

Northern Arizona Transportation Services

CENE 486C

Final Report AutoCAD Drawing Package

NOTES:

Blank area for notes.

DESIGNED	Northern Arizona Trans Services CENE 486C Final Report
APPROVED	Kendrick St Bicycle Boulevard Cover Page

REVISION DATE	05/05/15
SCALE BAR	N/A
SHEET	1 OF 31

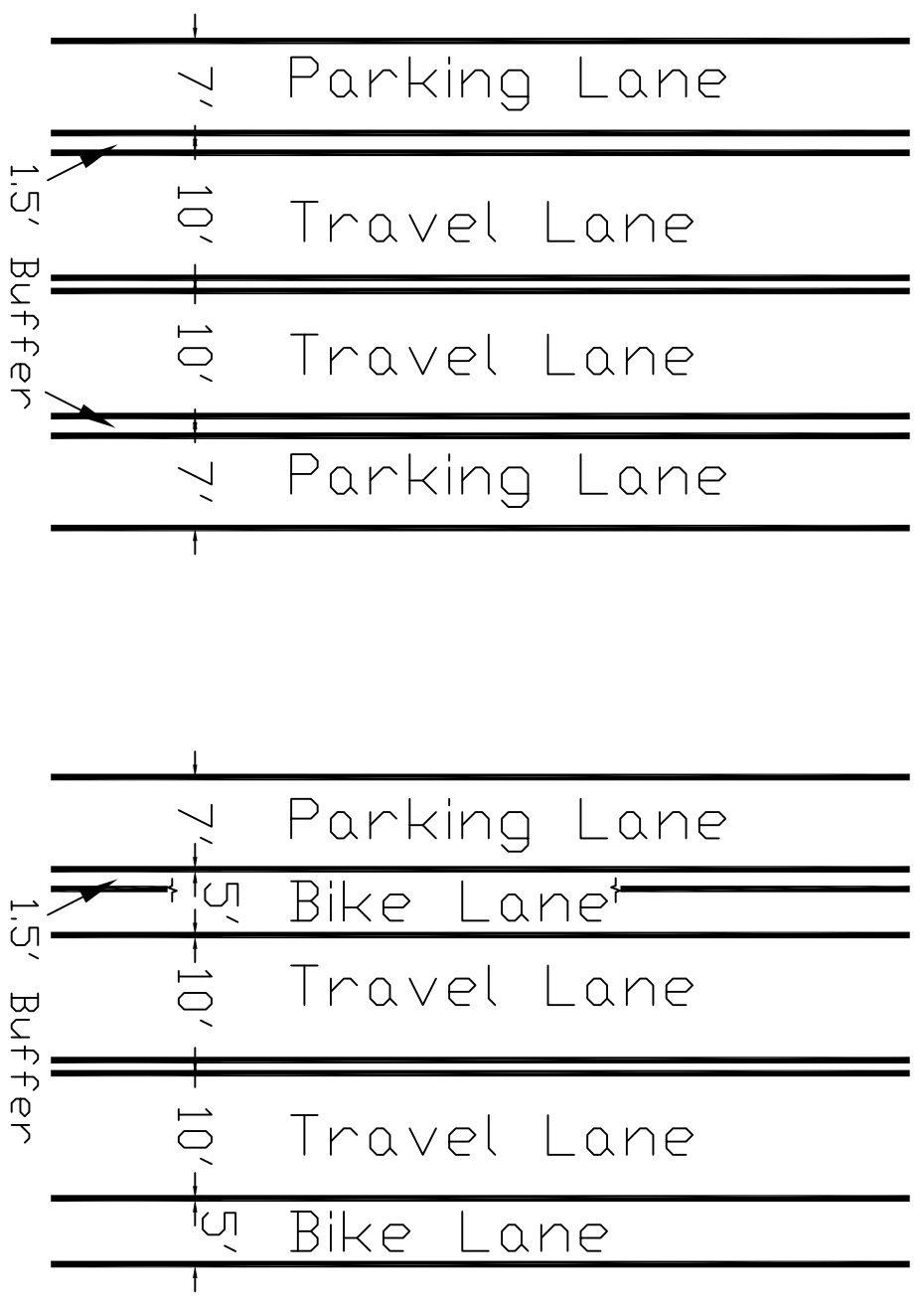
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NOTES:

DESIGNED	Northern Arizona Trans Services CENE 486C Final Report	REVISION DATE 05/05/15
APPROVED	Kendrick St Bicycle Boulevard Table of Contents	SCALE BAR N/A
		SHEET 2 OF 31

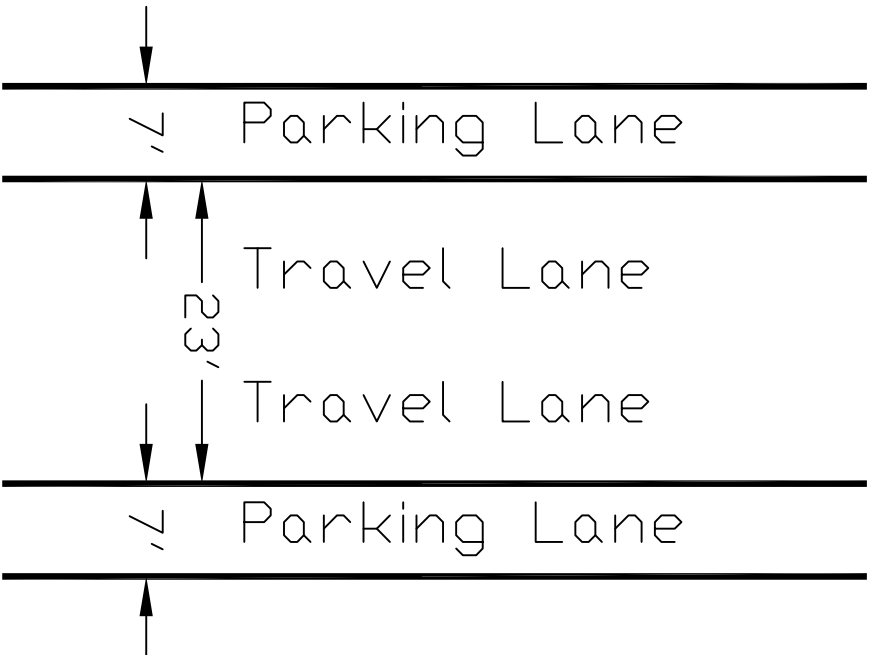
Alternative 1 Alternative 2



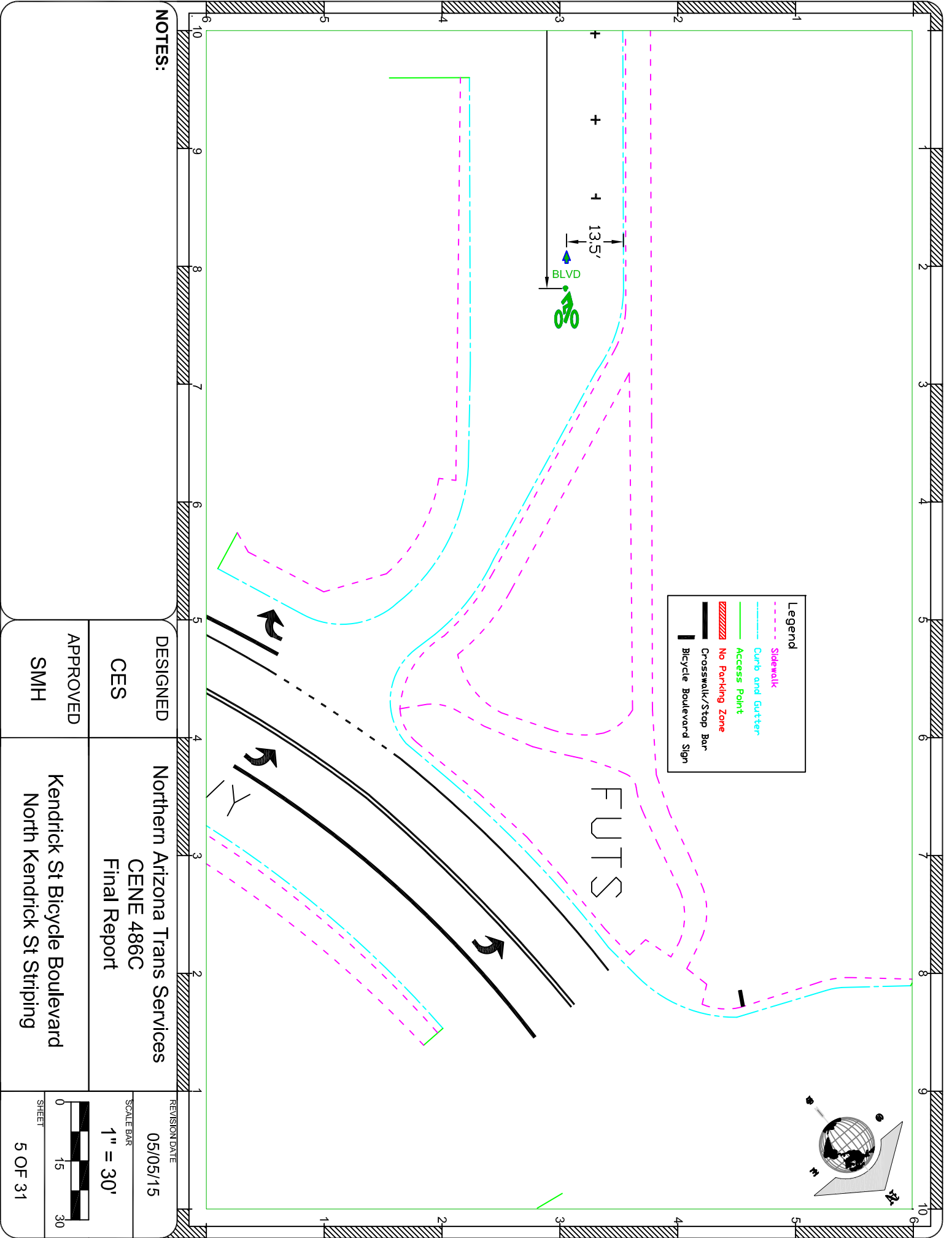
NOTES:
Alternatives Considered

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
CES	CENE 486C Final Report	SCALE BAR	N/A
APPROVED	Kendrick St Bicycle Boulevard Alternative Designs	SHEET	3 OF 31
SMH			

Alternative 3

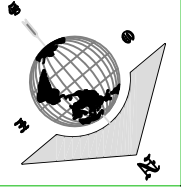


<p>NOTES: Preferred Alternative</p>		DESIGNED		Northern Arizona Trans Services		REVISION DATE	
		APPROVED		CES		05/05/15	
SMH		Kendrick St Bicycle Boulevard		Preferred Alternative		SCALE BAR	
		N/A				SHEET	
						4 OF 31	



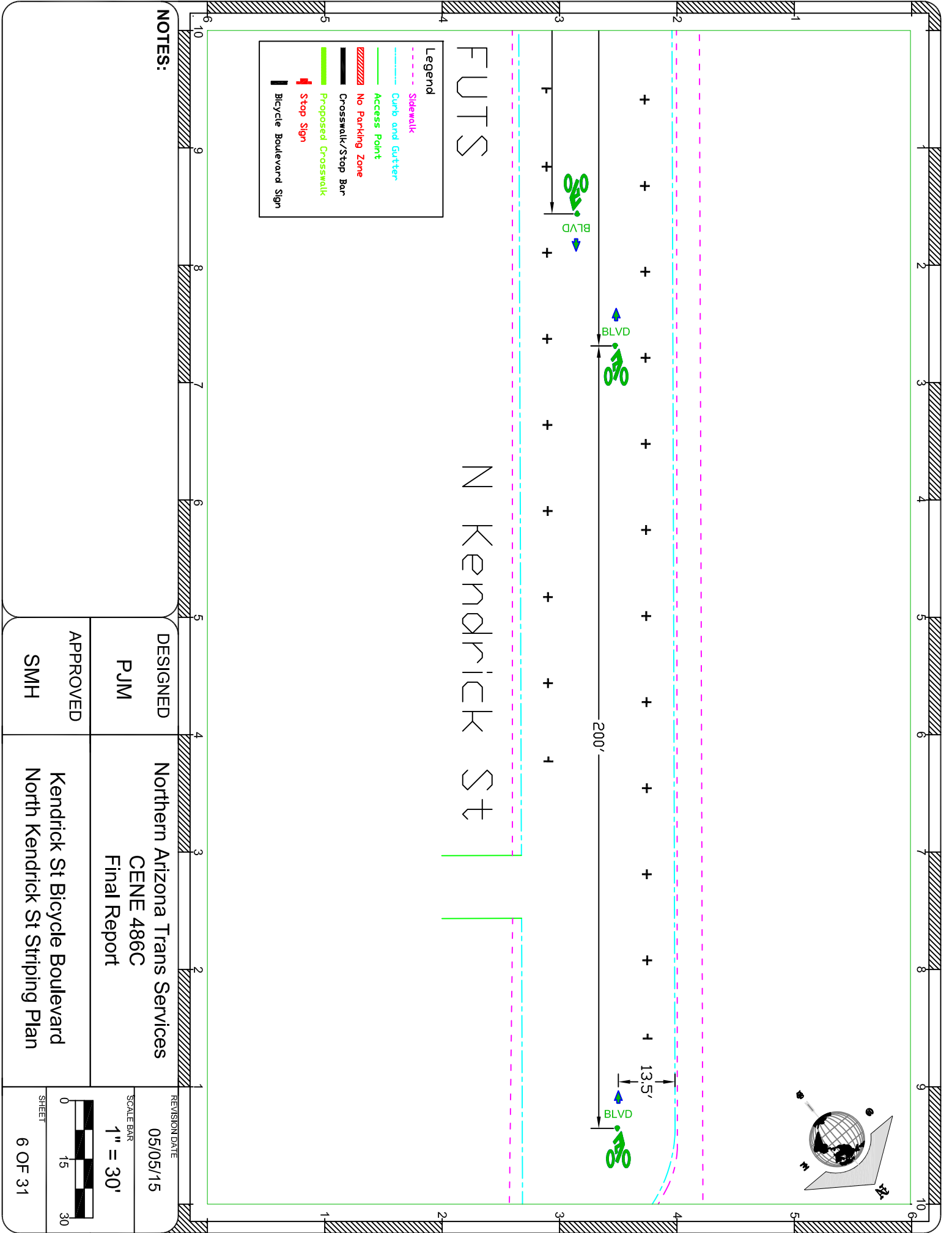
Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- | Bicycle Boulevard Sign



