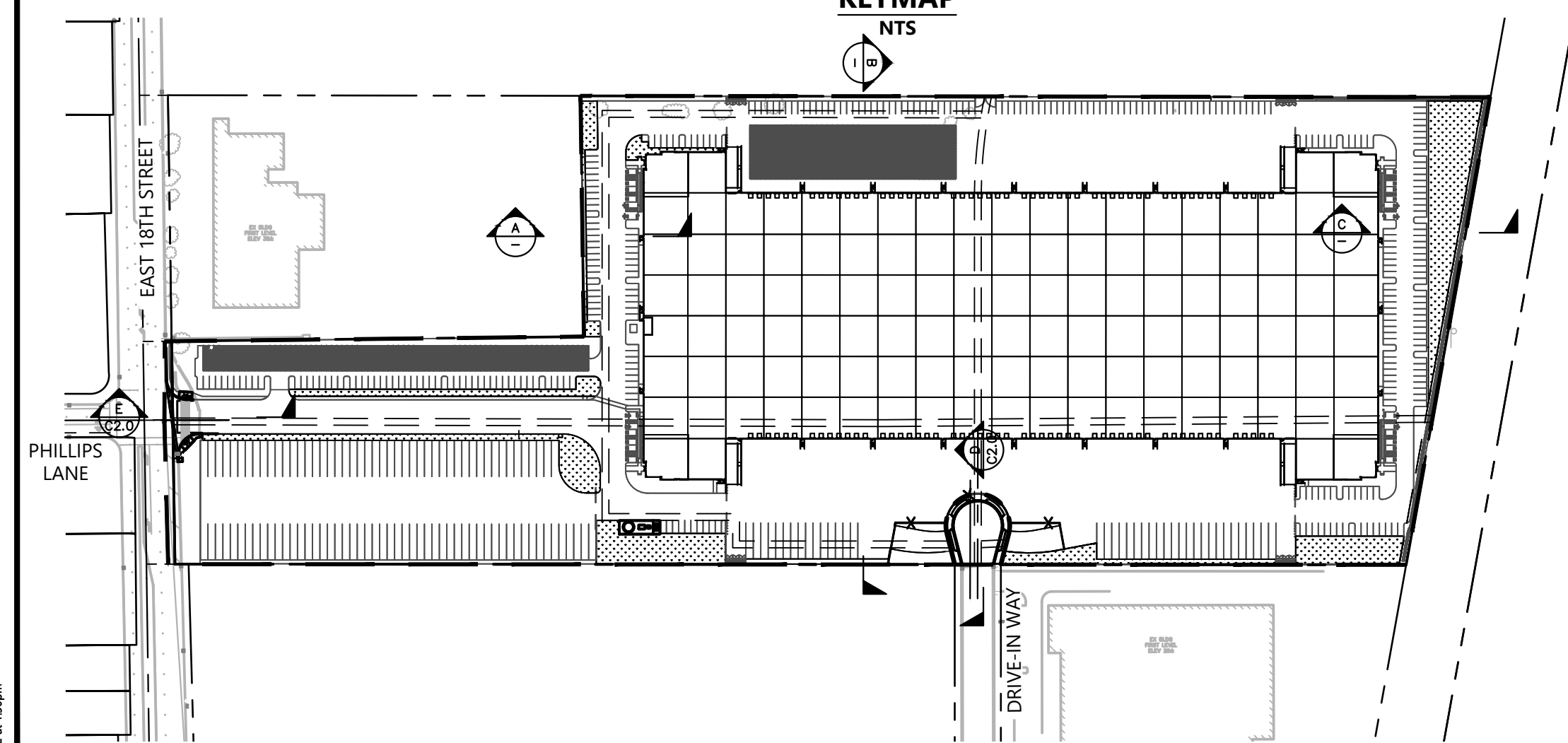
E SECTION
SCALE: 1"=20'



CULDESAC FL (DECA EAST)

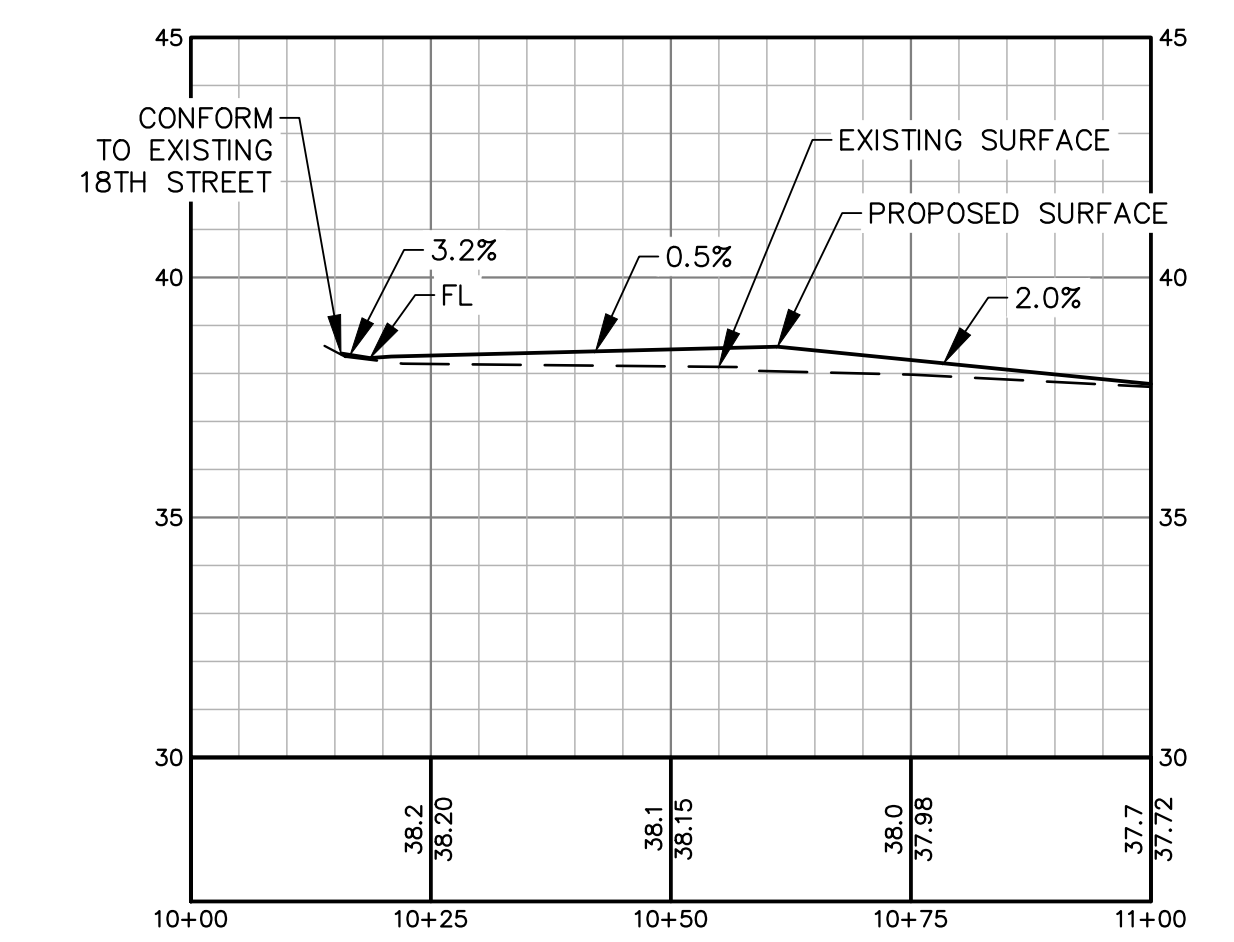
H: 1"=20'
V: 1"=4'

KEYMAP
NTS



SECTION D (DECA EAST)

