

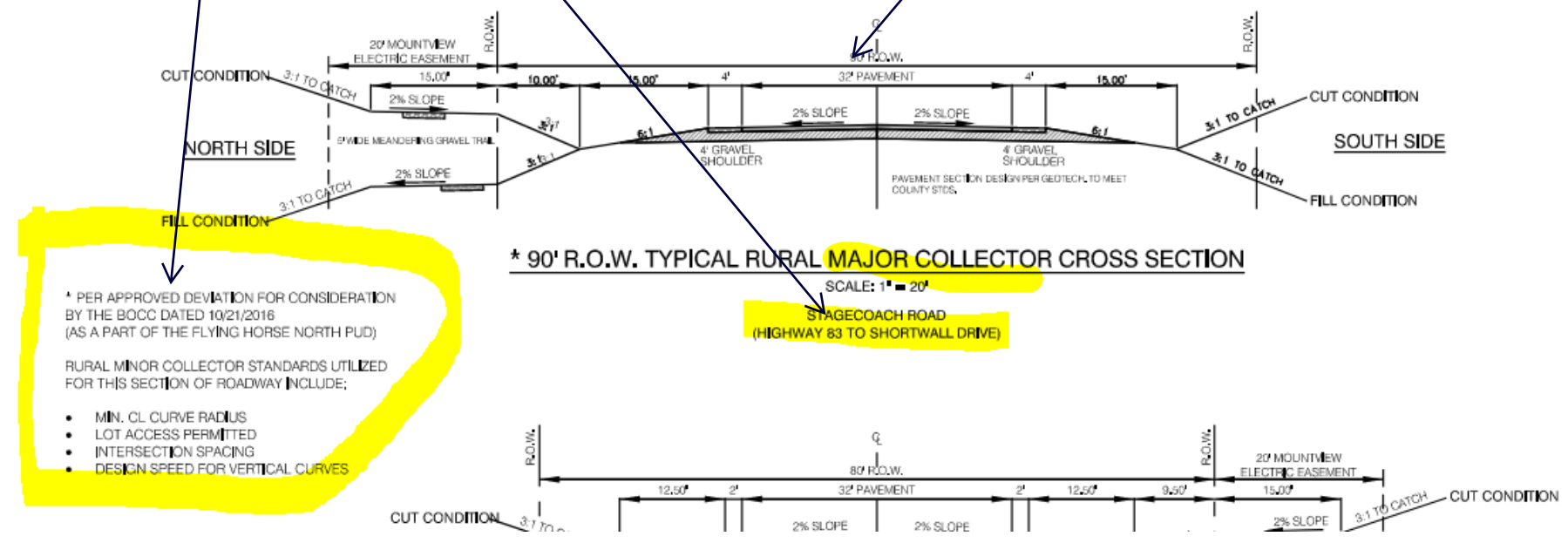
Revise classification to match approved plans. Major collector clear zone is 20'. The modification request did not include Clear Zone.

Relocate. Must be outside the clear zone per ECM 2.3.5 & 4.3.5.D.2

Relocate. Must be outside the clear zone per ECM 2.3.5 & 4.3.5.D.2

Relocate. Must be outside the clear zone per ECM 2.3.5 & 4.3.5.D.2

### STREET SECTIONS



\* PER APPROVED DIVISION FOR CONSIDERATION BY THE BOCC DATED 05/02/2016 (AS A PART OF THE FLYING HORSE NORTH PLD) RURAL MINOR COLLECTOR STANDARDS UTILIZED FOR THIS SECTION OF ROADWAY INCLUDE:

- MIN. CL. CURVE RADIUS
- LOT ACCESS SPACING
- INTERSECTION SPACING
- GRADE SPEED FOR VERTICAL CURVES

Add the typical street section. Modify to provide dimension label for the following:

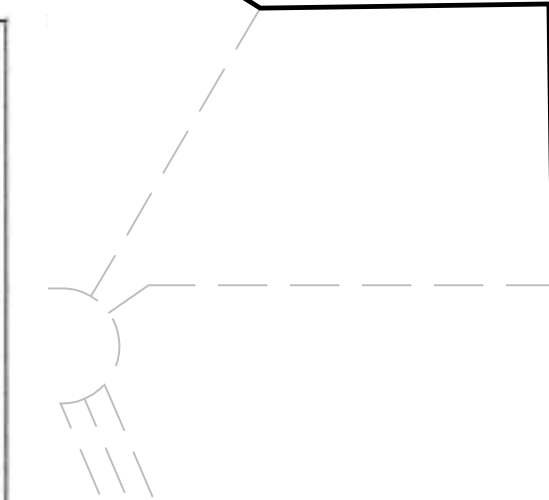
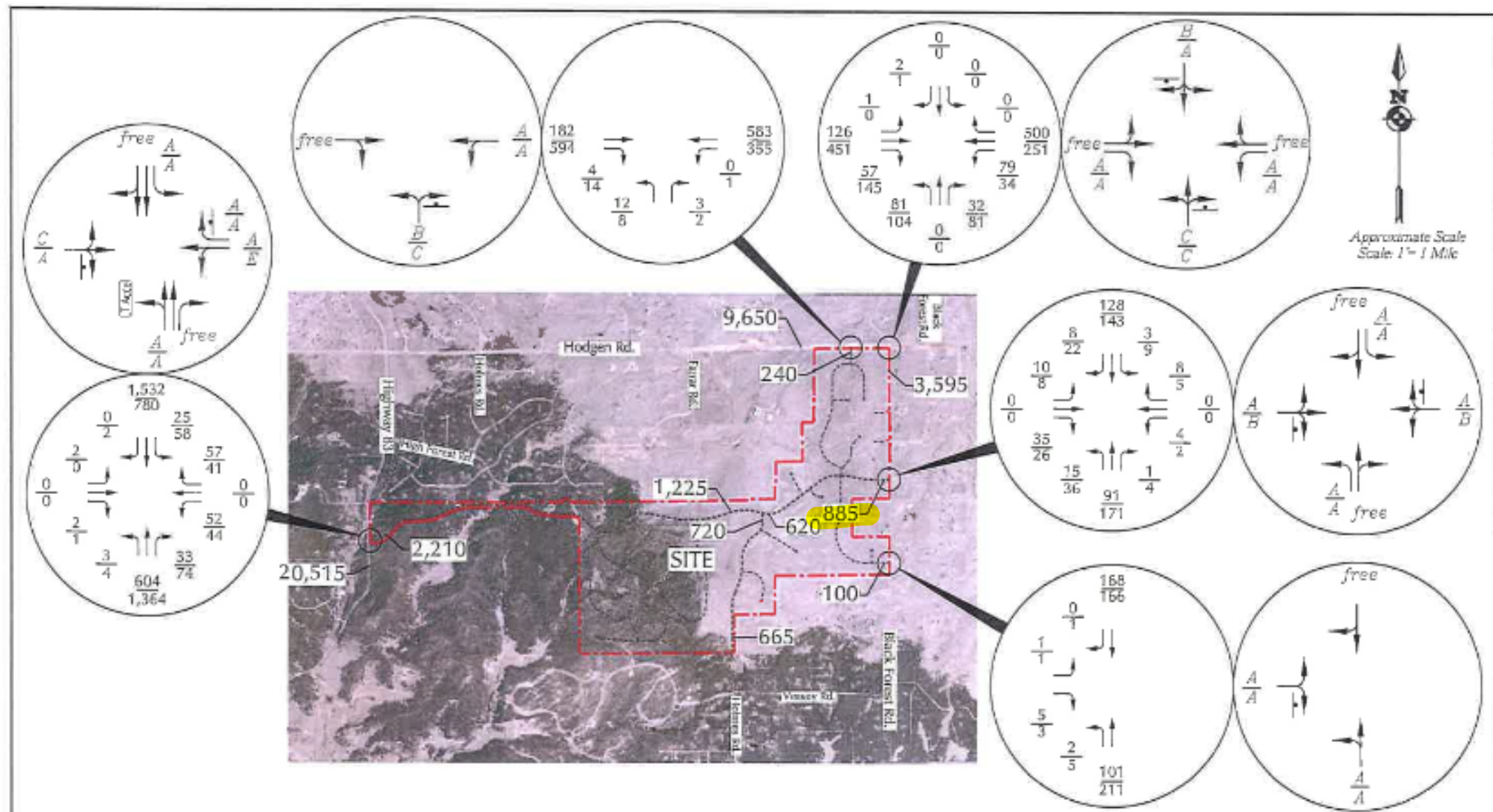
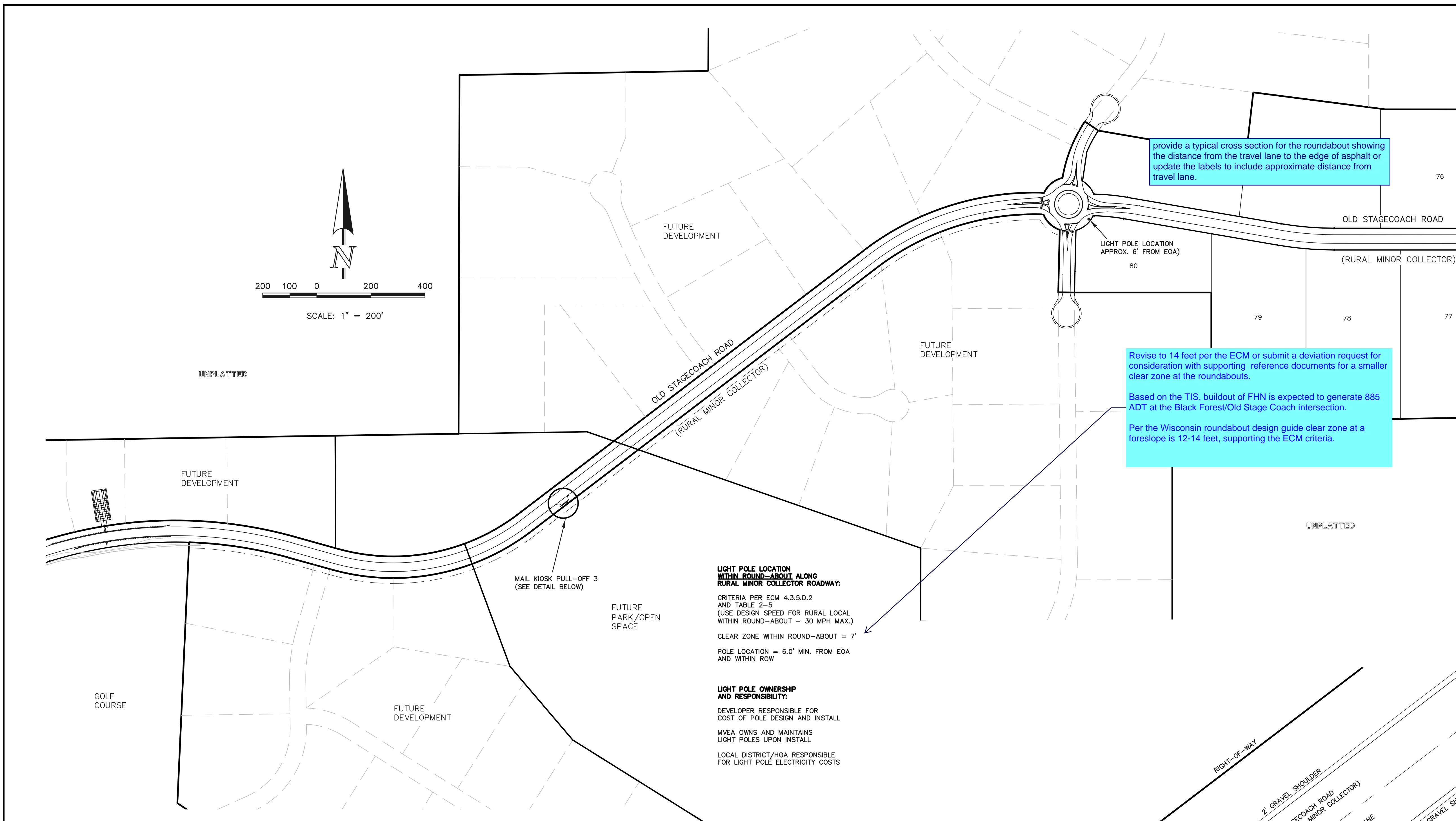
1. travel lane (12' lane width)
2. from travel lane to EOP (4' paved shoulder)
3. Clear Zone (20' clear zone measured from edge of travel lane.)