NOTES:

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
CES	CENE 486C		
APPROVED	Kendrick St Bicycle Boulevard	SCALE BAR	1" = 30'
SMH	North Kendrick St Striping	SHEET	5 OF 31



Legend

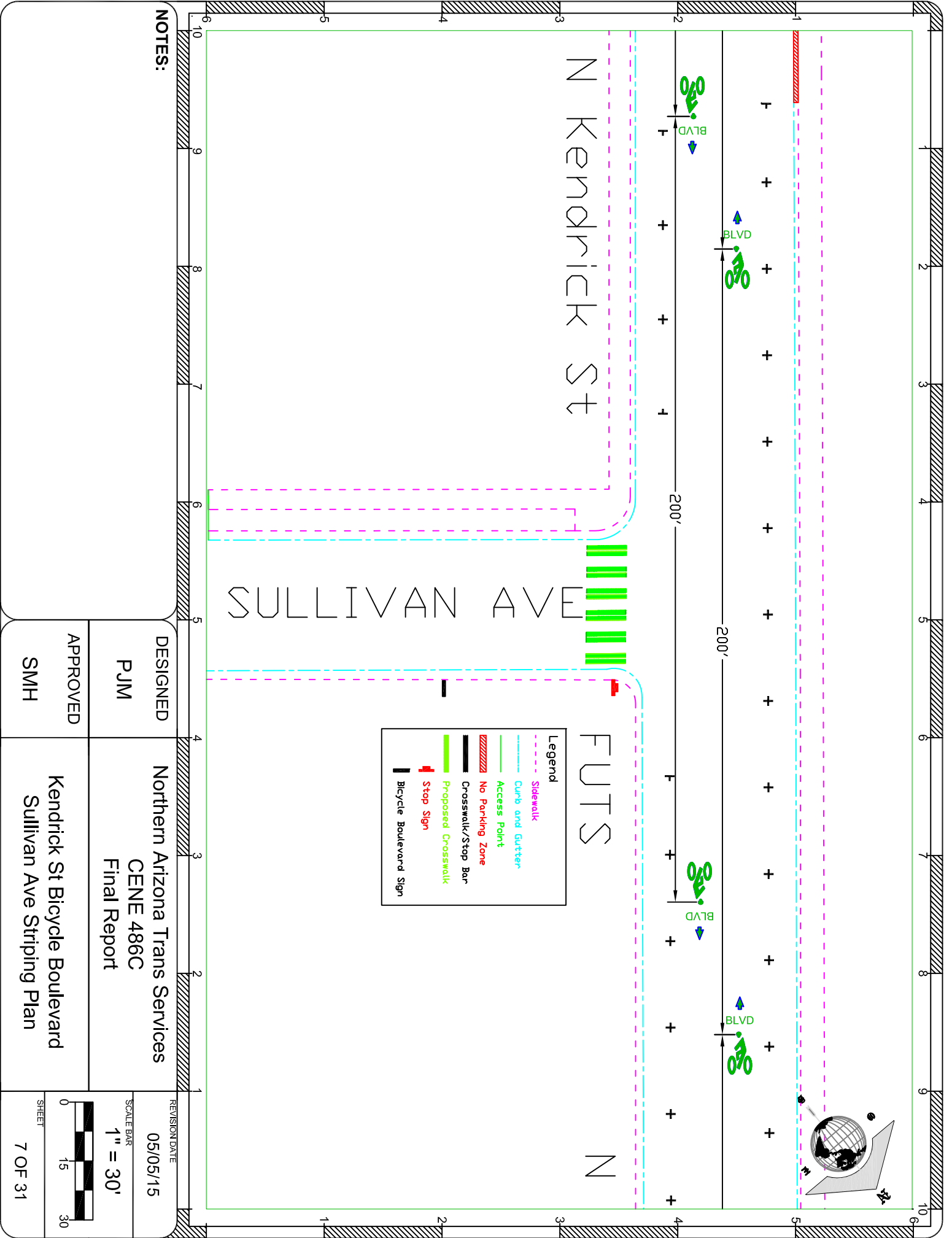
- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- Proposed Crosswalk
- Stop Sign
- Bicycle Boulevard Sign

FUTS

N Kendrick St

NOTES:

DESIGNED	Northern Arizona Trans Services
PJM	CENE 486C
APPROVED	Final Report
SMH	Kendrick St Bicycle Boulevard North Kendrick St Striping Plan
REVISION DATE	05/05/15
SCALE BAR	1" = 30'
SHEET	6 OF 31



N Kendrick St

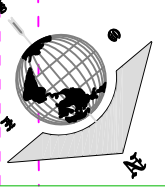
SULLIVAN AVE

FUTS

N

Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- Proposed Crosswalk
- Stop Sign
- Bicycle Boulevard Sign



NOTES:

DESIGNED
PJM

Northern Arizona Trans Services
CENE 486C
Final Report

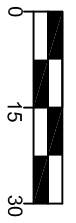
APPROVED

SMH

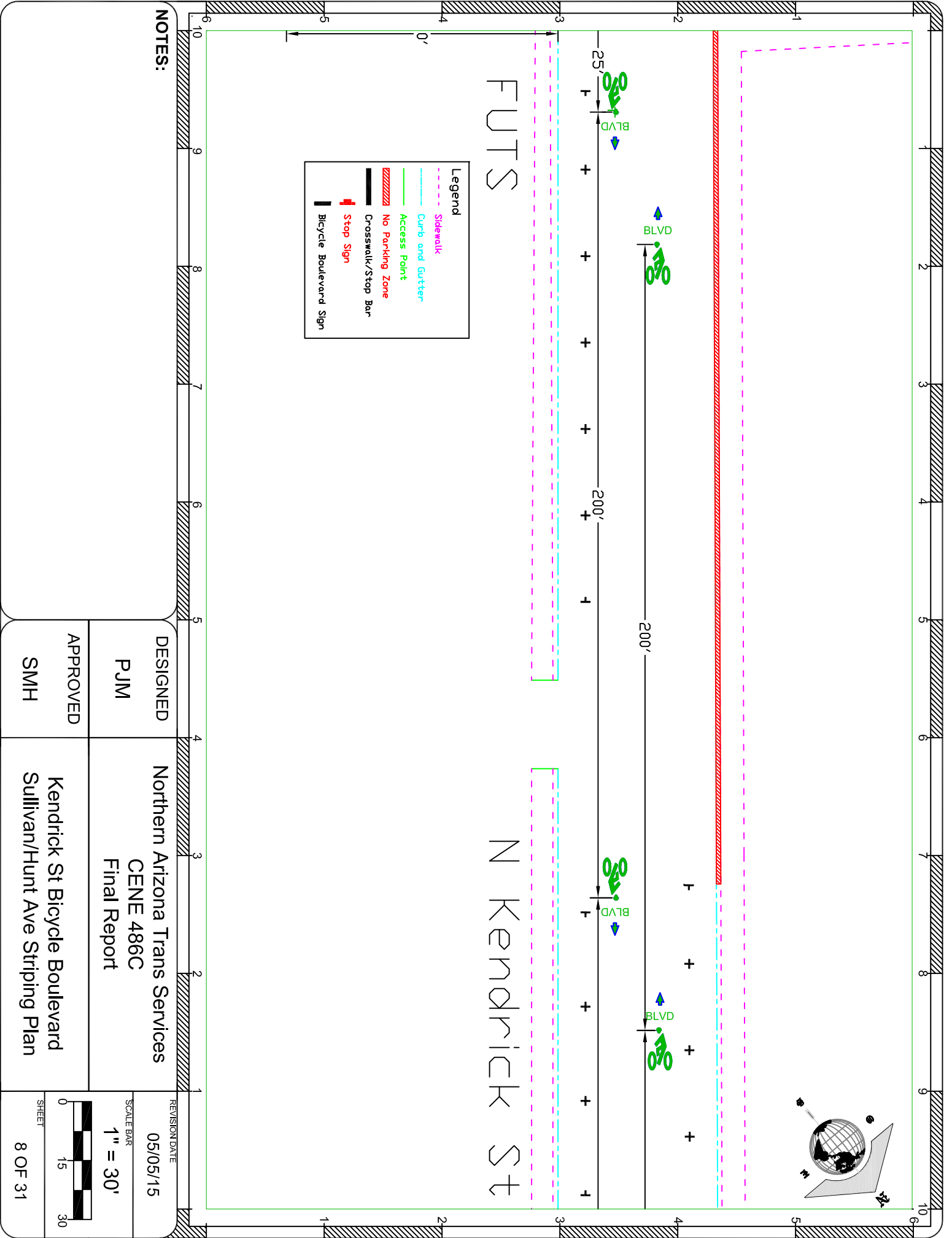
Kendrick St Bicycle Boulevard
Sullivan Ave Striping Plan

REVISION DATE
05/05/15

SCALE BAR
1" = 30'

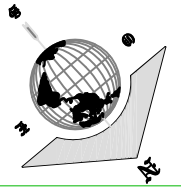


SHEET
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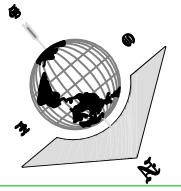
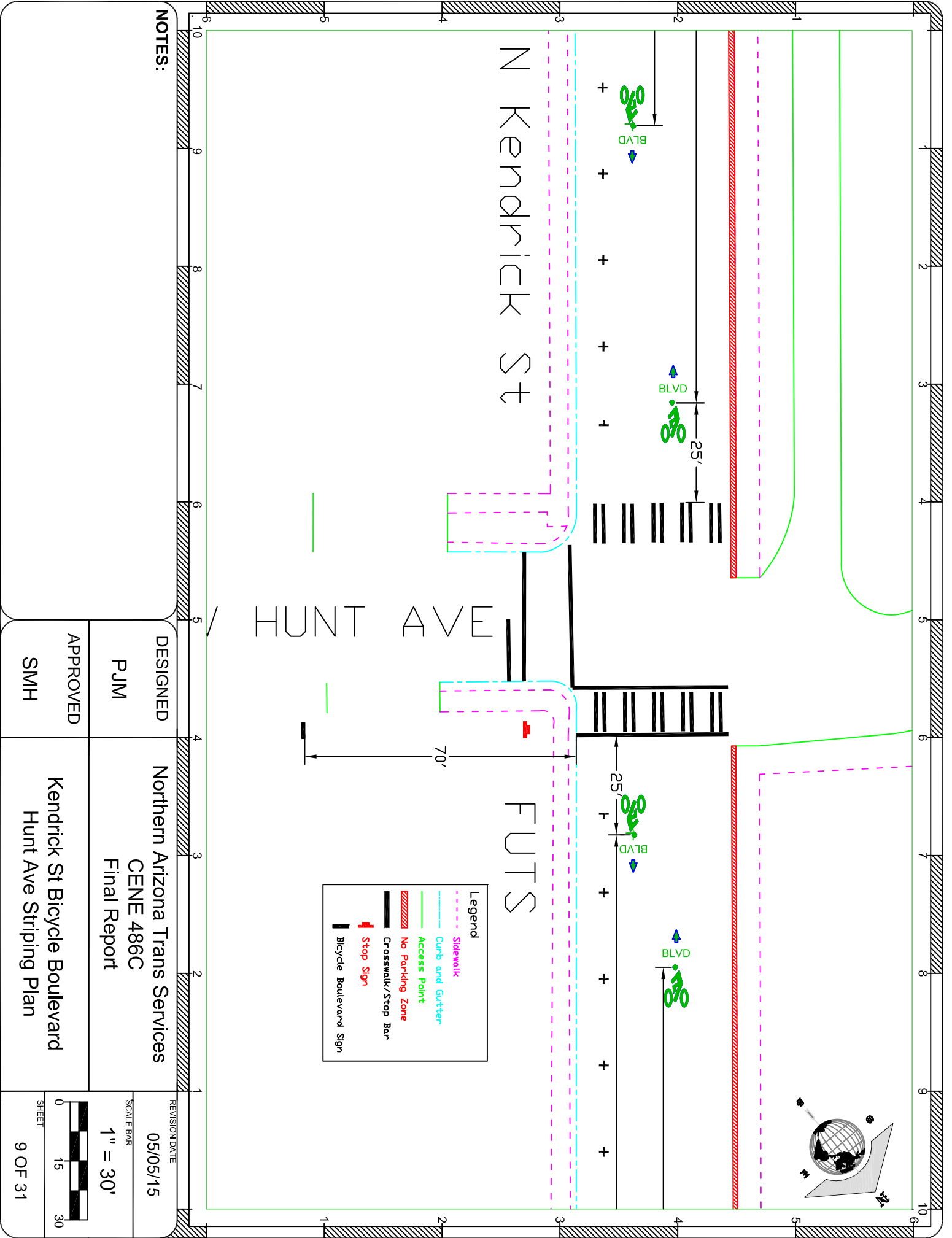
Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- Stop Sign
- Bicycle Boulevard Sign



NOTES:

DESIGNED	PJM	APPROVED	SMH
Northern Arizona Trans Services CENE 486C Final Report		Kendrick St Bicycle Boulevard Sullivan/Hunt Ave Striping Plan	
REVISION DATE	05/05/15	SCALE BAR	1" = 30'
SHEET	8 OF 31		