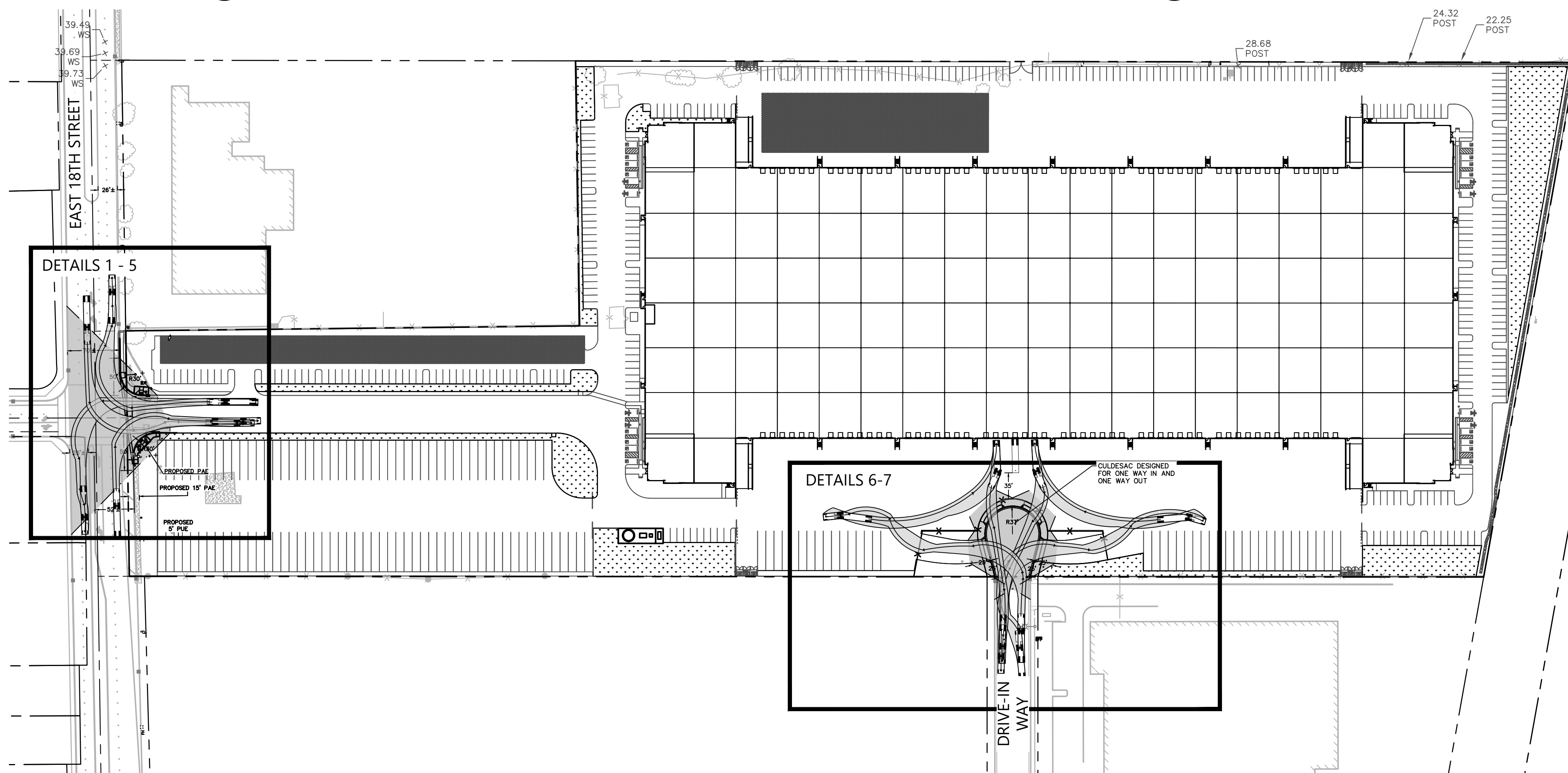
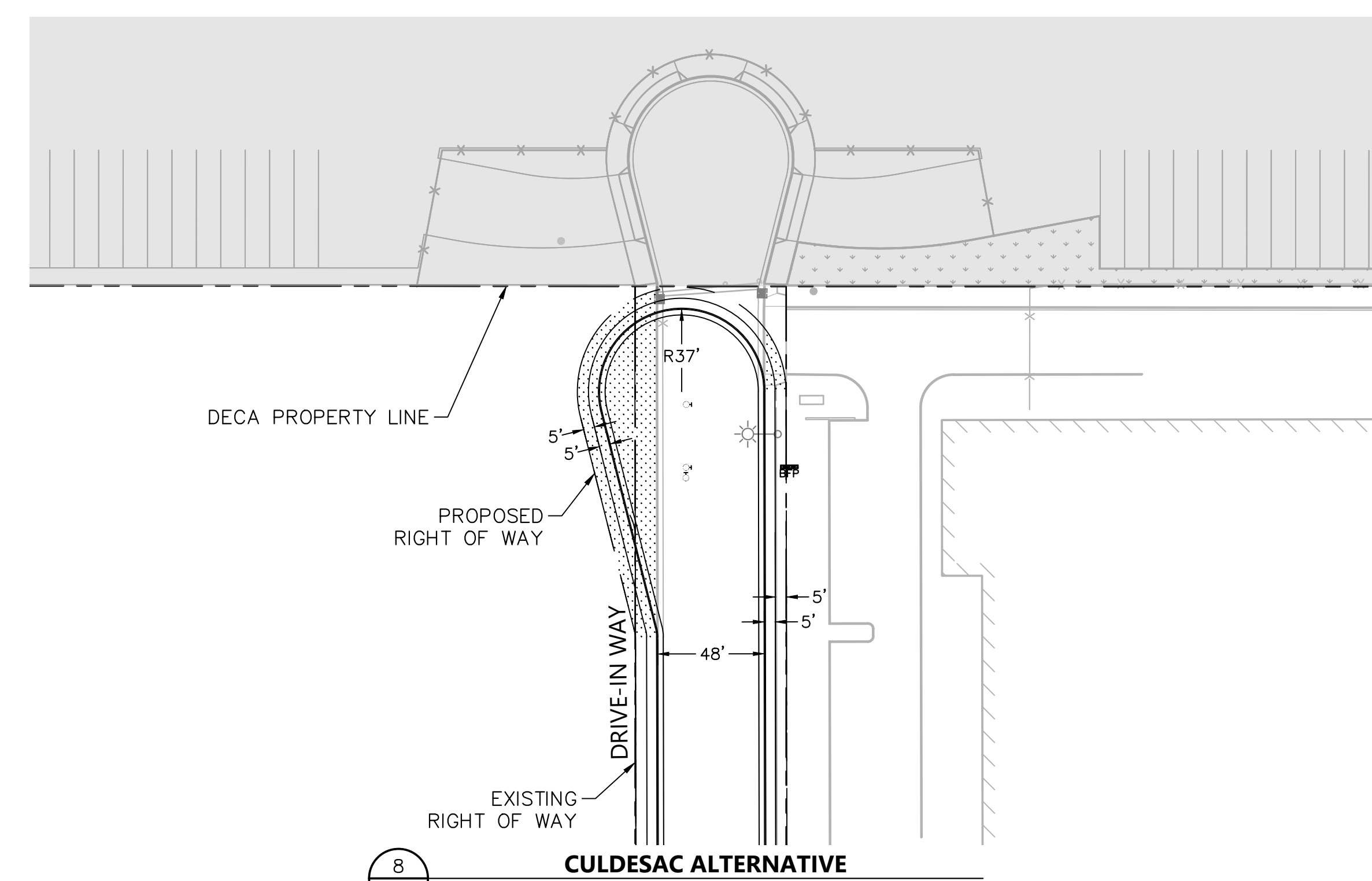
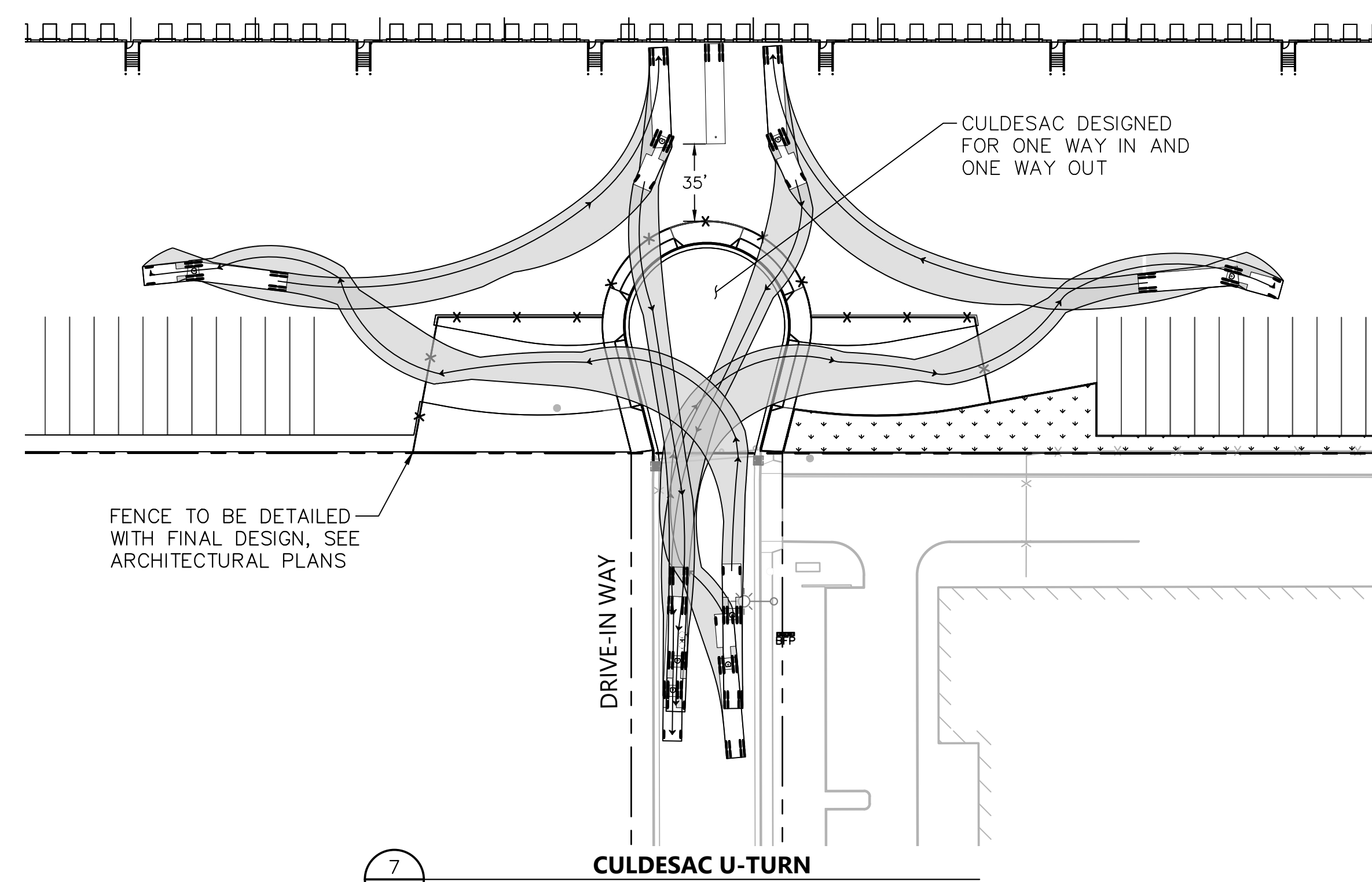