Provide detailed grading.

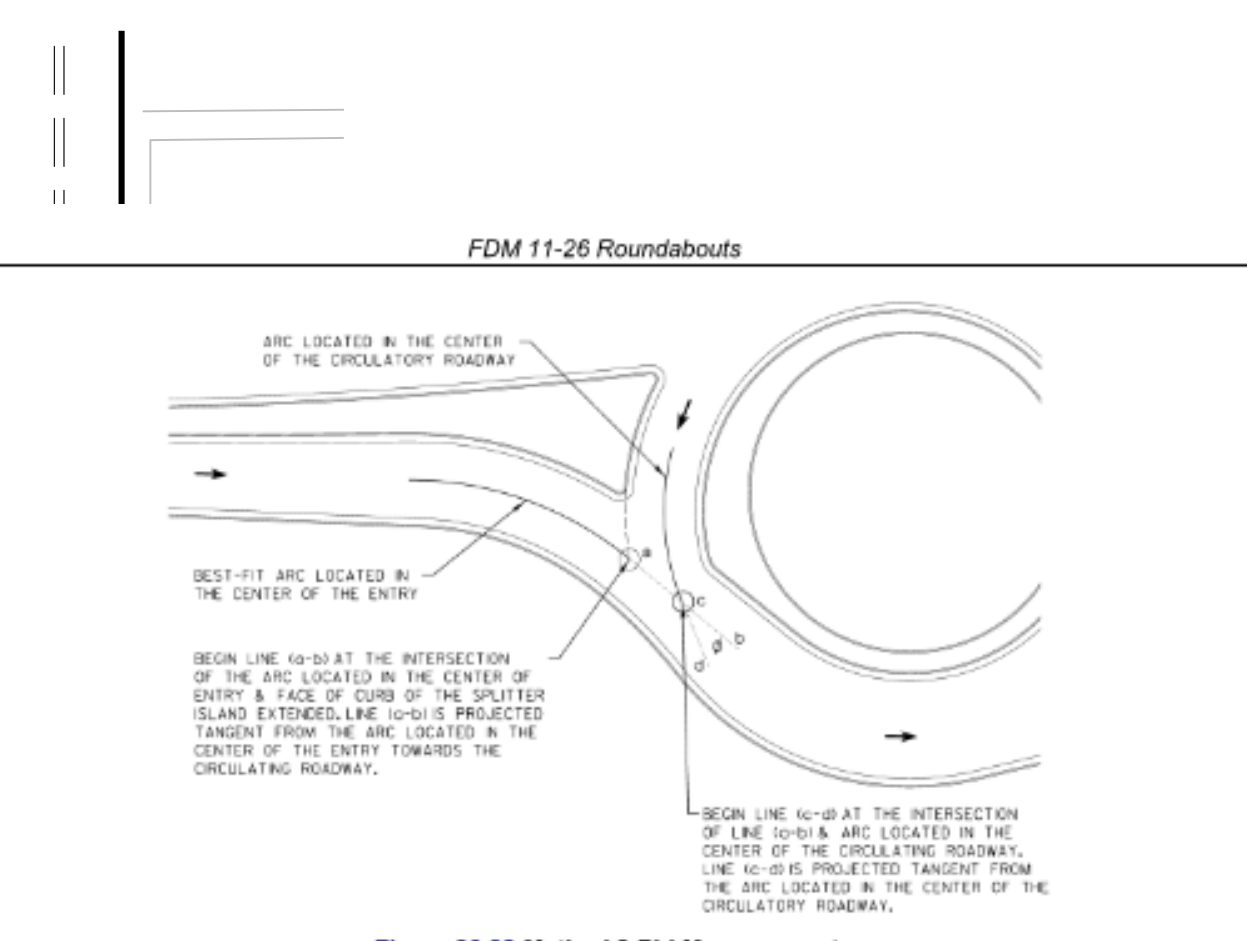
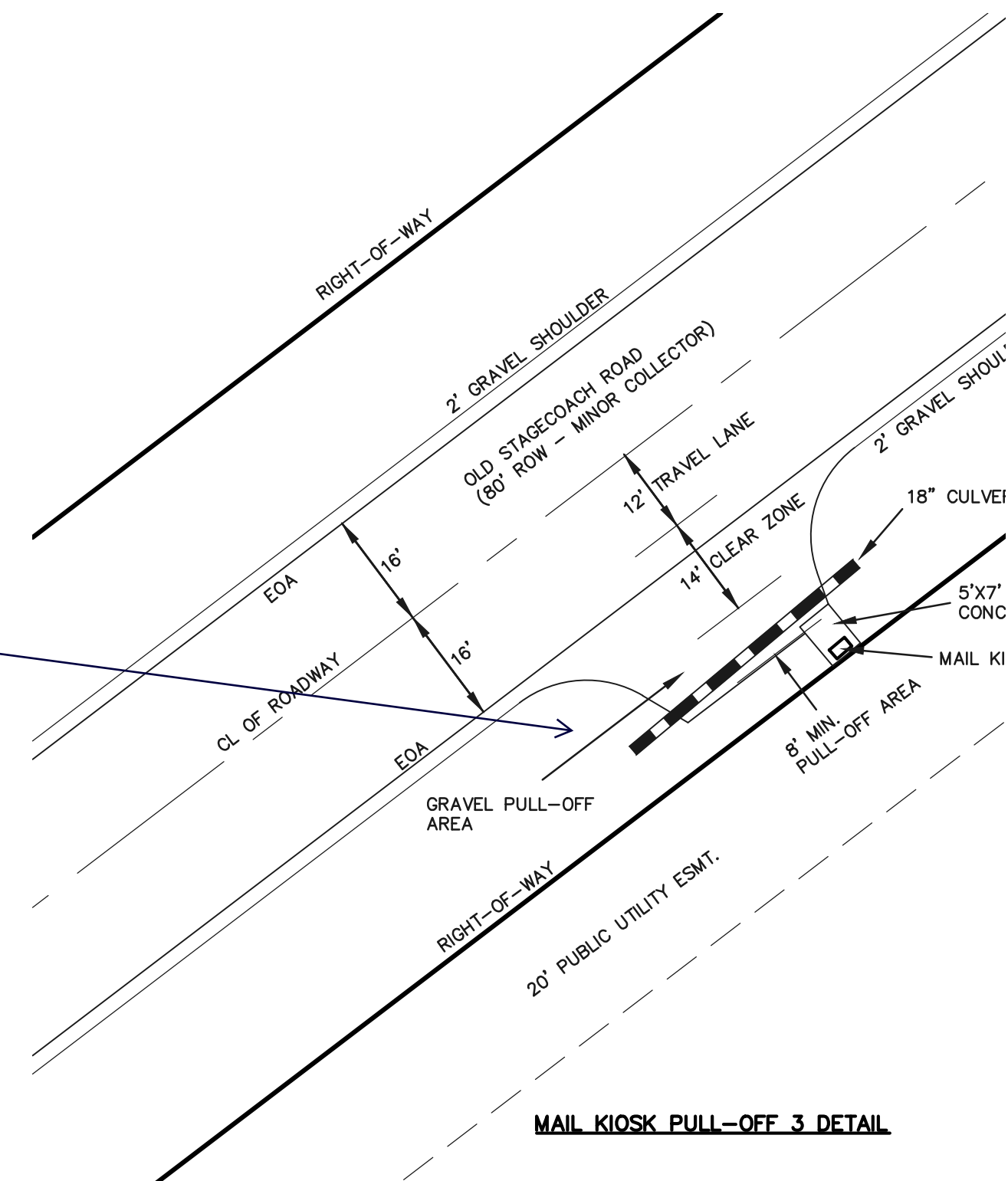
Add light pole detail.