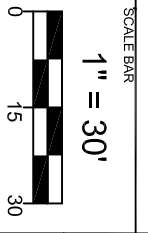


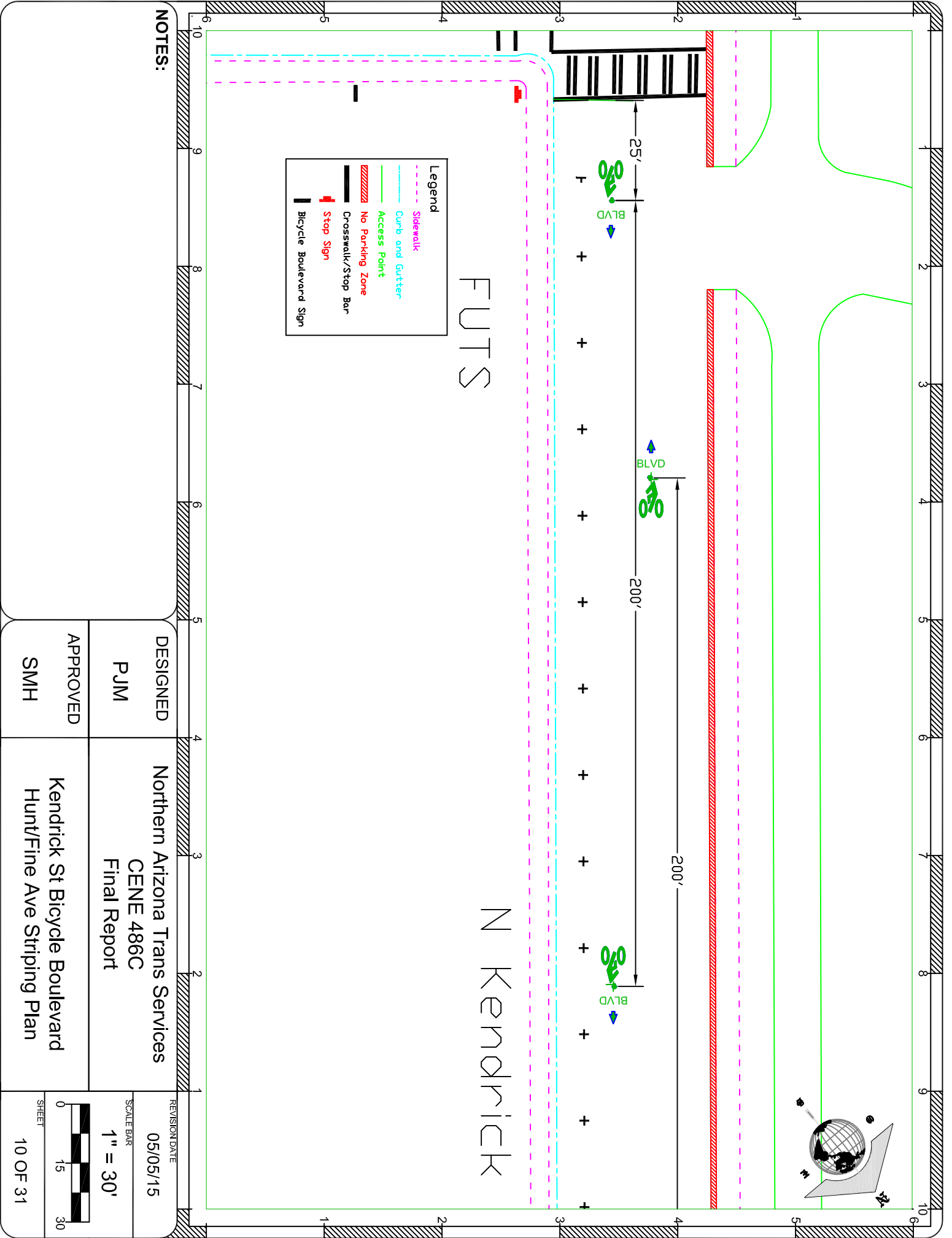
Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- + Stop Sign
- | Bicycle Boulevard Sign

NOTES:

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
PJM	CENE 486C		
APPROVED	Kendrick St Bicycle Boulevard		
SMH	Hunt Ave Striping Plan		





FUTS

N Kendrick

NOTES:

6 10 9 8 7 6 5 4 3 2 1

DESIGNED
PJM

APPROVED
SMH

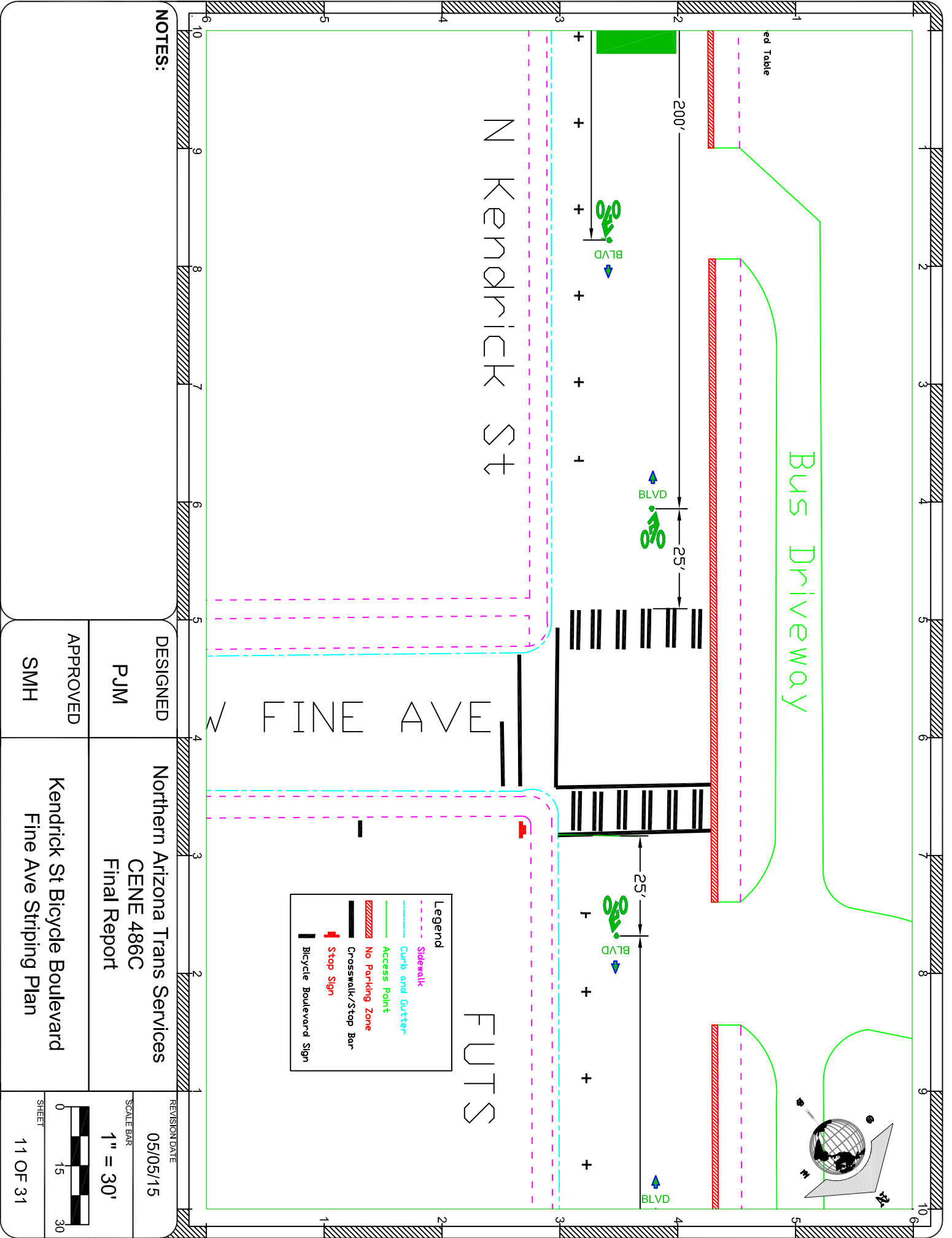
Northern Arizona Trans Services
CENE 486C
Final Report

Kendrick St Bicycle Boulevard
Hunt/Fine Ave Striping Plan

REVISION DATE
05/05/15

SCALE BAR
1" = 30'

SHEET
10 OF 31

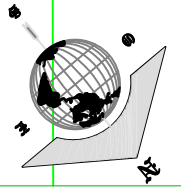


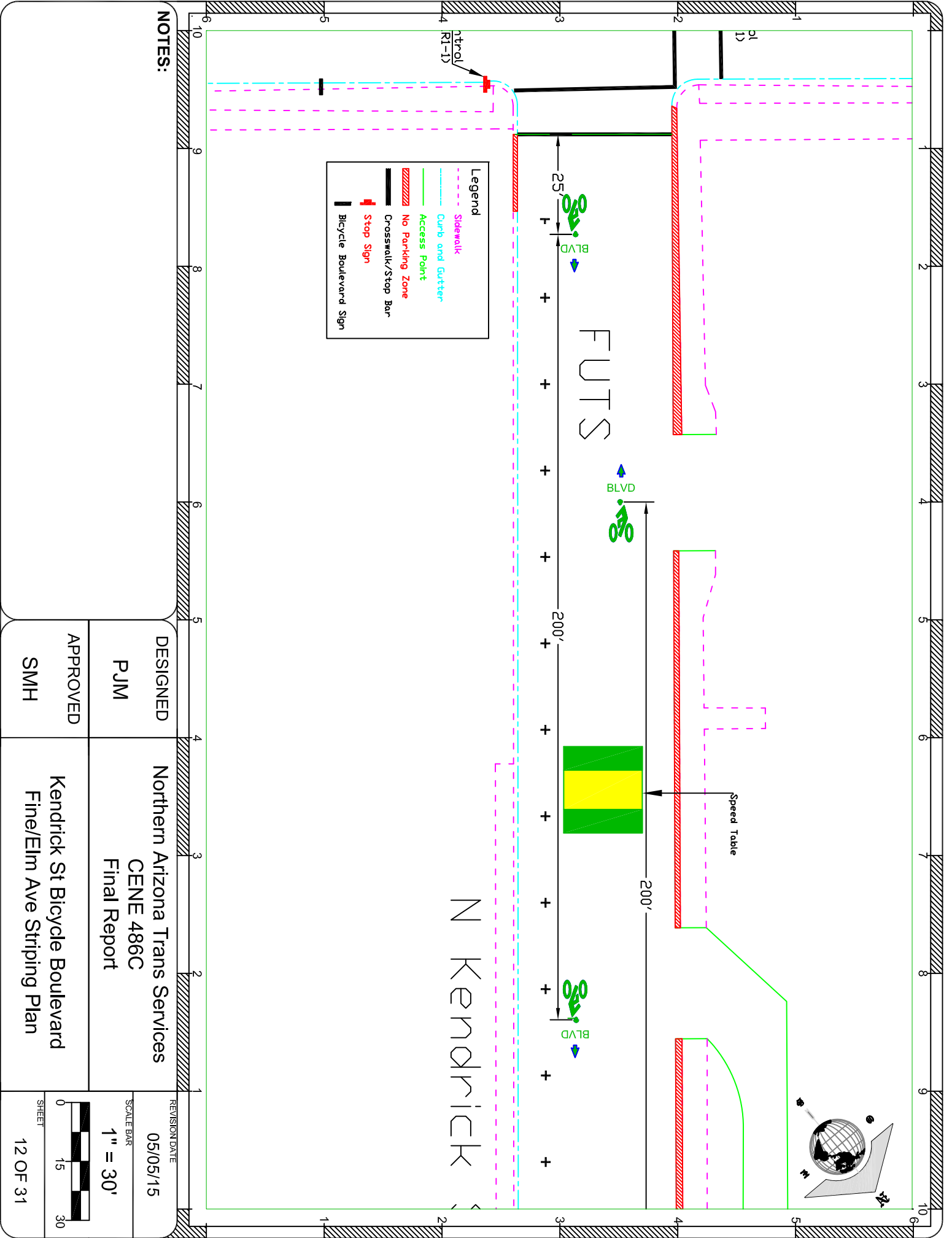
NOTES:

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
PJM	CENE 486C	SCALE BAR	1" = 30'
APPROVED	Kendrick St Bicycle Boulevard	SHEET	11 OF 31
SMH	Fine Ave Striping Plan		

Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- Stop Sign
- Bicycle Boulevard Sign



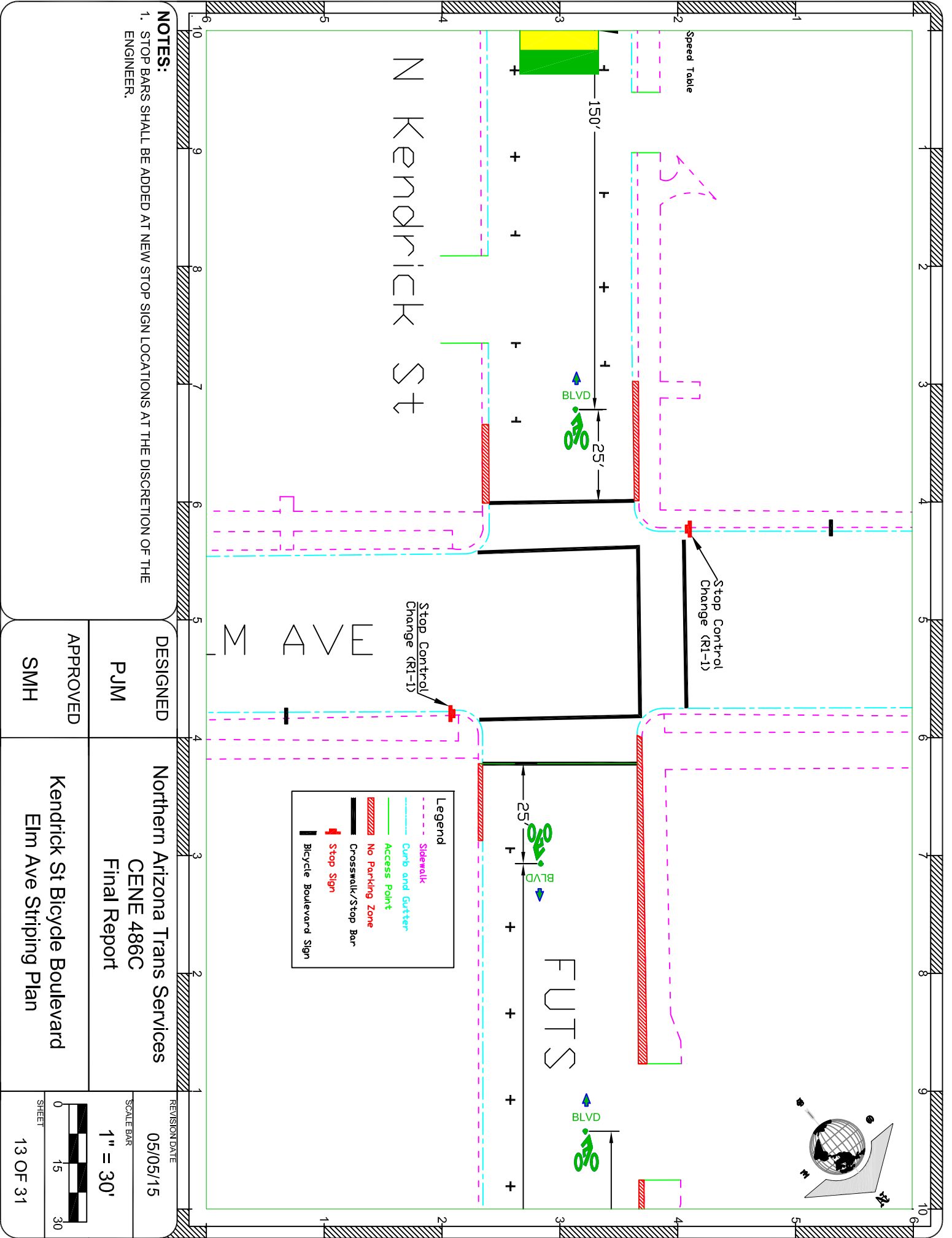


Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- Stop Sign
- Bicycle Boulevard Sign