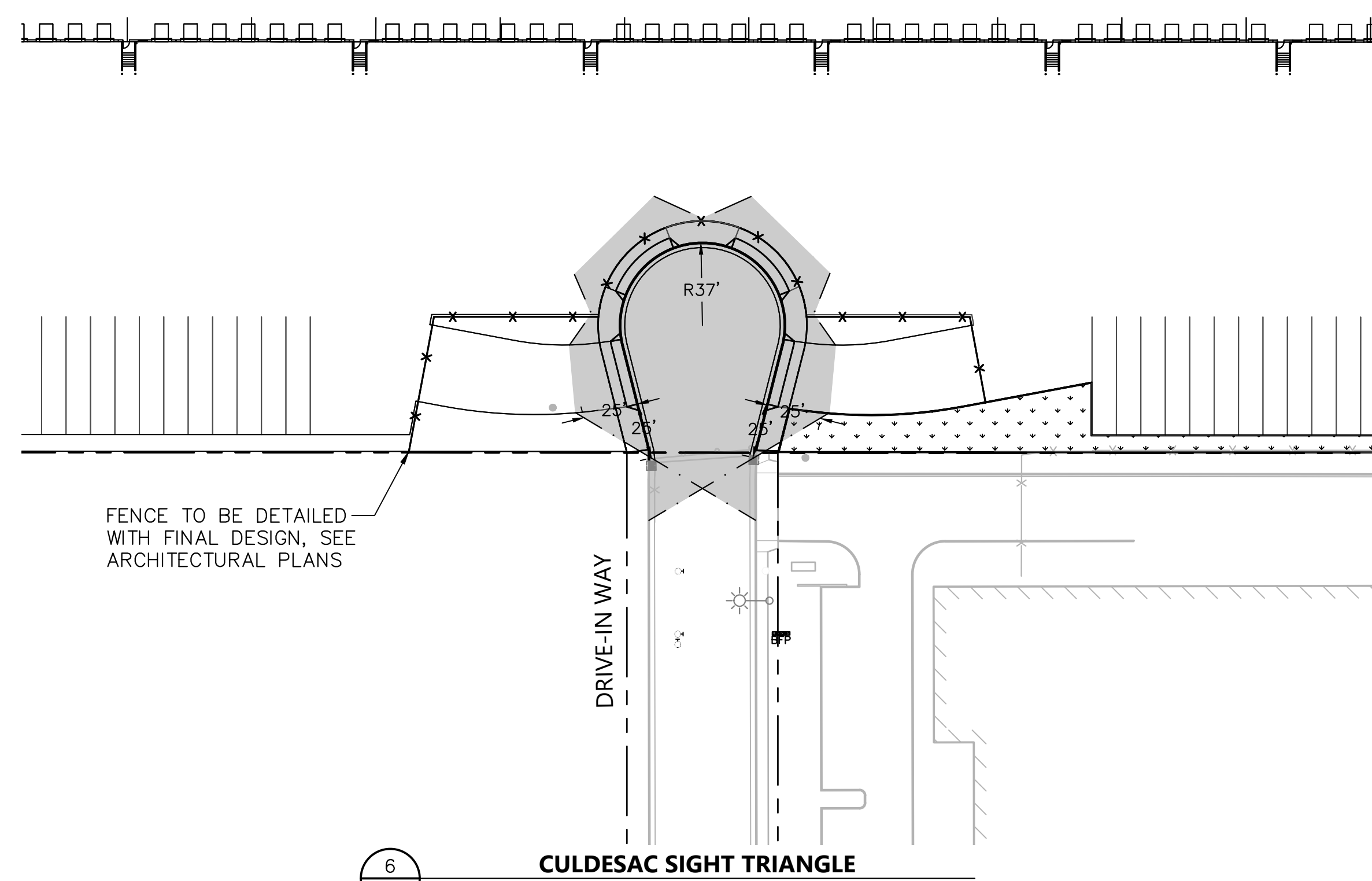
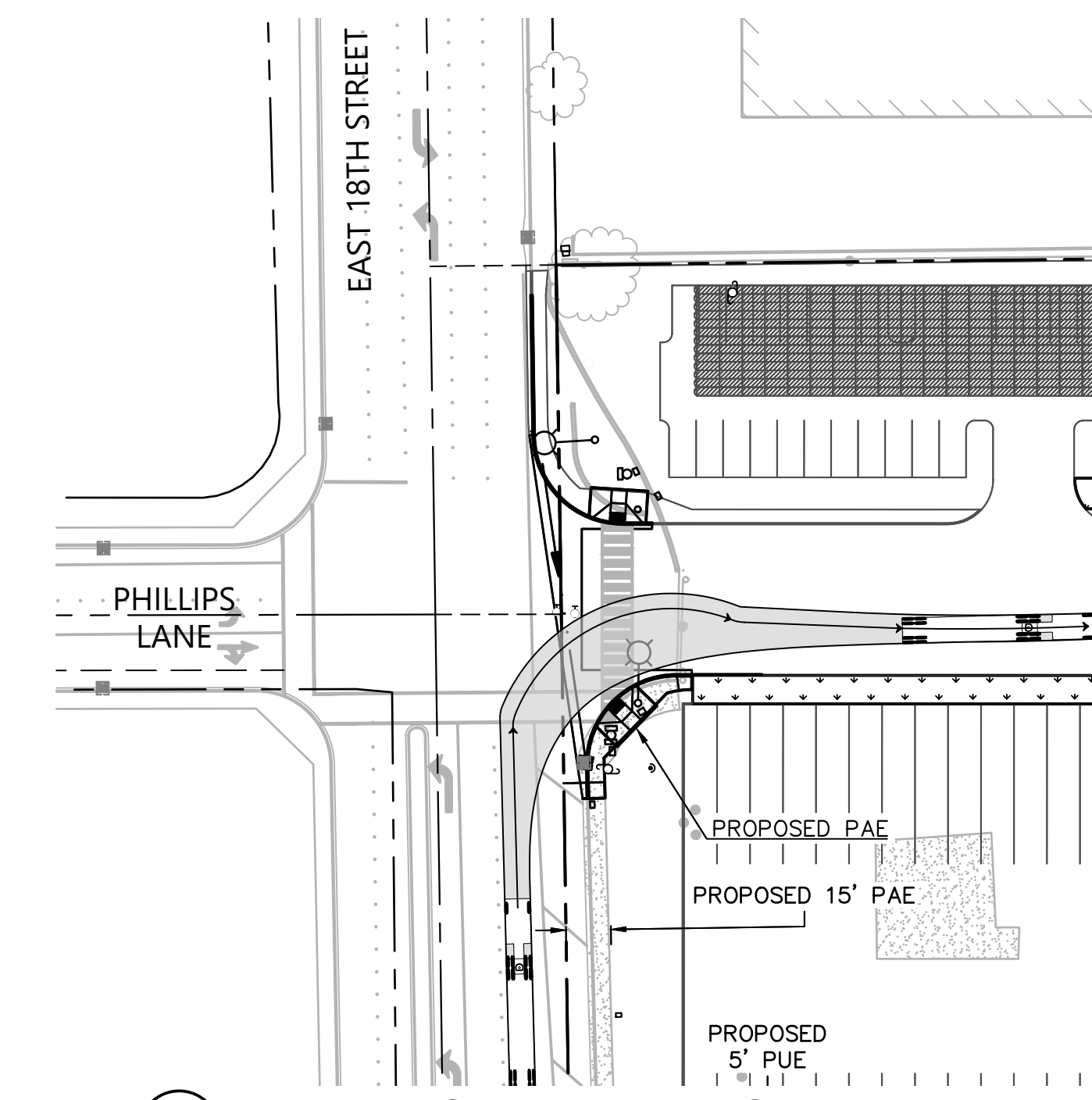
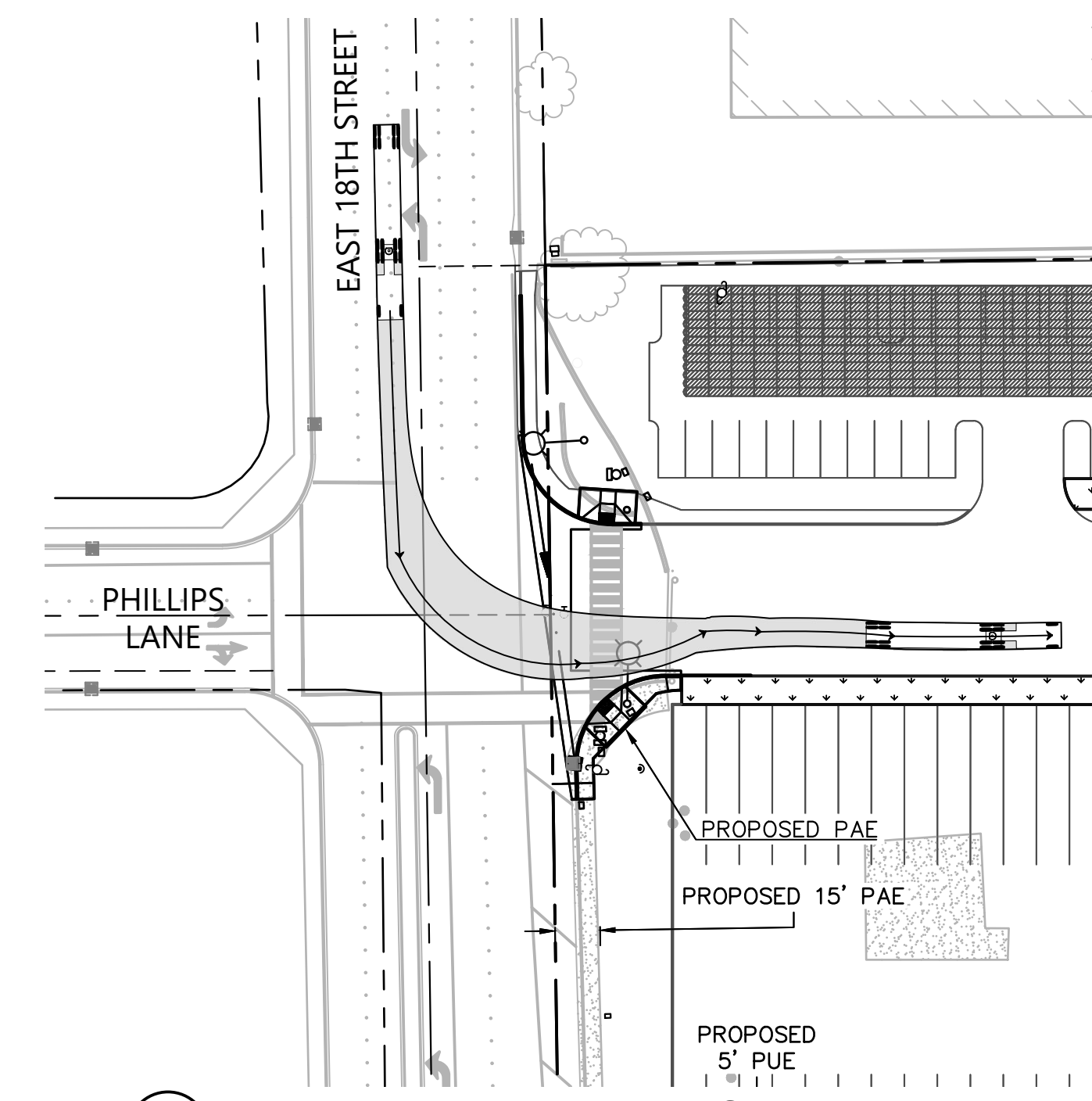