<b>48 HOURS BEFORE YOU DIG, CALL UTILITY LOCATORS</b> <b>811</b> UTILITY NOTIFICATION CENTER OF COLORADO IT'S THE LAW	NO. REVISION	DATE	REVIEW:	PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC	MARC A. WHORTON, COLORADO P.E. #37155	DATE	<b>CLASSIC</b> CONSULTING ENGINEERS & SURVEYORS 619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903 (719)785-0790 (719)785-0799(Fax)	FLYING HORSE NORTH FILING NO. 1 CONSTRUCTION DRAWINGS LIGHT POLE & MAIL KIOSK LOCATION PLAN (AS-BUILT PLAN)						
								DESIGNED BY	MAW	SCALE	DATE	04-14-20		
THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.								DRAWN BY	MAW	(H) 1"= 200'	SHEET	1	OF	3
								CHECKED BY		(V) 1"= N/A	JOB NO.	1096.11		





Provide detailed grading

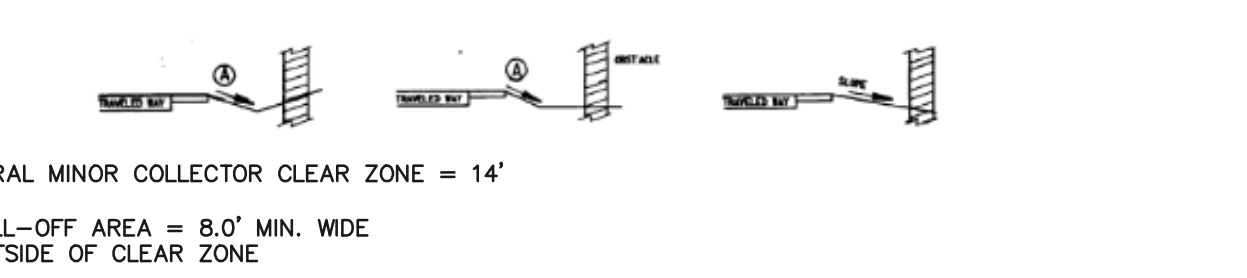


**30.5.24 Clear Zone**  
Clear zone guidance for roundabout installations requires consideration of the approach speeds, fastest path speeds, adjacent side slopes leading into and through the roundabout, and average daily traffic on the facility. The guidance for the determination of clear zone is provided in the current AASHTO Roadside Design Manual and FDM 11-15, Attachments 9 and 10.  
The vehicle speed approaching an intersection and the speed allowed through an intersection, along with the ADT and side slopes, will determine the required clear zone. A traffic signal-controlled intersection allows vehicles to go through the intersection at the posted speed, does not require the vehicle to reduce speed as it approaches the intersection, and therefore the clear zone is maintained through the intersection. A stop sign controlled intersection located in a high speed rural condition will require less clear zone as the vehicle slows down to stop. As the approaching vehicle reduces speed it may be appropriate and typical to reduce the corresponding clear zone. The designer has the responsibility to balance the need for clear zone and right-of-way acquisition.  
The yield condition for a roundabout and the fastest path design speed approaching and traveling through the roundabout are similar to the stop sign controlled intersection. The horizontal geometrics leading to and through the roundabout intersection requires the vehicle to slow down leading to the approach and through the roundabout. The approaching speed transition distance for a roundabout is determined by the posted highway speed and the deceleration needed to enter the roundabout in accordance with the fastest speed path calculation,  $R_1$  value. FDM 11-26-30.5.21.1 and Figure 30.19 show how to determine the roundabout approach layout for high-speed highways. The design speed to use for clear zone around the perimeter of the roundabout is the average of the entry speed ( $R_1$ ) and the circulating path speed ( $R_2$ ) values. The maximum average entry speed ( $R_1$ ) and circulating speed ( $R_2$ ) for any type of roundabout is approximately 25-30 mph. The average fast path,  $\frac{R_1 + R_2}{2}$ , of approximately 25-30mph will produce a clear zone between 7 and 18 feet depending on ADT.  