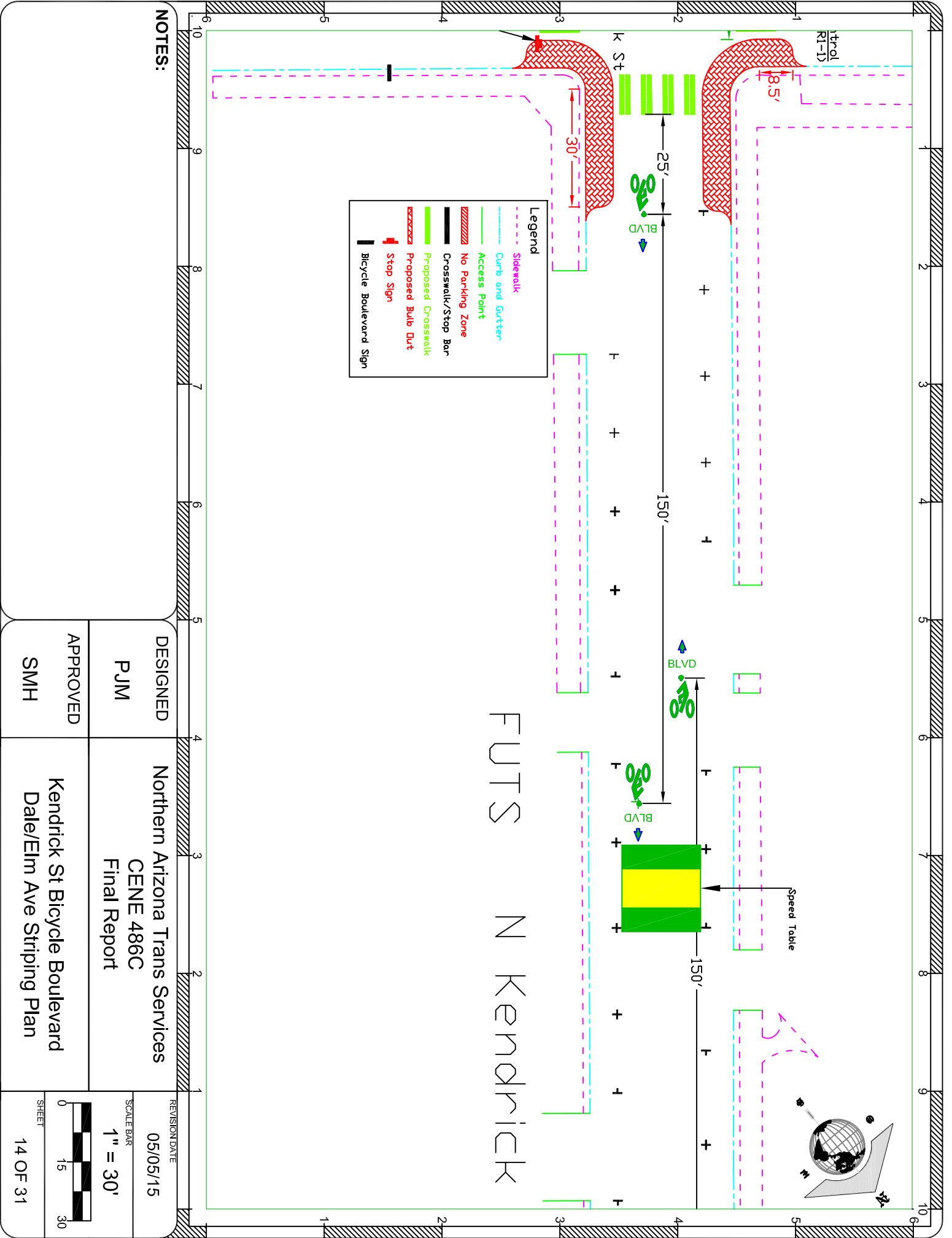
NOTES:

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
PJM	CENE 486C	SCALE BAR	1" = 30'
APPROVED	Kendrick St Bicycle Boulevard	SHEET	12 OF 31
SMH	Fine/Elm Ave Striping Plan		

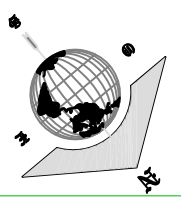


NOTES:
 1. STOP BARS SHALL BE ADDED AT NEW STOP SIGN LOCATIONS AT THE DISCRETION OF THE ENGINEER.

DESIGNED	Northern Arizona Trans Services
APPROVED	Kendrick St Bicycle Boulevard
PJM	Elm Ave Striping Plan
SMH	
	Final Report
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	Northern Arizona Trans Services
	05/05/15
	REVISION DATE
	1" = 30'
	SCALE BAR
	0 15 30
	SHEET
	13 OF 31

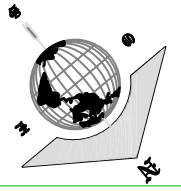
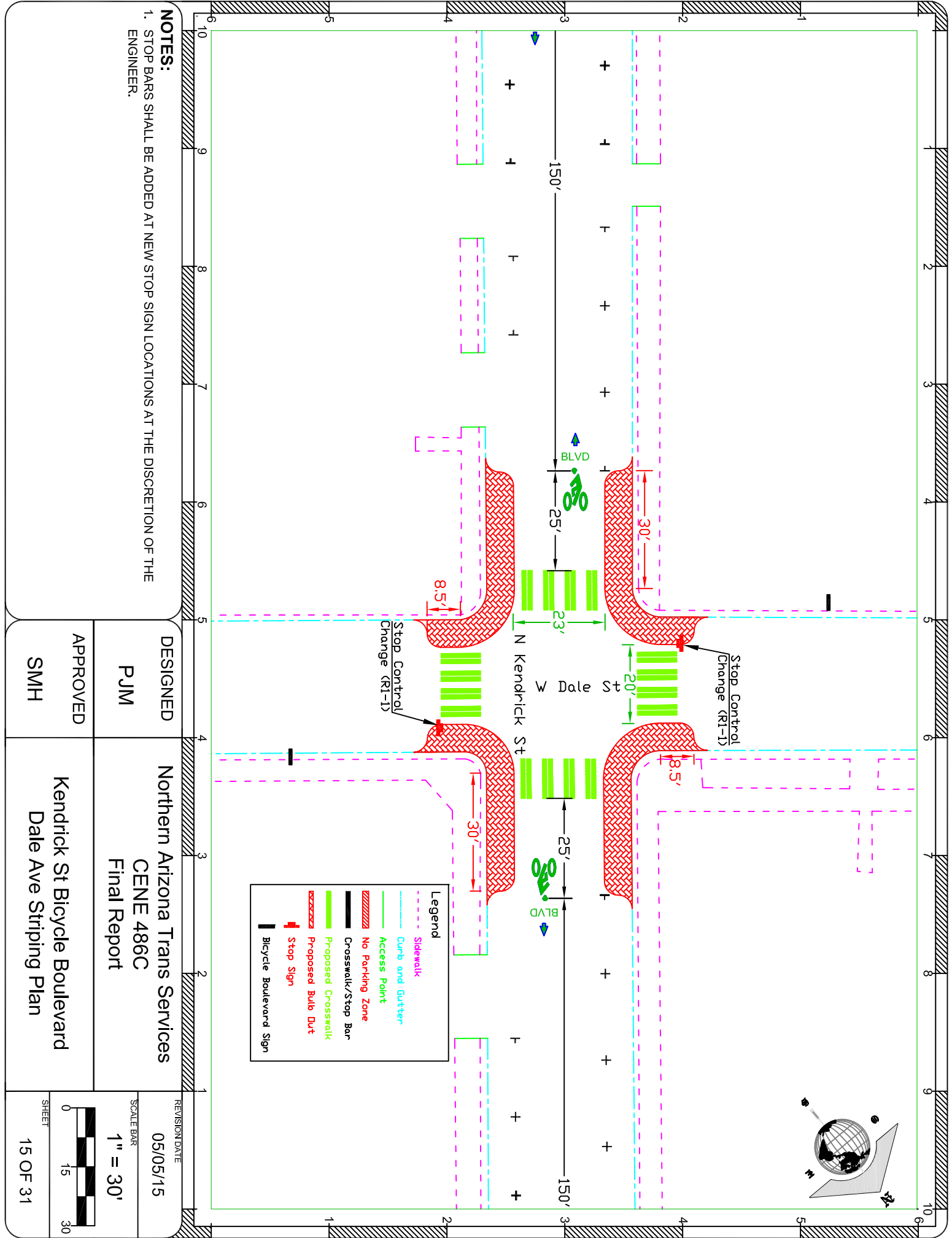


FULTS N Kendrick



NOTES:

DESIGNED	PJM	APPROVED	SMH
Northern Arizona Trans Services CENE 486C Final Report		Kendrick St Bicycle Boulevard Dale/Elm Ave Striping Plan	
REVISION DATE	05/05/15	SCALE BAR	1" = 30'
SHEET	14 OF 31		

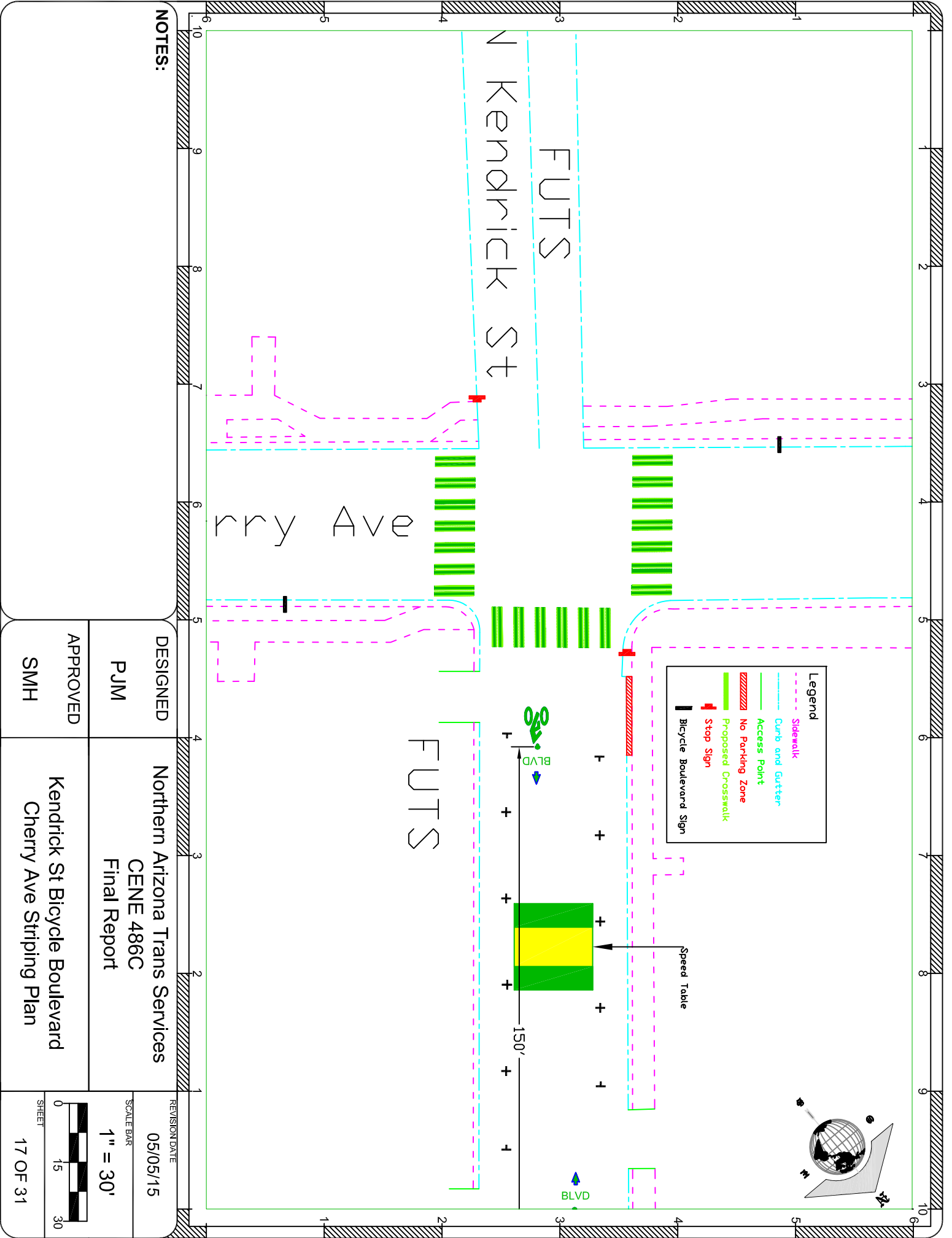


Legend

	Sidewalk
	Curb and Gutter
	Access Point
	No Parking Zone
	Crosswalk/Stop Bar
	Proposed Crosswalk
	Proposed Bulb Out
	Stop Sign
	Bicycle Boulevard Sign

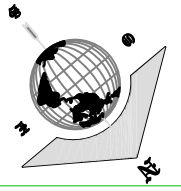
NOTES:
 1. STOP BARS SHALL BE ADDED AT NEW STOP SIGN LOCATIONS AT THE DISCRETION OF THE ENGINEER.