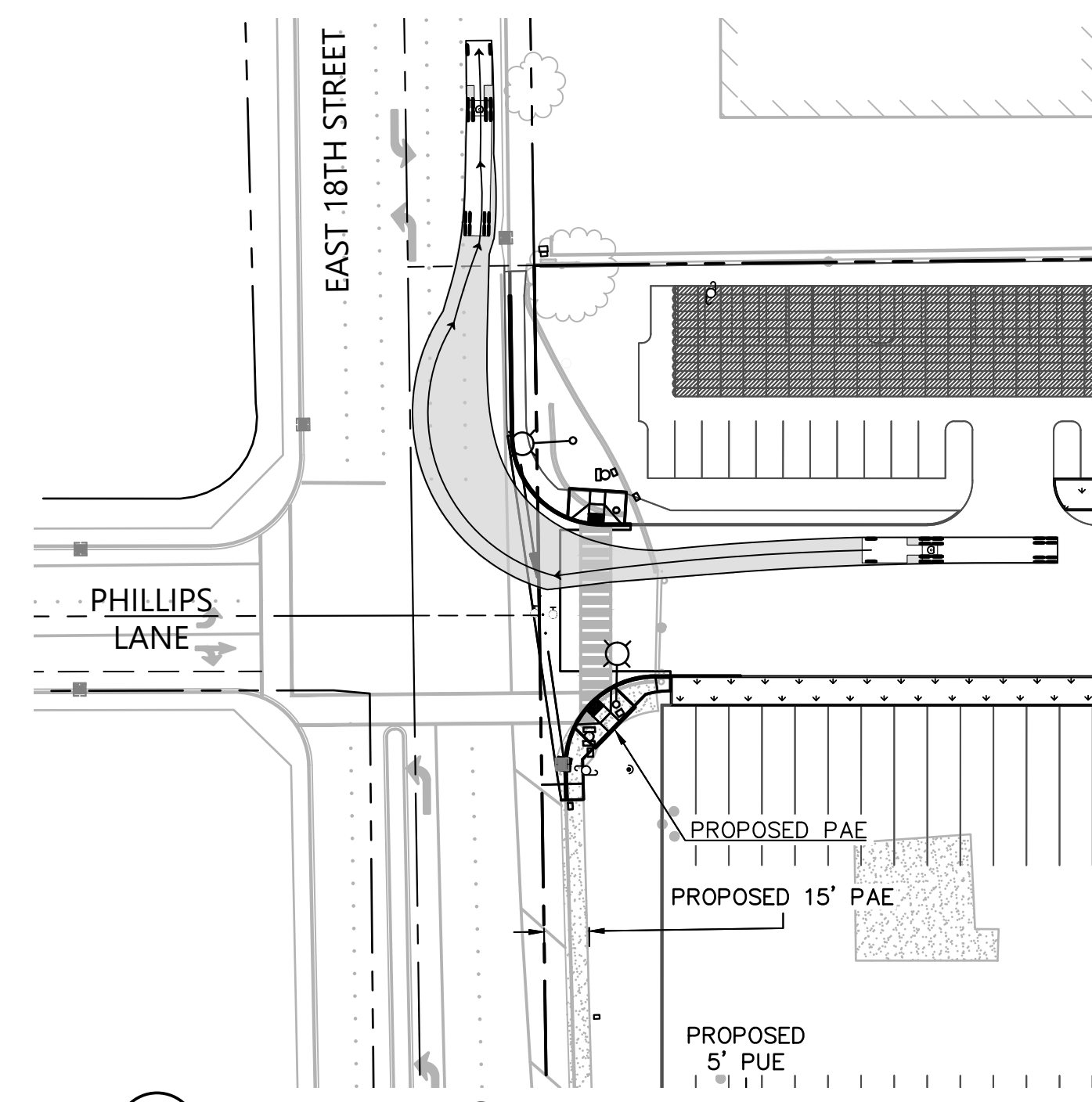
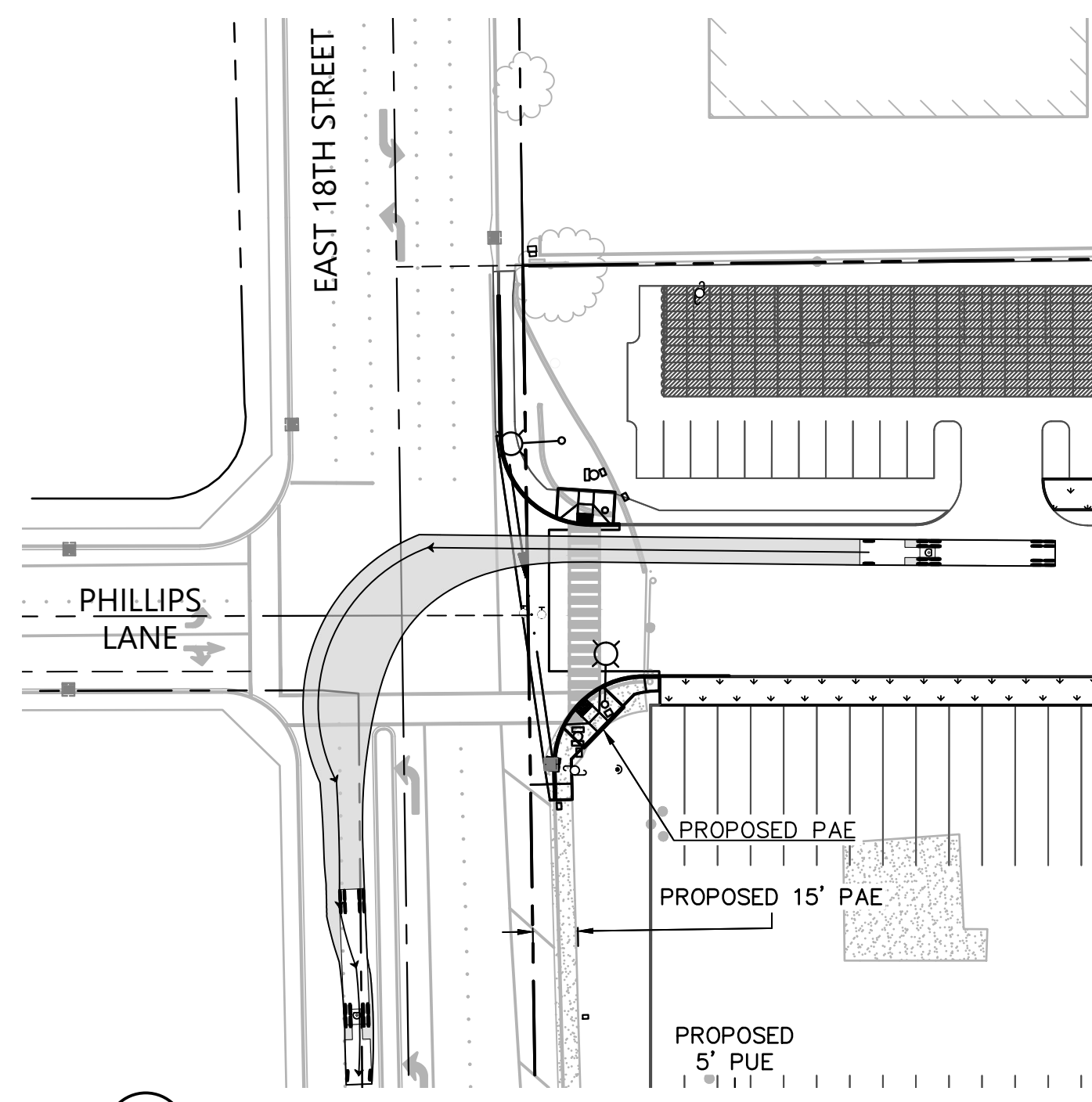
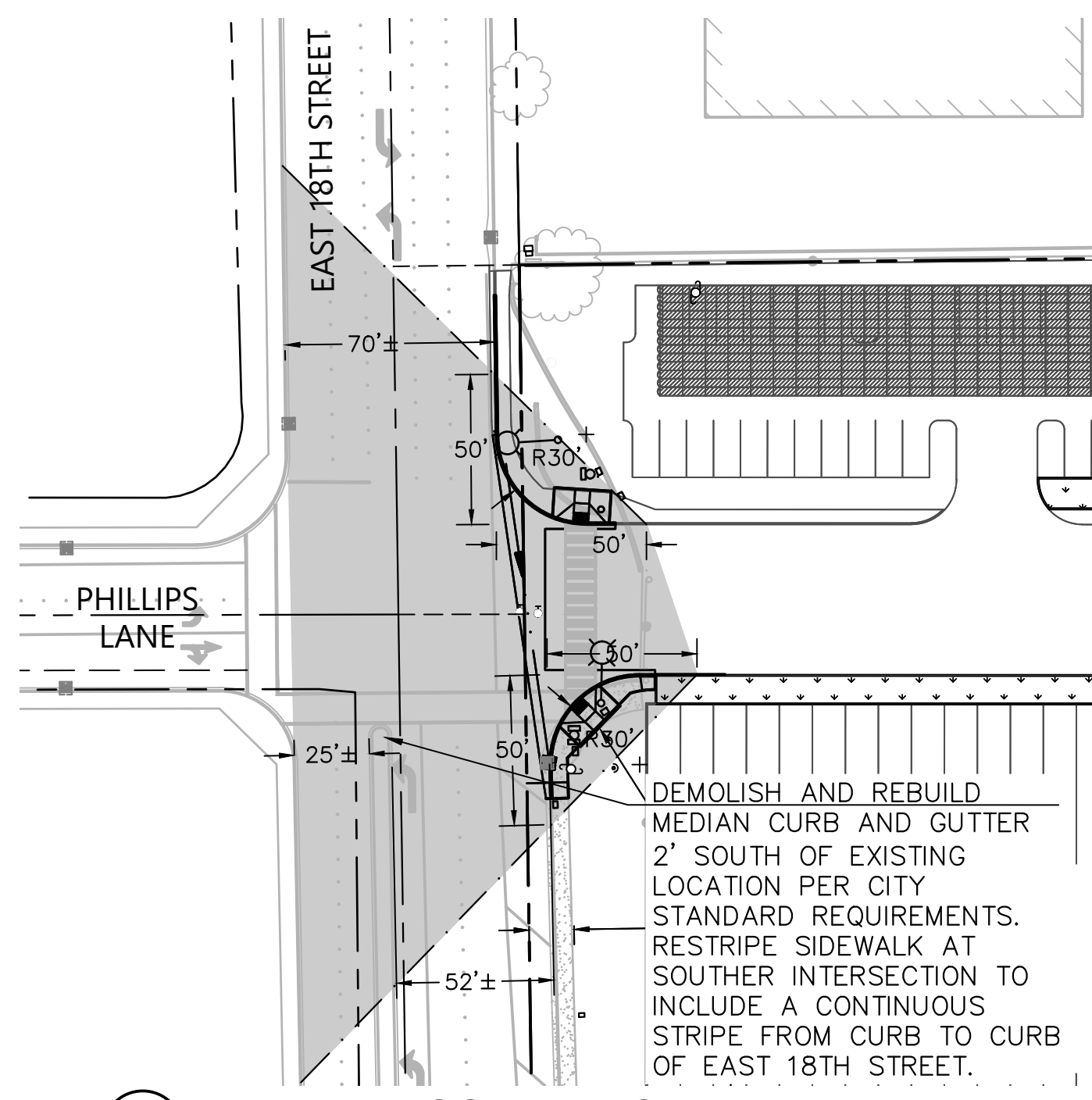
H: 1"=20'
V: 1"=4'