The exit ramps from an interchange are also considered to be low speed in close proximity of the approach to the roundabout. In an urban environment, lateral clearance is typically used rather than clear zone to determine the minimum distance to fixed objects such as power poles, light poles, fire hydrants, trees etc. In a rural environment, it is typical to use a clear zone based on the design speed, ADT and slopes. The side slopes adjacent to a roundabout are generally quite flat to accommodate a small terrace and a shared-use path around the perimeter. When the shared-use path is not installed at the time of the roundabout the area should be

FDM 11-15 Attachment 1.9 Modernization Clear Zone Distance Tables and Recovery Area Width Determination

Modernization Clear Zone Distance Table (in Feet from Edge of Traveled Way)									
Ref. (2) Table 3.1, pages 3-6									
(U.S. Customary Units)									
Design Speed	Design ADT	Foreslopes			Backslopes			IV-6H or flatter	IV-6H
		IV-6H or flatter	IV-4H	IV-3H	IV-3H	IV-4H	IV-6H		
40 mph or less	Under 750	7-10	7-10	**	7-10	7-10	7-10		
	750-1500	10-12	12-14	**	10-12	10-12	10-12		
	1500-6000	12-14	14-16	**	12-14	12-14	12-14		
	Over 6000	14-16	16-18	**	14-16	14-16	14-16		
45-50 mph	Under 750	10-12	12-14	**	8-10	8-10	10-12		
	750-1500	12-14	16-20	**	10-12	12-14	14-16		
	1500-6000	16-18	20-28	**	12-14	14-16	16-18		
	Over 6000	18-20	24-28	**	14-16	18-20	20-22		
55 mph	Under 750	12-14	14-18	**	8-10	10-12	10-12		
	750-1500	16-18	20-24	**	10-12	14-16	16-18		
	1500-6000	20-22	24-30	**	14-16	16-18	20-22		
	Over 6000	22-24	26-32*	**	16-18	20-22	22-24		
60 mph	Under 750	16-18	20-24	**	10-12	12-14	14-16		
	750-1500	20-24	26-32*	**	12-14	16-18	20-22		
	1500-6000	26-30	32-40*	**	14-18	18-22	24-26		
	Over 6000	30-32*	36-44*	**	20-22	24-26	26-28		
65-70 mph	Under 750	18-20	20-26	**	10-12	14-16	14-16		
	750-1500	24-26	28-36*	**	12-16	18-20	20-22		
	1500-6000	28-32*	34-42*	**	16-20	22-24	26-28		
	Over 6000	30-34*	38-46*	**	22-24	26-30	28-30		

\* Clear zone widths greater than 30 feet as indicated are beginning points for new construction and major reconstruction and where site-specific investigations indicates high probabilities of continuing crashes or where such occurrences are indicated by crash history. Clear zones may be limited to 30 feet for practicality and to provide consistent roadway templates if previous experiences with similar projects or designs indicates satisfactory performance and if justified by the SCDs or DSR D.Js.  
\*\* Since recovery is less likely on unshielded, traversable 3:1 slopes, fixed objects should not be present in the vicinity of the toes of these slopes. Recoveries of high-speed vehicles that encroach beyond the edges of shoulders may be expected to occur beyond the toes of slopes. The method for determining the widths of recovery are described on page 2 of this Attachment.



Move this sheet to the end of the set.

JRS BEFORE YOU DIG,  
UTILITY LOCATORS

**811**

NOTIFICATION CENTER OF COLORADO  
IT'S THE LAW

EXISTING UNDERGROUND UTILITIES ARE UNKNOWN. THE CONTRACTOR IS RESPONSIBLE FOR THE EXACT LOCATION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY BE INCURRED BY HIS FAILURE TO EXACTLY LOCATE AND MARK ALL UNDERGROUND UTILITIES.