DESIGNED	PJM	Northern Arizona Trans Services CENE 486C	REVISION DATE	05/05/15
APPROVED	SMH	Kendrick St Bicycle Boulevard Dale Ave Striping Plan	SCALE BAR	1" = 30'
			SHEET	15 OF 31



Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Proposed Crosswalk
- Stop Sign
- Bicycle Boulevard Sign



NOTES:

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 Final Report

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 05/05/15

APPROVED

PJM

SCALE BAR
 1" = 30'

SMH

Kendrick St Bicycle Boulevard
 Cherry Ave Striping Plan

SHEET
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Kendrick St

FUTS

Cherry Ave

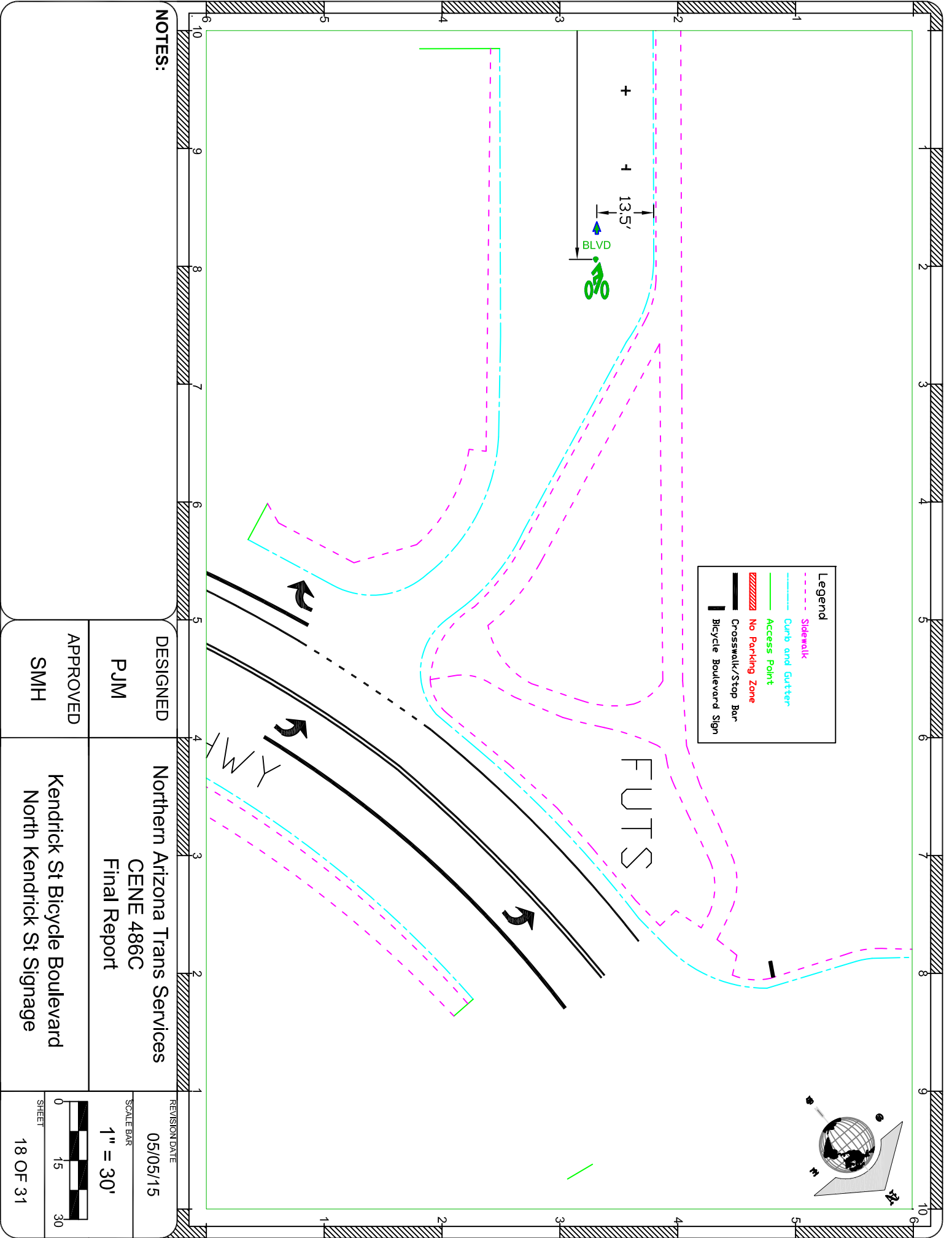
FUTS

BLVD

150'

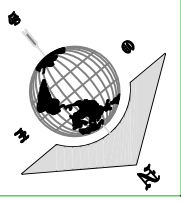
BLVD

Speed Table



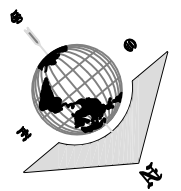
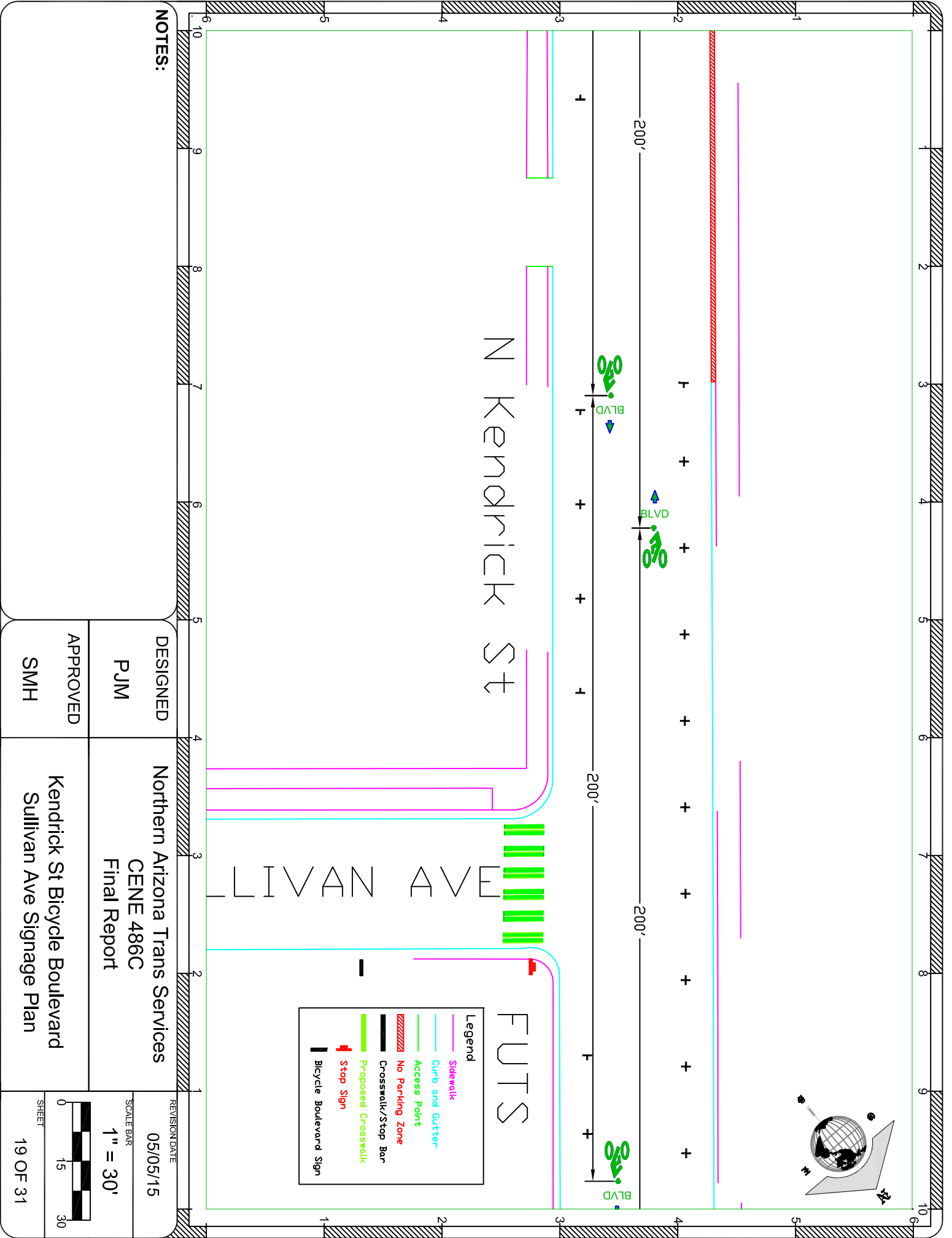
Legend

- - - Sidewalk
- - - Curb and Gutter
- Access Point
- ▨▨▨▨ No Parking Zone
- Crosswalk/Stop Bar
- | Bicycle Boulevard Sign



NOTES:

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
PJM	CENE 486C	SCALE BAR	1" = 30'
APPROVED	Final Report	SHEET	18 OF 31
SMH	Kendrick St Bicycle Boulevard North Kendrick St Signage		



Legend

	Sidewalk
	Curb and Gutter
	Access Point
	No Parking Zone
	Crosswalk/Stop Bar
	Proposed Crosswalk
	Stop Sign
	Bicycle Boulevard Sign

NOTES:

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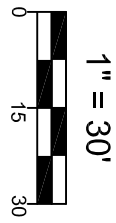
DESIGNED
PJM

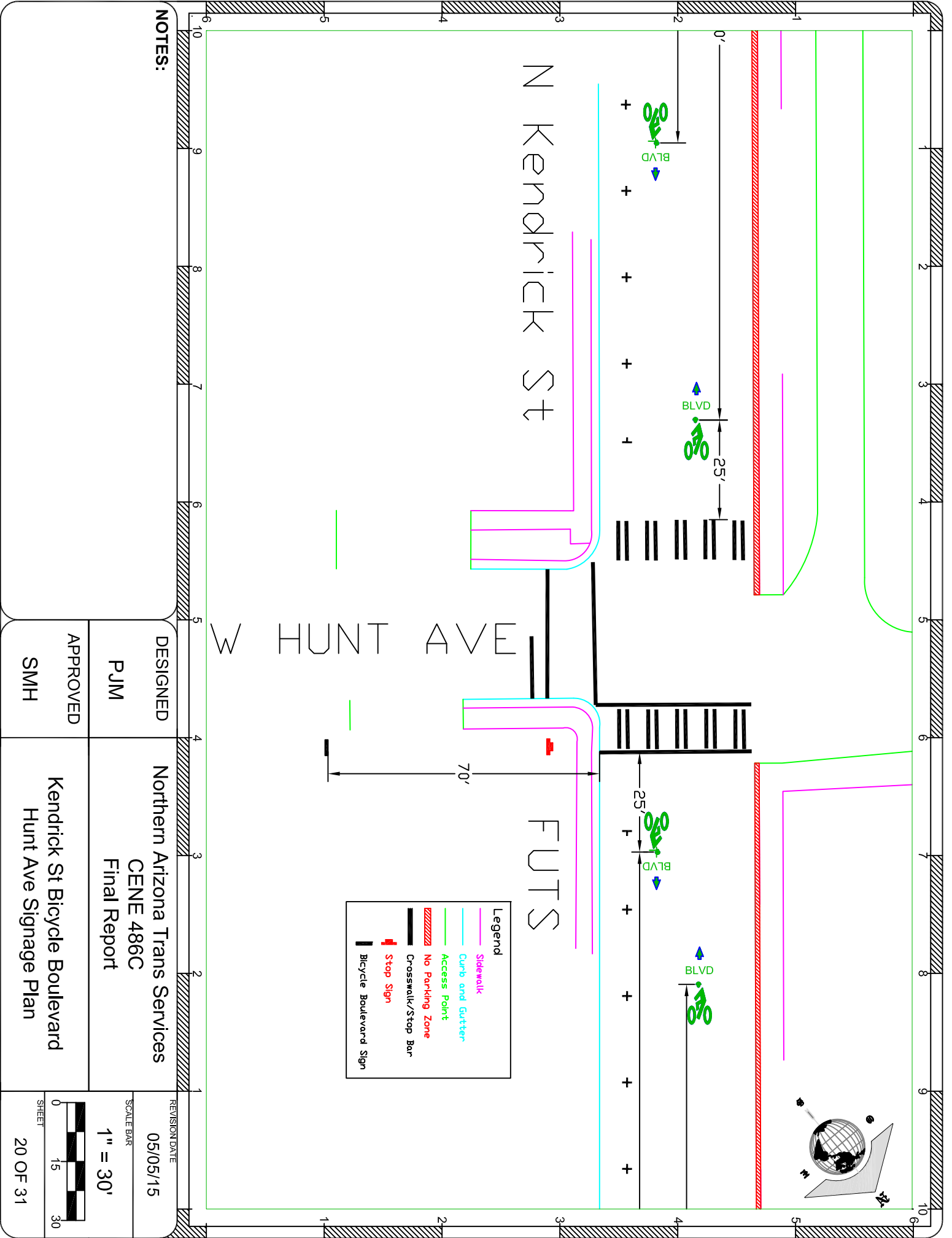
Northern Arizona Trans Services
CENE 486C
Final Report