SECTION E (DECA EAST)

H: 1"=20'
V: 1"=4'

No.	Revisions

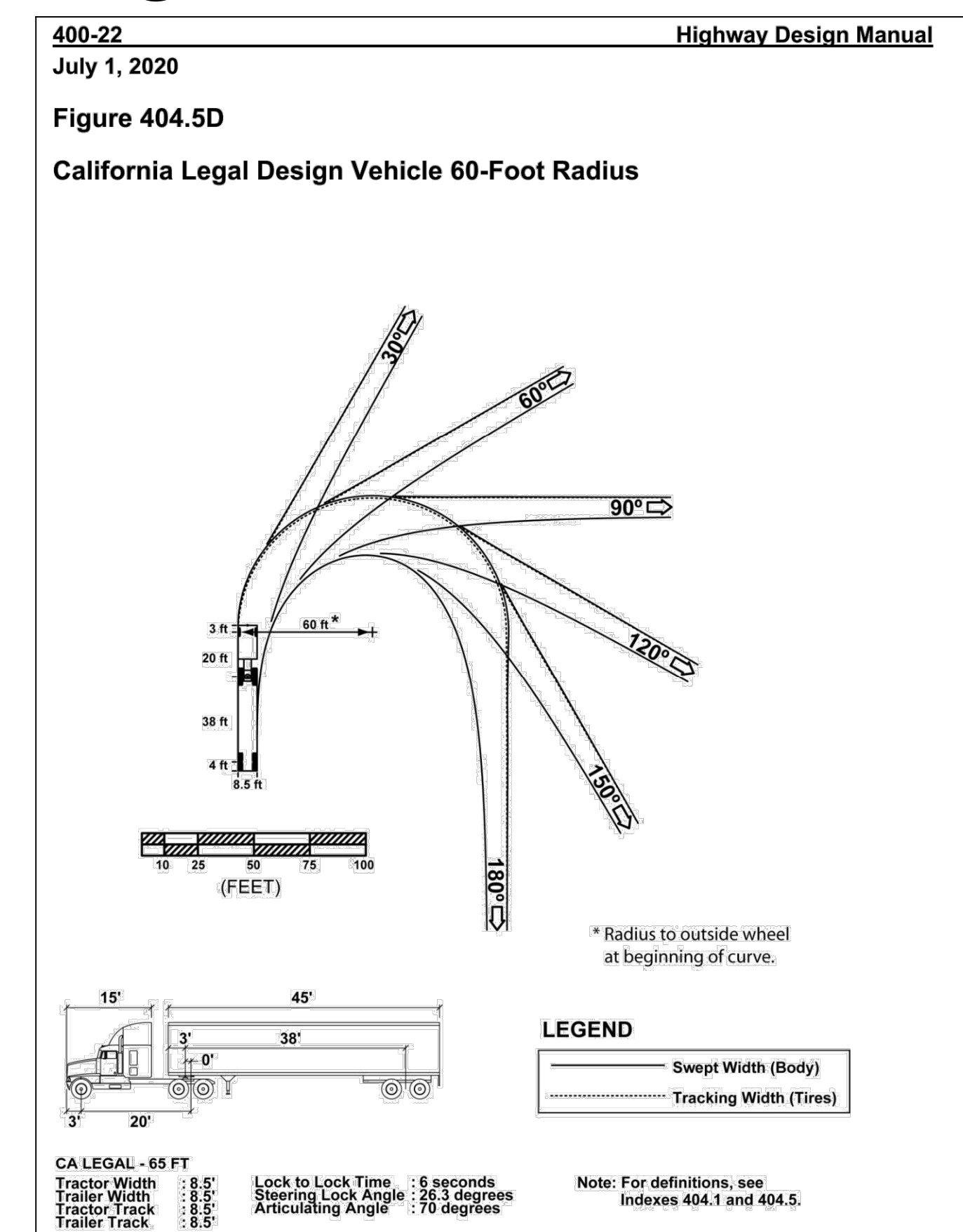


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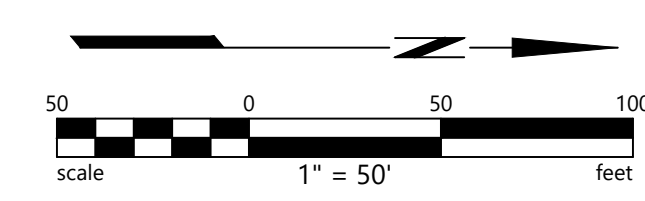
- PROPERTY LINE
- - - EASEMENT
- CENTER LINE
- ▲ SIGHT TRIANGLE, SEE NOTE 1