NO.	REVISION	DATE

REVIEW:

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF  
CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155      DATE

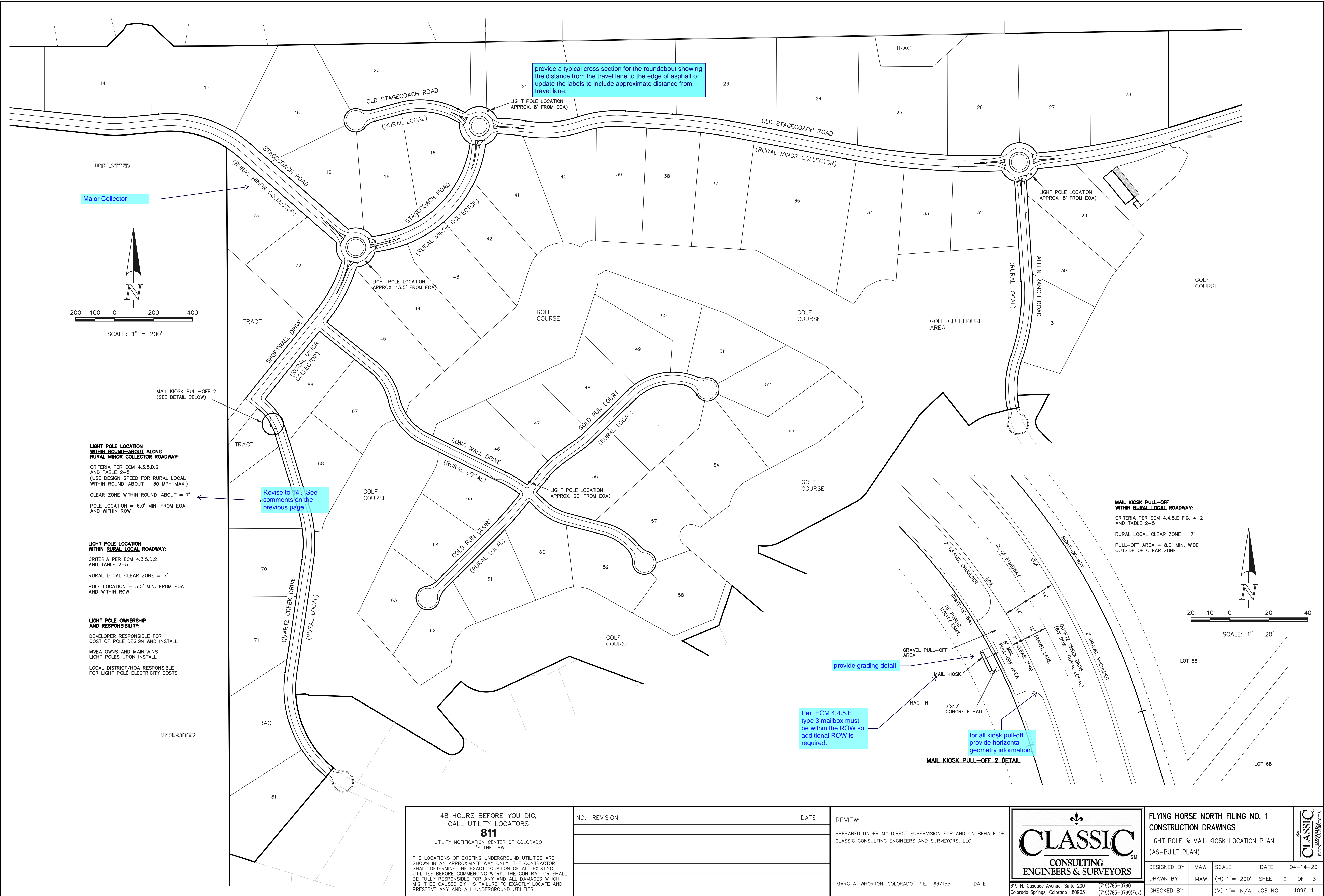
**CLASSIC**  
CONSULTING  
ENGINEERS & SURVEYORS