APPROVED
SMH

Kendrick St Bicycle Boulevard
Sullivan Ave Signage Plan

REVISION DATE
05/05/15

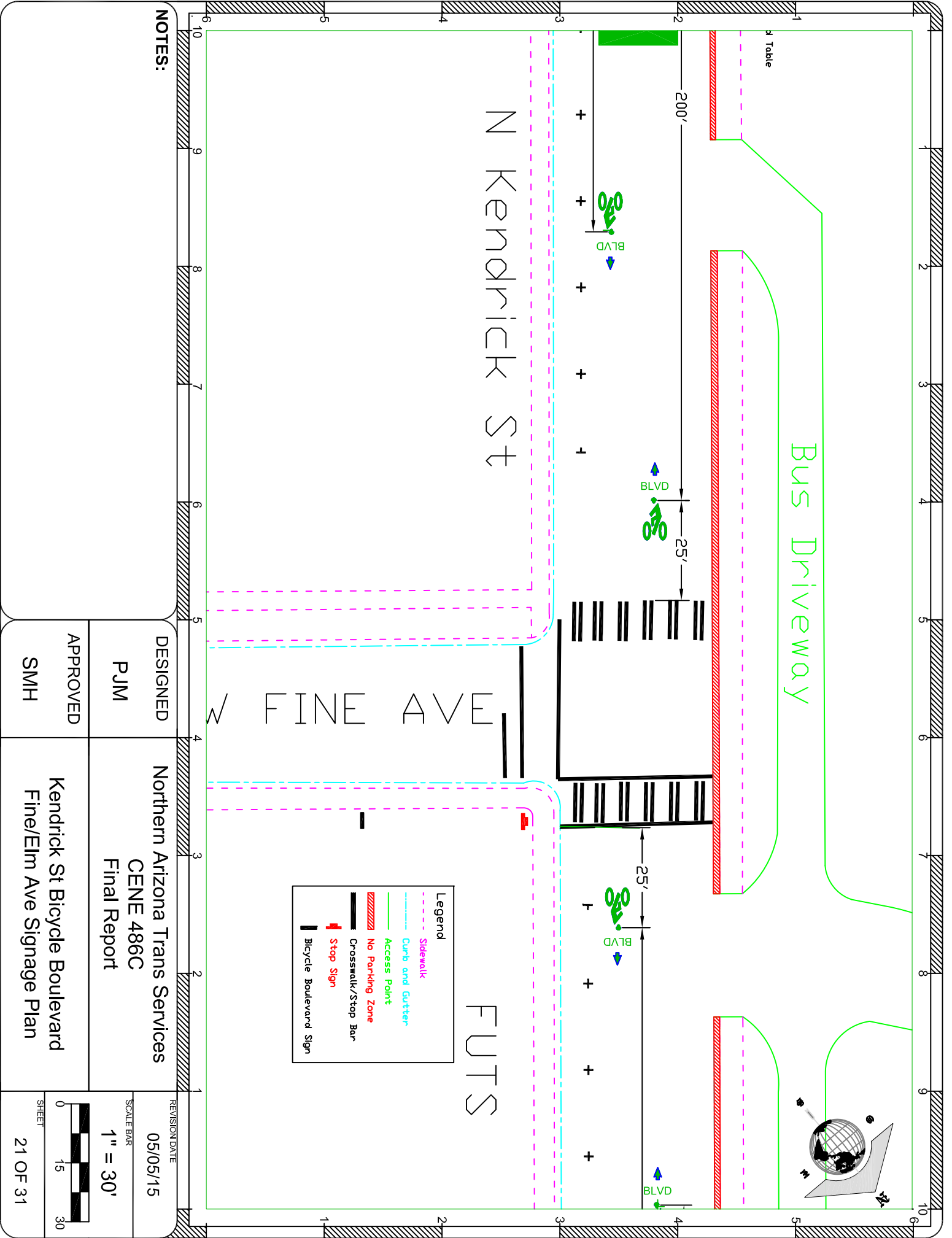




NOTES:

DESIGNED	Northern Arizona Trans Services
PJM	CENE 486C
APPROVED	Final Report
SMH	Kendrick St Bicycle Boulevard Hunt Ave Signage Plan

REVISION DATE	05/05/15
SCALE BAR	1" = 30'
SHEET	20 OF 31

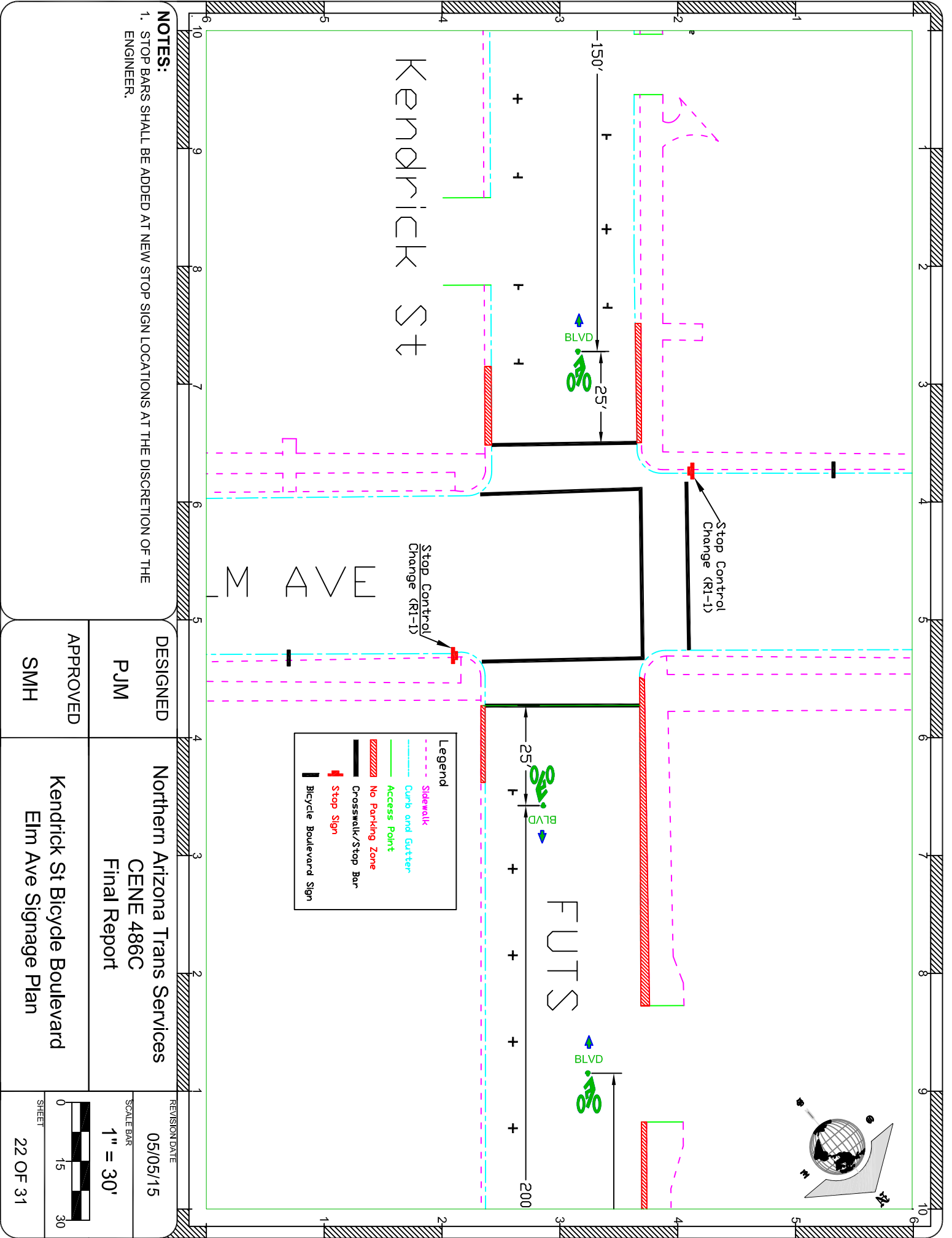


NOTES:

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
PJM	CENE 486C	SCALE BAR	1" = 30'
APPROVED	Kendrick St Bicycle Boulevard	SHEET	21 OF 31
SMH	Fine/Elm Ave Signage Plan		

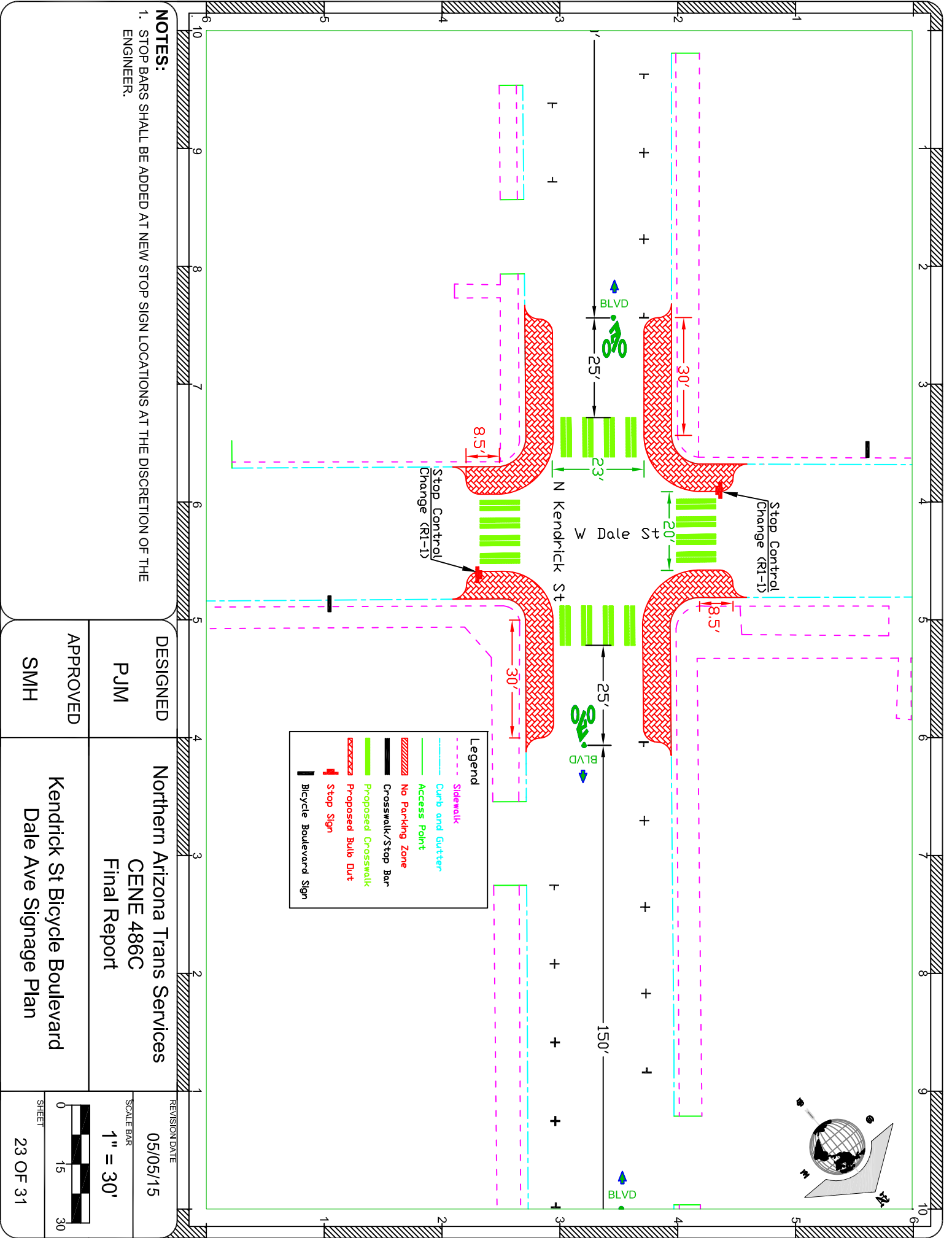
Legend

- Sidewalk
- Curb and Gutter
- Access Point
- No Parking Zone
- Crosswalk/Stop Bar
- Stop Sign
- Bicycle Boulevard Sign



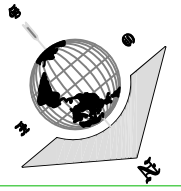
NOTES:
 1. STOP BARS SHALL BE ADDED AT NEW STOP SIGN LOCATIONS AT THE DISCRETION OF THE ENGINEER.