NOTES

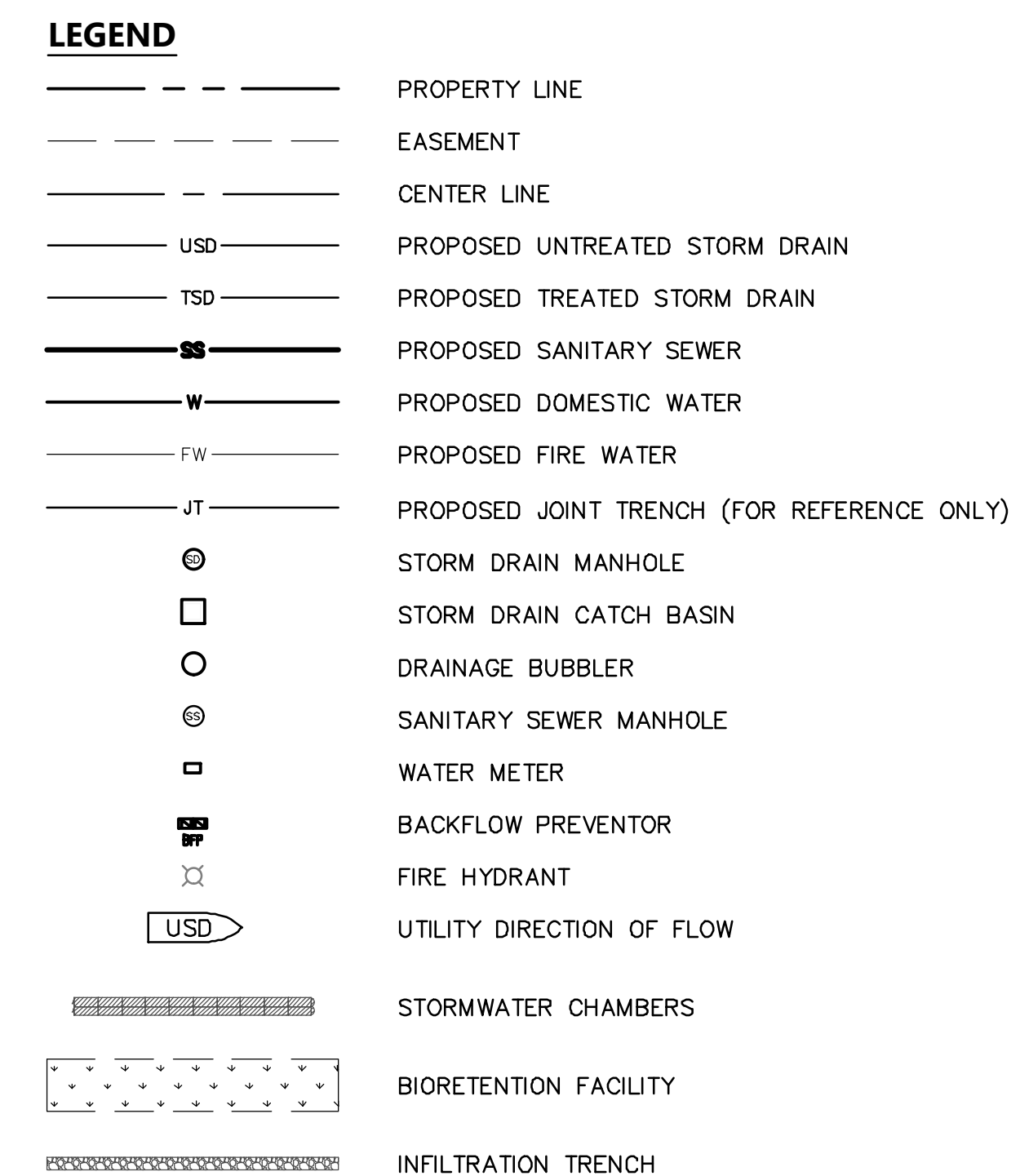
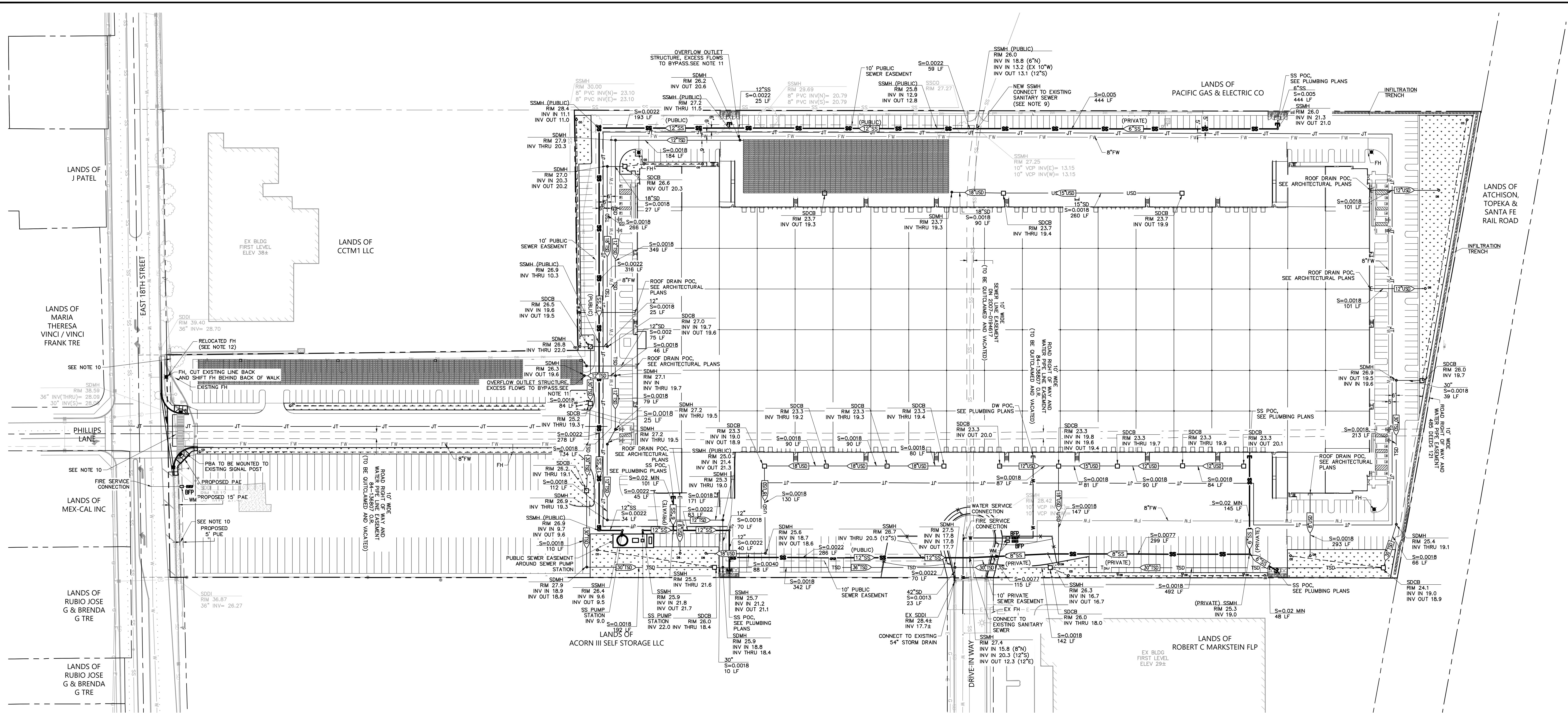
1. SIGHT TRIANGLES DRAWN PER ANTIOCH GUIDELINES - "§ 9-5.1101 SITE OBSTRUCTIONS AT INTERSECTIONS."



KEYMAP
NTS



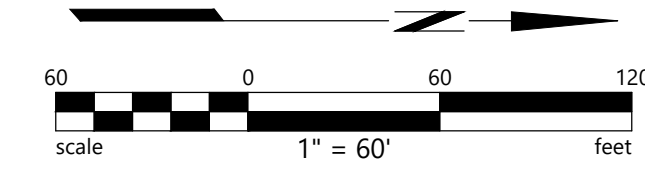
No.	Revisions



- NOTES**
1. EXISTING UTILITIES SHOWN ON THIS PLAN SET ARE DERIVED FROM RECORD DATA AND/OR SURFACE OBSERVATION AND ARE APPROXIMATE ONLY. ACTUAL LOCATION, DEPTH AND SIZE, TOGETHER WITH THE PRESENCE OF ANY ADDITIONAL UTILITY LINES NOT SHOWN ON THIS PLAN SHALL BE VERIFIED IN THE FIELD PRIOR TO CONSTRUCTION.
 2. ALL EXISTING UTILITY BOXES, STRUCTURES, MANHOLES AND VALVES WITHIN THE LIMIT OF WORK SHALL BE ADJUSTED TO FINAL GRADE UNLESS OTHERWISE NOTED.
 3. CONTRACTOR SHALL VERIFY EXISTING UTILITY POINTS OF CONNECTION PRIOR TO CONSTRUCTION.
 4. CONTRACTOR TO POTHOLE AND FIELD VERIFY ALL UTILITY CROSSINGS.
 5. PROPOSED BUILDING IS FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
 6. UTILITY DESIGN IS PRELIMINARY ONLY.
 7. DOMESTIC WATER EASEMENT SHALL BE QUITCLAIMED PRIOR TO BUILDING CONSTRUCTION.
 8. AFTER SANITARY SEWER RELOCATION, EXISTING SANITARY SEWER EASEMENT SHALL BE QUITCLAIMED PRIOR TO BUILDING CONSTRUCTION.
 9. EXISTING SANITARY SEWER SHALL REMAIN IN SERVICE WHILE REROUTED SEWER SYSTEM IS BUILT.
 10. DEVELOPER SHALL BE FINANCIALLY RESPONSIBLE FOR FAIR SHARE OF OVERHEAD UNDERGROUNDING ALONG SITE FRONTAGE.
 11. DESIGN OF BIORETENTION TREATMENT FACILITIES AND INFILTRATION CHAMBERS ARE PRELIMINARY AND FINAL DESIGN TO BE DETERMINED DURING PERMIT SUBMITTAL.
 12. FIRE HYDRANTS TO EXTEND FROM EXISTING LOCATION TO THE BACK OF WALK WHERE EXISTING HYDRANTS CONFLICT WITH PROPOSED IMPROVEMENTS.