619 N. Cascade Avenue, Suite 200  
Colorado Springs, Colorado 80903  
(719) 785-0790  
(719) 785-0799 (Fax)

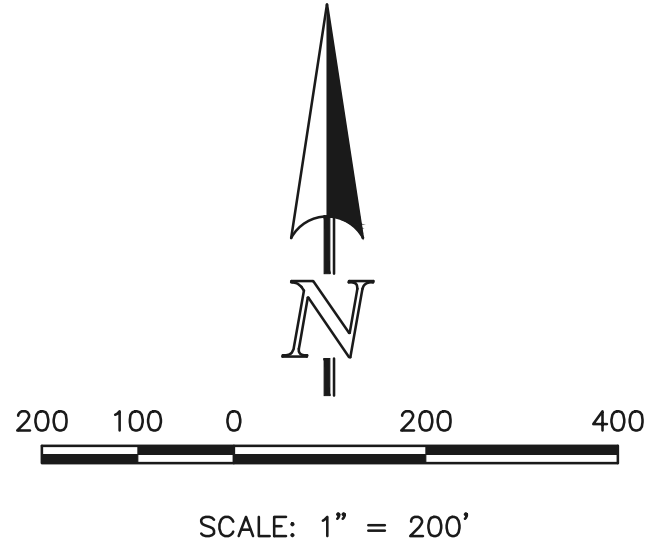
FLYING HORSE NORTH FILING NO. 1  
CONSTRUCTION DRAWINGS  
LIGHT POLE & MAIL KIOSK LOCATION PLAN  
(AS-BUILT PLAN)

DESIGNED BY	MAW	SCALE	DATE	14-14-20
DRAWN BY	MAW	(H) 1" = 200'	SHEET 3 OF 3	
CHECKED BY		(V) 1" = N/A	JOB NO.	1096.11





UNPLATTED



**LIGHT POLE LOCATION WITHIN ROUND-ABOUT ALONG RURAL MINOR COLLECTOR ROADWAY:**

CRITERIA PER ECM 4.3.5.D.2 AND TABLE 2-5  
(USE DESIGN SPEED FOR RURAL LOCAL WITHIN ROUND-ABOUT - 30 MPH MAX.)  
CLEAR ZONE WITHIN ROUND-ABOUT = 7'  
POLE LOCATION = 6.0' MIN. FROM EOA AND WITHIN ROW

**LIGHT POLE LOCATION WITHIN RURAL LOCAL ROADWAY:**

CRITERIA PER ECM 4.3.5.D.2 AND TABLE 2-5  
RURAL LOCAL CLEAR ZONE = 7'  
POLE LOCATION = 5.0' MIN. FROM EOA AND WITHIN ROW

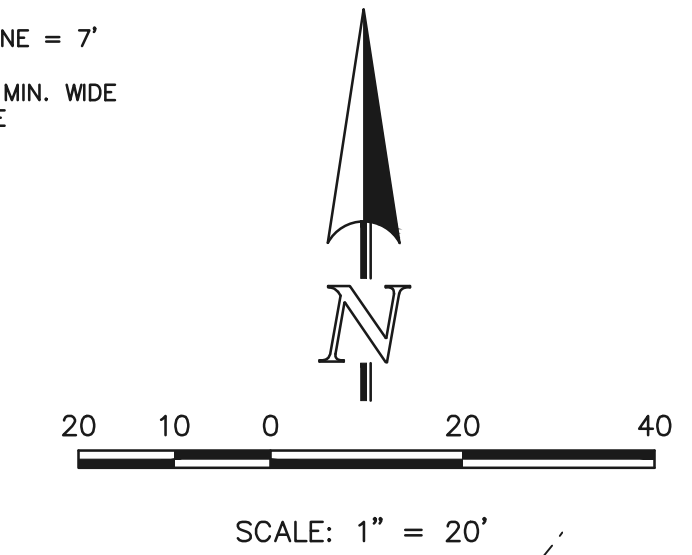
**LIGHT POLE OWNERSHIP AND RESPONSIBILITY:**

DEVELOPER RESPONSIBLE FOR COST OF POLE DESIGN AND INSTALL  
MVEA OWNS AND MAINTAINS LIGHT POLES UPON INSTALL  
LOCAL DISTRICT/HOA RESPONSIBLE FOR LIGHT POLE ELECTRICITY COSTS

UNPLATTED

**MAIL KIOSK PULL-OFF WITHIN RURAL LOCAL ROADWAY:**

CRITERIA PER ECM 4.4.5.E FIG. 4-2 AND TABLE 2-5  
RURAL LOCAL CLEAR ZONE = 7'  
PULL-OFF AREA = 8.0' MIN. WIDE OUTSIDE OF CLEAR ZONE



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<b>REVIEW:</b>  PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC  MARC A. WHORTON, COLORADO P.E. #37155	DATE		DATE			
<b>CLASSIC</b> CONSULTING ENGINEERS & SURVEYORS  619 N. Cascade Avenue, Suite 200 Colorado Springs, Colorado 80903 (719)785-0790 (719)785-0799(Fax)	DESIGNED BY		MAW	SCALE	DATE	04-14-20
	DRAWN BY		MAW	(H) 1"= 200'	SHEET	2 OF 3
CHECKED BY			(V) 1"= N/A	JOB NO.	1096.11	