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
PJM	CENE 486C	SCALE BAR	1" = 30'
APPROVED			
SMH	Kendrick St Bicycle Boulevard Elm Ave Signage Plan	SHEET	22 OF 31



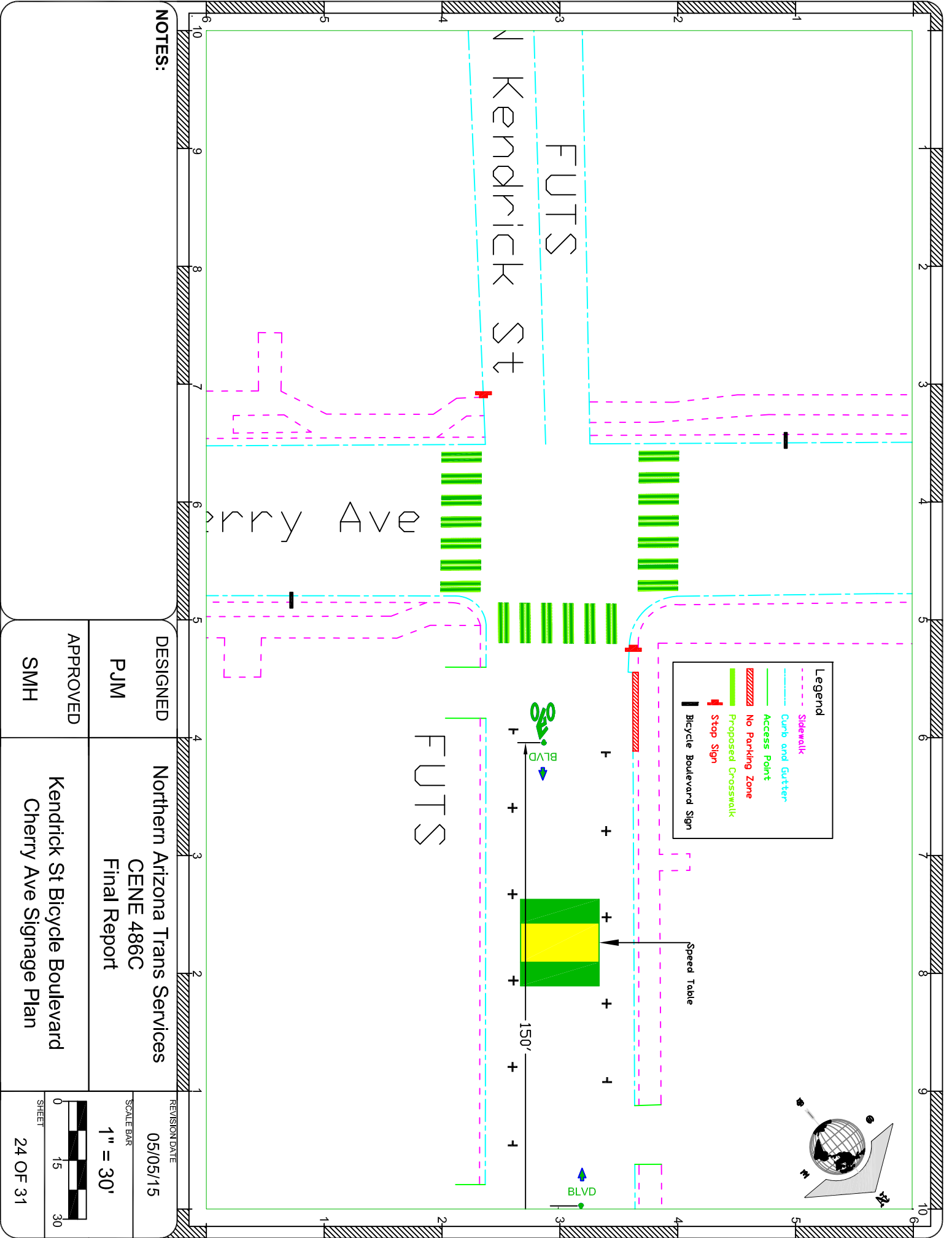
Legend

	Sidewalk
	Curb and Gutter
	Access Point
	No Parking Zone
	Crosswalk/Stop Bar
	Proposed Crosswalk
	Proposed Bulb Out
	Stop Sign
	Bicycle Boulevard Sign



NOTES:
 1. STOP BARS SHALL BE ADDED AT NEW STOP SIGN LOCATIONS AT THE DISCRETION OF THE ENGINEER.

DESIGNED	PJM	APPROVED	SMH
Northern Arizona Trans Services CENE 486C Final Report		Kendrick St Bicycle Boulevard Dale Ave Signage Plan	
REVISION DATE	05/05/15	SCALE BAR	1" = 30'
SHEET		23 OF 31	

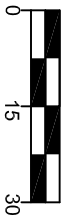


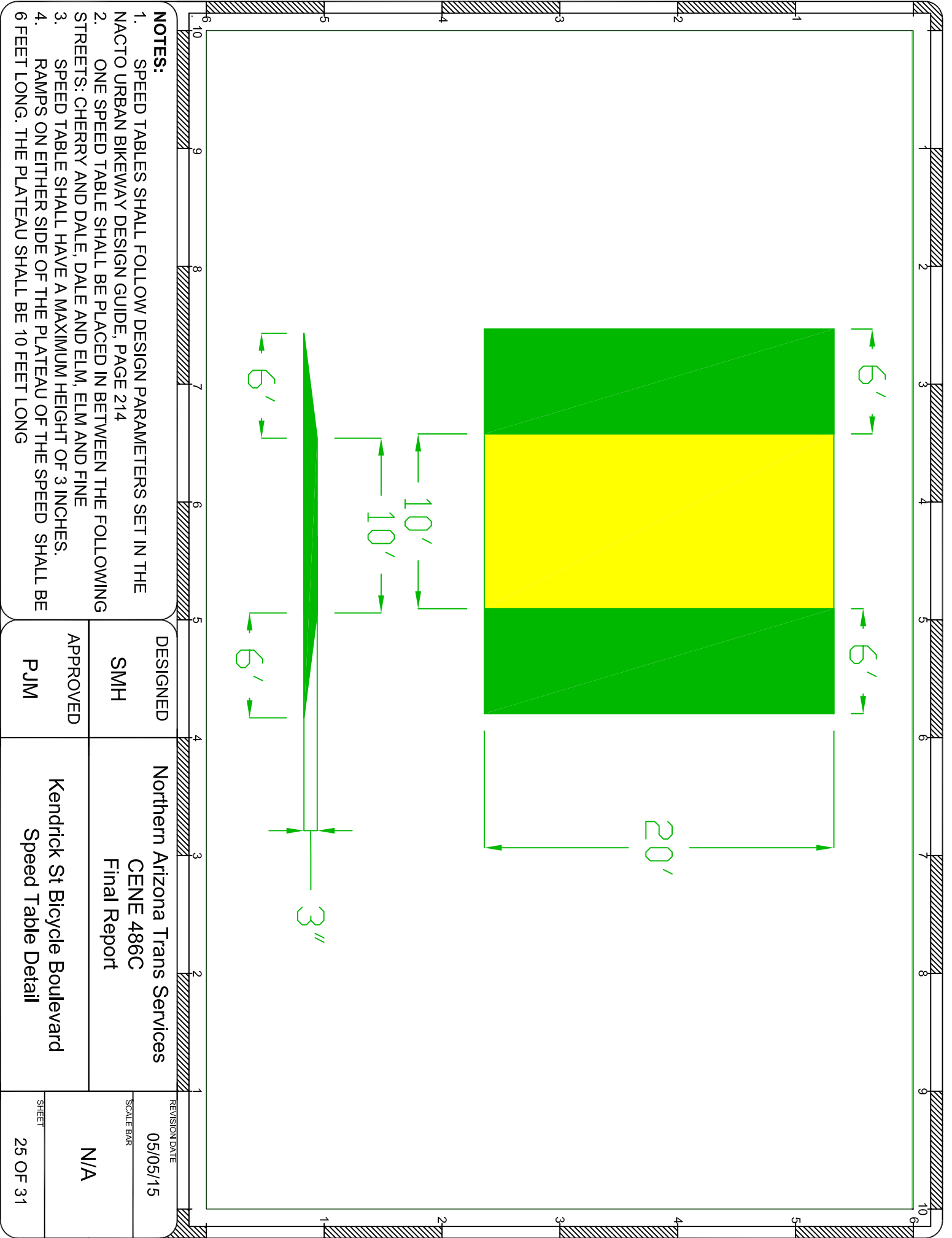
NOTES:

DESIGNED	Northern Arizona Trans Services
PJM	CENE 486C
APPROVED	Final Report
SMH	Kendrick St Bicycle Boulevard Cherry Ave Signage Plan

REVISION DATE
05/05/15

SCALE BAR
1" = 30'

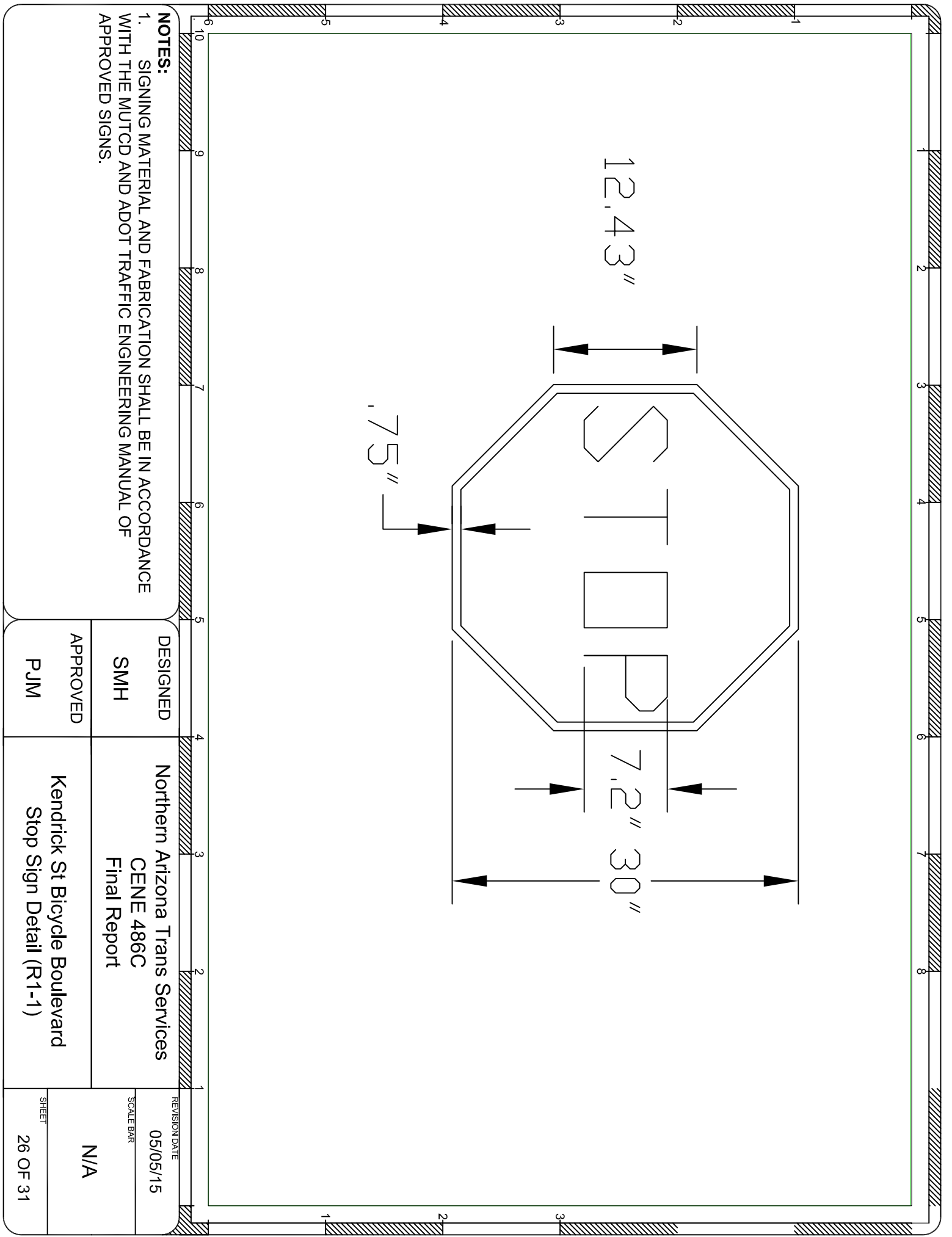




NOTES:

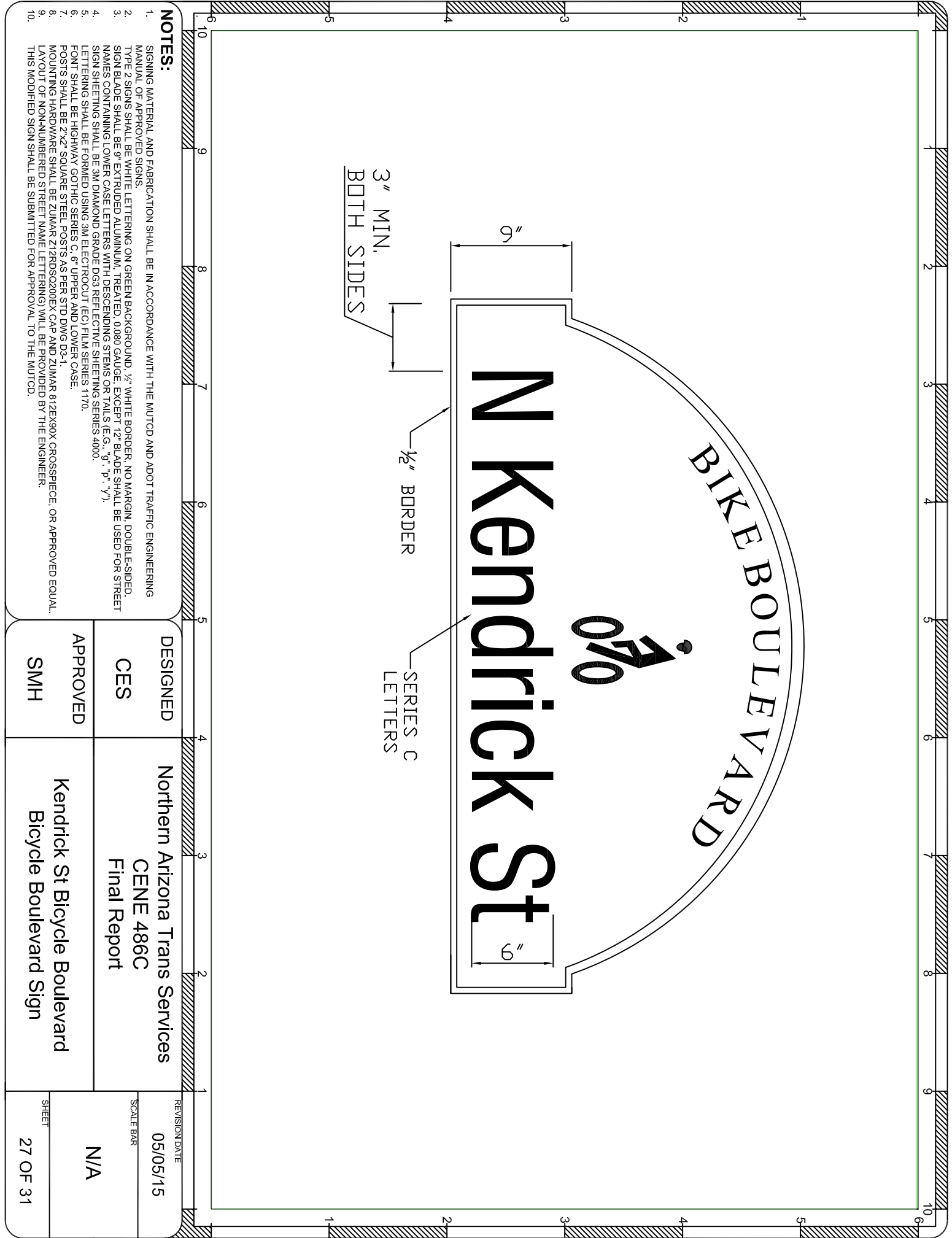
1. SPEED TABLES SHALL FOLLOW DESIGN PARAMETERS SET IN THE NACTO URBAN BIKEWAY DESIGN GUIDE, PAGE 214
2. ONE SPEED TABLE SHALL BE PLACED IN BETWEEN THE FOLLOWING STREETS: CHERRY AND DALE, DALE AND ELM, ELM AND FINE
3. SPEED TABLE SHALL HAVE A MAXIMUM HEIGHT OF 3 INCHES.
4. RAMPS ON EITHER SIDE OF THE PLATEAU OF THE SPEED SHALL BE 6 FEET LONG. THE PLATEAU SHALL BE 10 FEET LONG

DESIGNED	Northern Arizona Trans Services		REVISION DATE	05/05/15
SMH	CENE 486C		SCALE BAR	N/A
APPROVED	Kendrick St Bicycle Boulevard		SHEET	25 OF 31
PJM	Speed Table Detail			



NOTES:
 1. SIGNING MATERIAL AND FABRICATION SHALL BE IN ACCORDANCE WITH THE MUTCD AND ADOT TRAFFIC ENGINEERING MANUAL OF APPROVED SIGNS.