ABBREVIATIONS

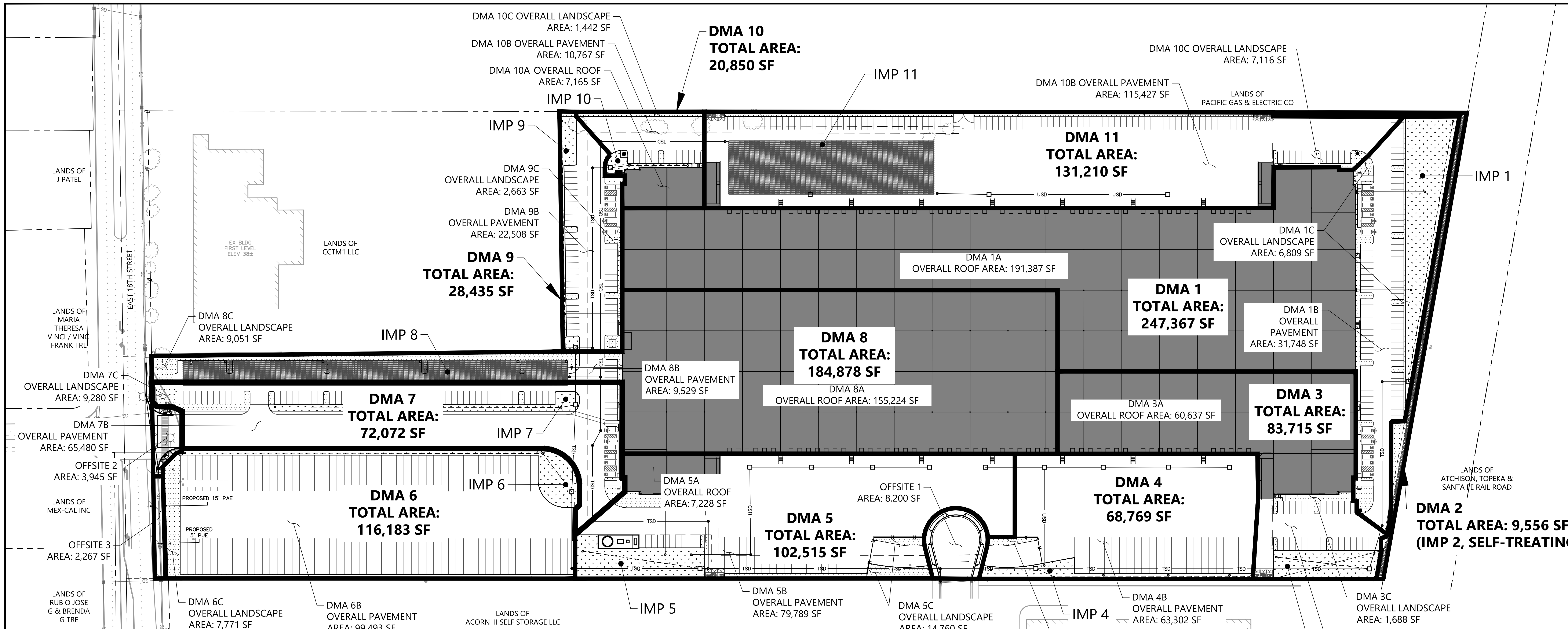
#	WORE OR LESS	(N)	NORTH
AC	ASPHALT CONCRETE	O/H	OVERHEAD UTILITY LINE
APN	ASSESSOR'S PARCEL NUMBER	PG&E	PACIFIC GAS & ELECTRIC
BFP	BACKFLOW PREVENTOR	RCP	REINFORCED CONCRETE PIPE
CB	CATCH BASIN	(S)	SOUTH
CO	CLEANOUT	SD	STORM DRAIN
CONC	CONCRETE	SS	SANITARY SEWER
DIA	DIAMETER	TB	TOP OF BOX
E	EAST	TEL	TELECOMMUNICATION
(E)	EDGE OF PAVEMENT	TG	TOP OF GRATE
ESMT	EASEMENT	TV	TELEVISION
EX	EXISTING	TYP	TYPICAL
FH	FIRE HYDRANT	TSD	TREATED STORM DRAIN
FL	FLOWLINE	USD	UNTREATED STORM DRAIN
G	GAS	UB	UTILITY BOX
GM	GAS METER	VCP	VITRIFIED CLAY PIPE
GYP	GUY POLE	W	WATER
MH	MANHOLE	(W)	WEST
INV	INVERT	WM	WATER METER
IP	IRON PIPE		
JT	JOINT TRENCH		



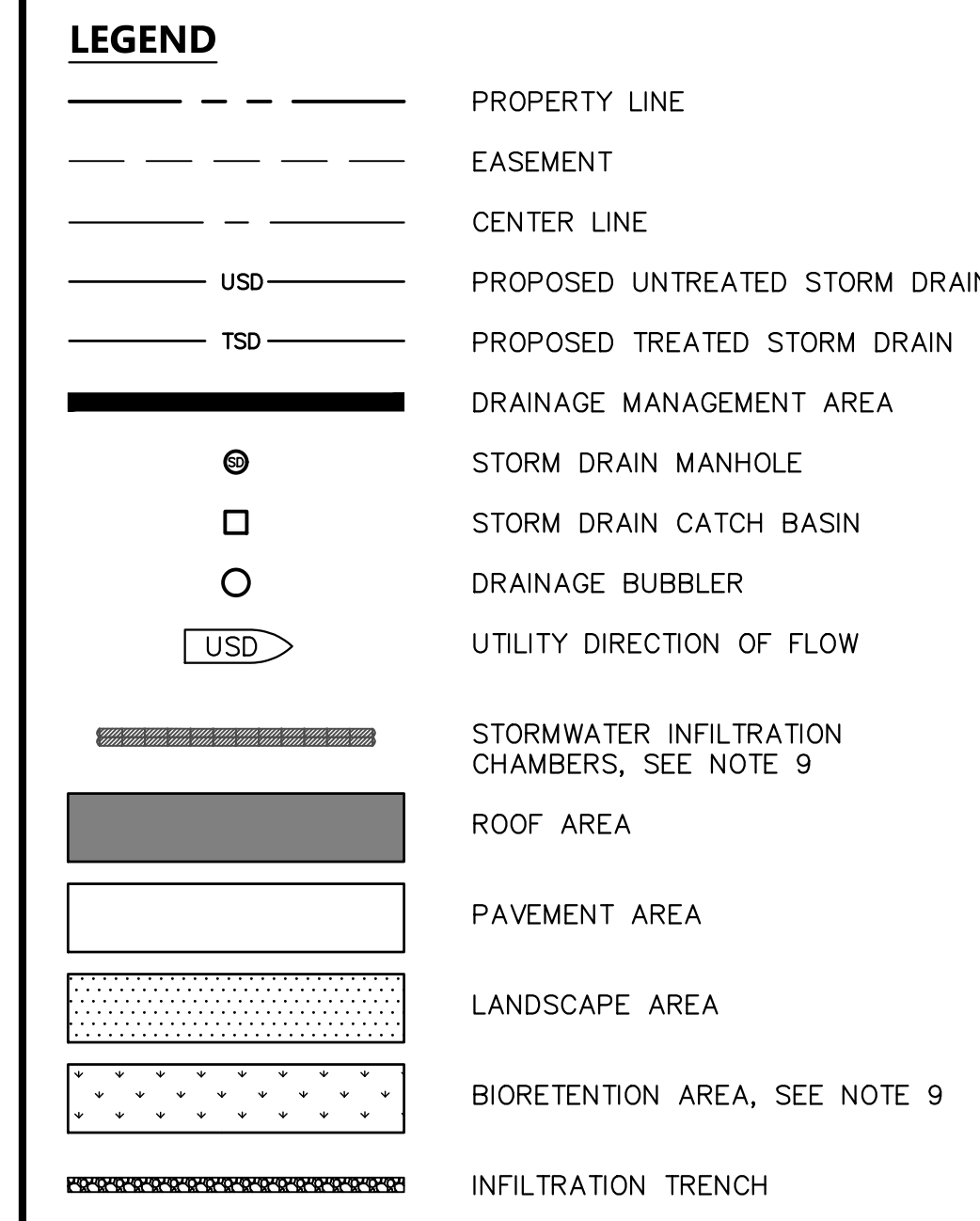
Date: 09/20/2022	No.	
Scale: AS SHOWN	Revisions	
Design: AZ		
Drawn: DBL, MK		
Approved: MS		
Job: 18-2022/025		

Drawing Number: **C3.0**

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NOTES
 1. PROPOSED BUILDING IS FOR REFERENCE ONLY. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
C.3 STORMWATER MANAGEMENT EXHIBIT NOTES:
 1. THIS PROJECT IS REGULATED BY THE MUNICIPAL REGIONAL STORMWATER NPDES PERMIT, ORDER NO. R2-2015-0049 DATED NOVEMBER 19, 2015. CALCULATIONS ARE BASED ON THE CONTRA COSTA CLEAN WATER PROGRAMS "STORMWATER C.3 GUIDEBOOK" 7TH EDITION MAY 17, 2017 (GUIDEBOOK)
 2. THE PROJECT TOTAL SITE AREA IS 24.8 ACRES (1,079,967 SF) AND THE TOTAL AREA OF LAND DISTURBED IS 24.6 ACRES (1,069,500 SF). SEE NOTE 8.
 3. THIS PROJECT PROPOSES TO INCREASE IMPERVIOUS SURFACE AREA BY 951,623 SQUARE FEET AND WILL REPLACE 8,200 SQUARE FEET OF EXISTING IMPERVIOUS SURFACE AREA. THE TOTAL PRE-PROJECT IMPERVIOUS SURFACE AREA IS 8,200 SQUARE FEET. THE TOTAL POST-PROJECT IMPERVIOUS SURFACE AREA IS 951,623 SQUARE FEET.
 4. PROVISION C.3 PROJECT REQUIREMENTS INCLUDE: NEW/REDEVELOPED AREA SUBJECT TO STORMWATER TREATMENT AND FLOW CONTROL.
 5. COMPLIANCE WITH FLOW CONTROL REQUIREMENTS ARE MET THROUGH: BIORETENTION TREATMENT AND INFILTRATION, INTEGRATED MANAGEMENT PRACTICES PER THE GUIDEBOOK.
 6. DESIGN CRITERIA
 6.1. MEAN ANNUAL PRECIPITATION = 13 INCHES PER HOUR CCCPDW MEAN SEASONAL ISOHYETS, FIGURE B-166
 6.2. SOIL GROUP A
 6.3. HYDRAULIC DESIGN CRITERIA: 0.2 INCHES PER HOUR RAINFALL INTENSITY
 6.4. BIORETENTION SOIL LOADING RATE: 5 INCHES PER HOUR
 6.5. BIORETENTION SOIL MIX PER APPENDIX B OF THE GUIDEBOOK
 7. THE PROJECT SITE IS DELINEATED INTO 11 DRAINAGE MANAGEMENT AREAS (DMAS) AS SHOWN ON THIS SHEET. DATA OUTPUT FROM THE CONTRA COSTA CLEAN WATER PROGRAM IMP SIZING CALCULATOR IS INCLUDED ON THIS SHEET.
 8. THE SITE INCLUDES 3 OFFSITE SHEDS
 8.1. OFFSITE SHED 1 IS A PROPOSED CULDESAC THAT WILL BE WITHIN THE PUBLIC RIGHT OF WAY AND WILL THEREFORE DRAIN OFFSITE.
 8.2. OFFSITE SHED 2 IS PART OF THE TOTAL DISTURBED AREA BUT WILL CONTINUE TO DRAIN OFFSITE AS IT DOES IN THE EXISTING CONDITIONS.
 8.3. OFFSITE SHED 3 IS EXISTING SIDEWALK AND ROADWAY THAT WILL REMAIN UNDISTURBED BUT IT WITHIN THE PROJECT PROPERTY BOUNDARY.
 9. DEPTH OF GROUNDWATER TABLE: ROUGHLY 24'-28", PER GEOTECH REPORT, "PRELIMINARY GEOTECHNICAL EXPLORATION UPDATE FOR ANTOCH INDUSTRIAL PARK, ANTOCH, CALIFORNIA", CONDUCTED BY ENGeo INCORPORATED, DATED 02/04/2022.B ADDITIONAL BORINGS PERFORMED IN AUGUST 2022 INDICATE GROUNDWATER DEPTHS 24'-30" BELOW EXISTING SURFACE.
 10. DESIGN OF BIORETENTION TREATMENT FACILITIES AND INFILTRATION CHAMBERS ARE PRELIMINARY AND FINAL DESIGN TO DETERMINED DURING PERMIT SUBMITTAL.



PRE-IMPROVEMENT					
PROJECT SITE AREA:	1,079,967	(FT) ²			
PERVIOUS AREAS:	AREA	UNITS	DESCRIPTION	AREA	UNITS
UNDEVELOPED/LANDSCAPE	1,071,767	(FT) ²	RF + PAVED AREAS	8,200	(FT) ²
TOTAL	1,071,767	(FT) ²	TOTAL	8,200	(FT) ²
POST-IMPROVEMENT 2,3,5					
PROJECT SITE AREA:	1,079,967	(FT) ²	% IMPERVIOUS AREA INCREASE	89%	
PERVIOUS AREAS:	AREA	UNITS	DESCRIPTION	AREA	UNITS
LANDSCAPE + PERVIOUS PAVEMENT + BIORETENTION AREAS	113,932	(FT) ²	ROOF + PAVED AREAS	966,035	(FT) ²
TOTAL	113,932	(FT) ²	TOTAL	966,035	(FT) ²

IMP Name: IMP1 (Soil Type: A)											
IMP Type: Bioretention Facility											
DMA Name	DMA Area (sq ft)	Post-Project Surface Type	DMA Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor	DMA Area x Runoff Factor
DMA-1A	191,387	Concrete or Asphalt	1.00	191,387	191,387	191,387	191,387	191,387	191,387	191,387	191,387
DMA-1B	31,748	Concrete or Asphalt	1.00	31,748	31,748	31,748	31,748	31,748	31,748	31,748	31,748
DMA-1C	6,809	Landscape	0.10	681	681	681	681	681	681	681	681
Total	229,944			222,816	222,816	222,816	222,816	222,816	222,816	222,816	222,816
				Area	0.070	0.907	14,217	17,424	14,217	17,424	14,217
				Surface Volume	0.058	0.907	11,780	14,520	11,780	14,520	11,780

BOUNDARY	WATERSHED	TOTAL AREA	CONVENTIONAL SURFACE (SF)			DRAINS TO	LID TYPE	AREA (ft ² /ft ²)		VOLUME V1 (ft ³ /ft ²)		VOLUME V2 (ft ³ /ft ²)	
			ROOF	CONC.	LSP			REQUIRED (sf)	PROVIDED (sf)	REQUIRED (sf)	PROVIDED (sf)	REQUIRED (cf)	PROVIDED (cf)
DMA-1A			191,387	-	-								
DMA-1B		247,367	-	31,748	-	IMP 1	BIORETENTION	14,217	17,424	11,780	14,520	N/A	14,520
DMA-1C			-	-	6,809								
DMA-2		9,560	-	-	-	IMP 2	SELF-TREATING					N/A	
DMA-3A			60,637	-	-								
DMA-3B		83,715	-	14,978	-	IMP 3	BIORETENTION	4,814	6,411	3,989	5,343	N/A	5,343
DMA-3C			-	-	1,688								
DMA-4		68,769	-	63,302	-	IMP 4	BIORETENTION	4,025	4,752	3,335	3,960	N/A	3,960
DMA-5A			7,228	-	-								
DMA-5B		102,515	-	79,789	-	IMP 5	BIORETENTION	5,566	9,406	4,612	7,839	N/A	7,839
DMA-5C			-	-	6,092								
DMA-6A		116,183	-	99,493	-	IMP 6	BIORETENTION	6,369	8,919	5,277	7,433	N/A	7,433
DMA-6B			-	-	7,771								
DMA-7A		72,072	-	62,700	-	IMP 7	BIORETENTION	4,033	5,055	3,342	4,213	N/A	4,213
DMA-7B			-	-	-								
DMA-7C			-	-	4,317								
DMA-8A		184,878	-	20,603	-	IMP 8	INFILTRATION CHAMBERS*	7,516	11,074	N/A		19,542	36,461
DMA-8B			-	-	9,051								
DMA-9A		28,435	-	22,508	-	IMP 9	BIORETENTION	1,199	3,265	1,447	2,720	N/A	2,720
DMA-9B			-	-	2,663								
DMA-10A		20,850	-	10,767	-	IMP 10	BIORETENTION	1,148	1,475	951	1,229	N/A	1,229
DMA-10B			-	-	1,442								
DMA-11A		131,210	-	124,094	-	IMP 11	INFILTRATION CHAMBERS*	5,707	8,667	N/A	14,838	30,859	
DMA-11B			-	-	7,116								
DMA-11C			-	-	-								
OVERALL TOTAL DISTURBED AREA		1,065,555	421,641	529,982	57,225			TOTAL BIO AREA:	56,708				

NOTES
 1. INFILTRATION CHAMBERS ARE OVERSIZED TO ACCOMMODATE THE ADDITIONAL RUNOFF DUE TO THE PROPOSED DEVELOPMENT.
 2. INFILTRATION CHAMBER VOLUME IS DERIVED FROM ADS SPECIFICATIONS. ONE SINGLE SC-310 CHAMBER HAS A MINIMUM STORAGE OF 45 CF. PLEASE NOTE THAT
 3. SITES WITH TYPE A SOILS ARE NOT REQUIRED TO PROVIDE PORE VOLUME WITHIN BIORETENTION AREAS PER CONTRA COSTA COUNTY C3 GUIDELINES.

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18TH STREET DEVELOPMENT - EAST
 APN 051-052-005, PERMIT#: GP-22-02, SP-22-01, PD-22-01, UP-22-03, AR-22-03
 ANTOCH, CA

STORMWATER CONTROL PLAN

Revisions

No. _____

Date: 09/20/2022
 Scale: AS SHOWN
 Design: AZ
 Drawn: DBL, MK
 Approved: MS
 Job #: 18-2022-025

C4.0

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