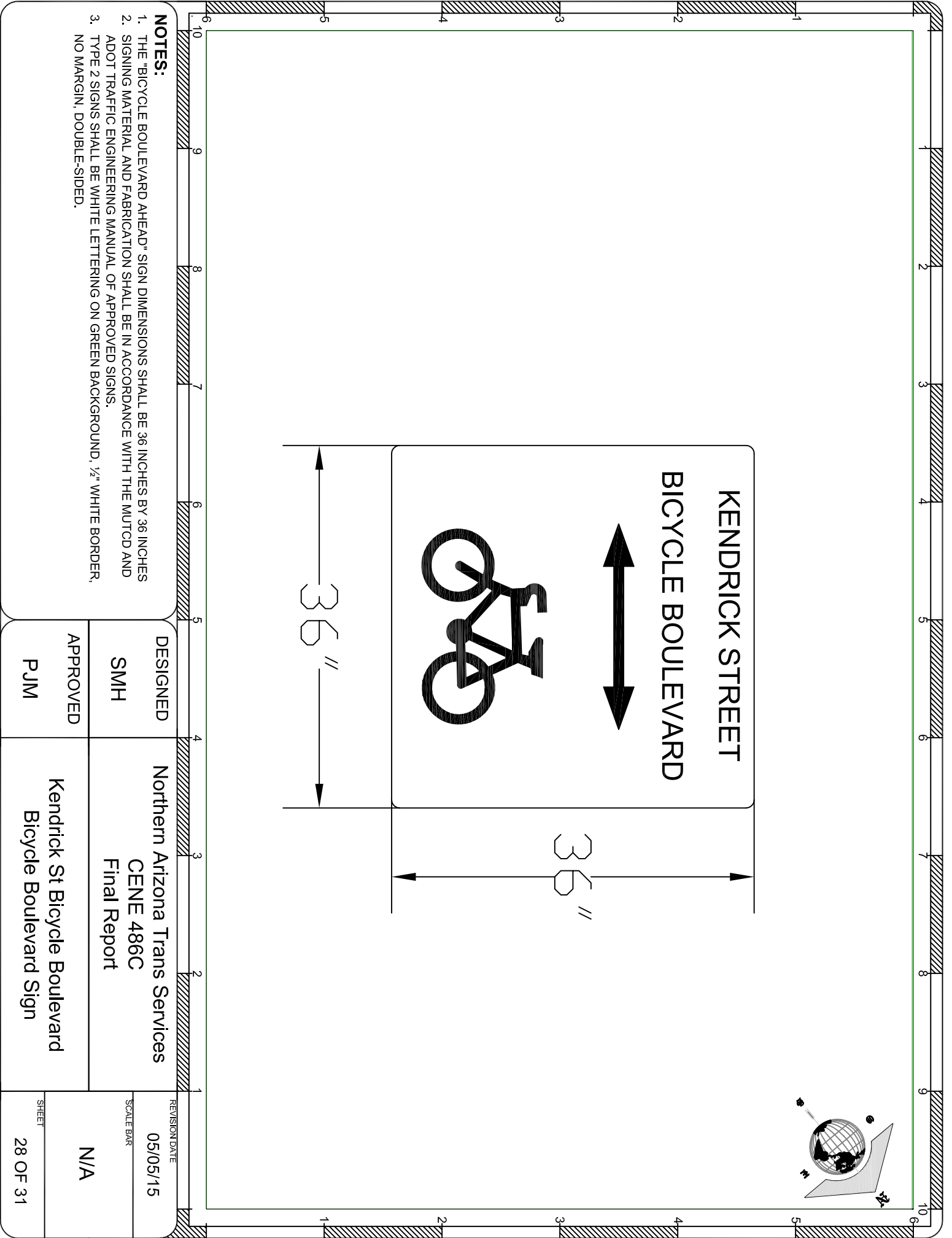
DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
SMH	CENE 486C Final Report	SCALE BAR	N/A
APPROVED	Kendrick St Bicycle Boulevard	SHEET	26 OF 31
PJM	Stop Sign Detail (R1-1)		



NOTES:

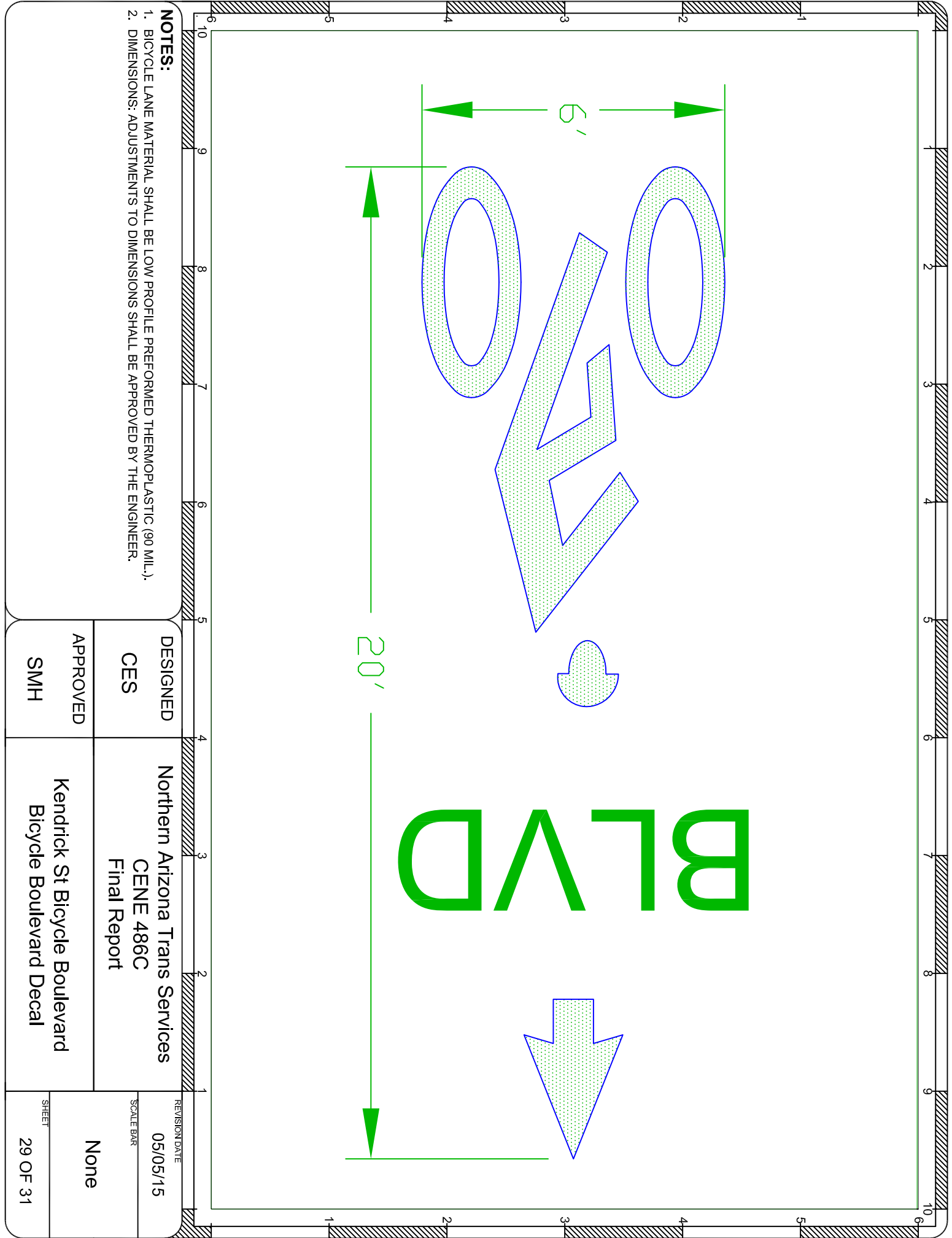
1. SIGNING MATERIAL AND FABRICATION SHALL BE IN ACCORDANCE WITH THE MUTCD AND ADOT TRAFFIC ENGINEERING MANUAL OF APPROVED SIGNS.
2. TYPE 2 SIGNS SHALL BE WHITE LETTERING ON GREEN BACKGROUND, 1/2" WHITE BORDER, NO MARGIN, DOUBLE SIDED. SIGN BLADE SHALL BE 9" EXTRUDED ALUMINUM, TREATED, 0.080 GAUGE, EXCEPT 12" BLADE SHALL BE USED FOR STREET NAMES CONTAINING LOWER CASE LETTERS WITH DESCENDING STEMS OR TAILS (E.G., "g", "p", "y").
3. SIGN SHEETING SHALL BE 3M DIAMOND GRADE DG3 REFLECTIVE SHEETING SERIES 4000.
4. LETTERING SHALL BE FORMED USING 3M ELECTRO-CUT (EC) FILM SERIES 1170.
5. POSTS SHALL BE HIGHWAY GOTHIC SERIES C, 6" UPPER AND LOWER CASE.
6. FONT SHALL BE 2"x2" SQUARE STEEL POSTS AS PER STD DWG D3-1.
7. MOUNTING HARDWARE SHALL BE ZUMAR Z12RDSQ200EX CAP AND ZUMAR 812EX90X CROSSPIECE, OR APPROVED EQUAL.
8. LAYOUT OF NON-NUMBERED STREET NAME LETTERING WILL BE PROVIDED BY THE ENGINEER.
9. THIS MODIFIED SIGN SHALL BE SUBMITTED FOR APPROVAL TO THE MUTCD.
- 10.

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
CES	CENE 486C Final Report	SCALE BAR	N/A
APPROVED	Kendrick St Bicycle Boulevard Bicycle Boulevard Sign	SHEET	27 OF 31
SMH			



- NOTES:**
1. THE "BICYCLE BOULEVARD AHEAD" SIGN DIMENSIONS SHALL BE 36 INCHES BY 36 INCHES
 2. SIGNING MATERIAL AND FABRICATION SHALL BE IN ACCORDANCE WITH THE MUTCD AND ADOT TRAFFIC ENGINEERING MANUAL OF APPROVED SIGNS.
 3. TYPE 2 SIGNS SHALL BE WHITE LETTERING ON GREEN BACKGROUND, 1/2" WHITE BORDER, NO MARGIN, DOUBLE-SIDED.

DESIGNED	Northern Arizona Trans Services	REVISION DATE	05/05/15
SMH	CENE 486C Final Report	SCALE BAR	N/A
APPROVED	Kendrick St Bicycle Boulevard Bicycle Boulevard Sign	SHEET	28 OF 31
PJM			



- NOTES:**
1. BICYCLE LANE MATERIAL SHALL BE LOW PROFILE PREFORMED THERMOPLASTIC (90 MIL.).
 2. DIMENSIONS: ADJUSTMENTS TO DIMENSIONS SHALL BE APPROVED BY THE ENGINEER.

DESIGNED CES	Northern Arizona Trans Services CENE 486C Final Report	REVISION DATE	05/05/15
		SCALE BAR	None
APPROVED SMH	Kendrick St Bicycle Boulevard Bicycle Boulevard Decal	SHEET	29 OF 31

Cost of Implementation

Items	Units	Unit Cost	Amount	Cost
Parking Striping	LF	\$0.70	400	\$280
Speed Table	EA	\$2,500	3	\$7,500
Boulevard Striping	EA	\$350	23	\$8,050
Thermoplastic	SF	\$13	1540	\$20,020
Boulevard Signage	EA	\$200	12	\$2,400
Advance Signage	EA	\$200	12	\$2,400
Speed Table Signage	EA	\$200	6	\$1,200
R1-1 Signage Reuse	EA	\$100	4	\$400
Subtotal				\$42,250
Administrative Cost				\$42,918
Grand Total				\$85,168

- NOTES:**
- Grand total includes all material costs and manhour costs.

DESIGNED	Northern Arizona Trans Services CENE 486C Final Report	APPROVED	Kendrick St Bicycle Boulevard Cost and Line Items
REVISION DATE	05/05/15	SCALE BAR	N/A
SHEET	30 OF 31		

Construction Notes

- All parking stalls begin 20 feet from the closest crosswalk unless otherwise noted, per Flagstaff City Code.
- The parking stall nearest an intersection shall be 22 feet long, all others shall be 20 feet long.
- All parking striping "white Ts" shall have 6 inch wide strips and each arm will be 2.5 feet long per MUTCD Figure 3B-21.
- All "bicycle boulevard decals" shall be 25 feet from a cross walk and spaced 150-200 feet apart after that, depending on the length of road between intersections.
- All advanced warning Bicycle Boulevard signs shall be 50 feet before an intersection unless otherwise noted.

NOTES:

DESIGNED	Northern Arizona Trans Services CENE 486C Final Report	REVISION DATE 05/05/15
APPROVED	Kendrick St Bicycle Boulevard Construction Notes	SCALE BAR N/A
		SHEET 31 OF 31