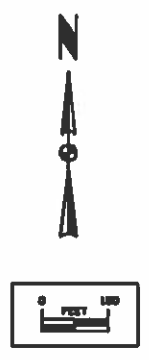
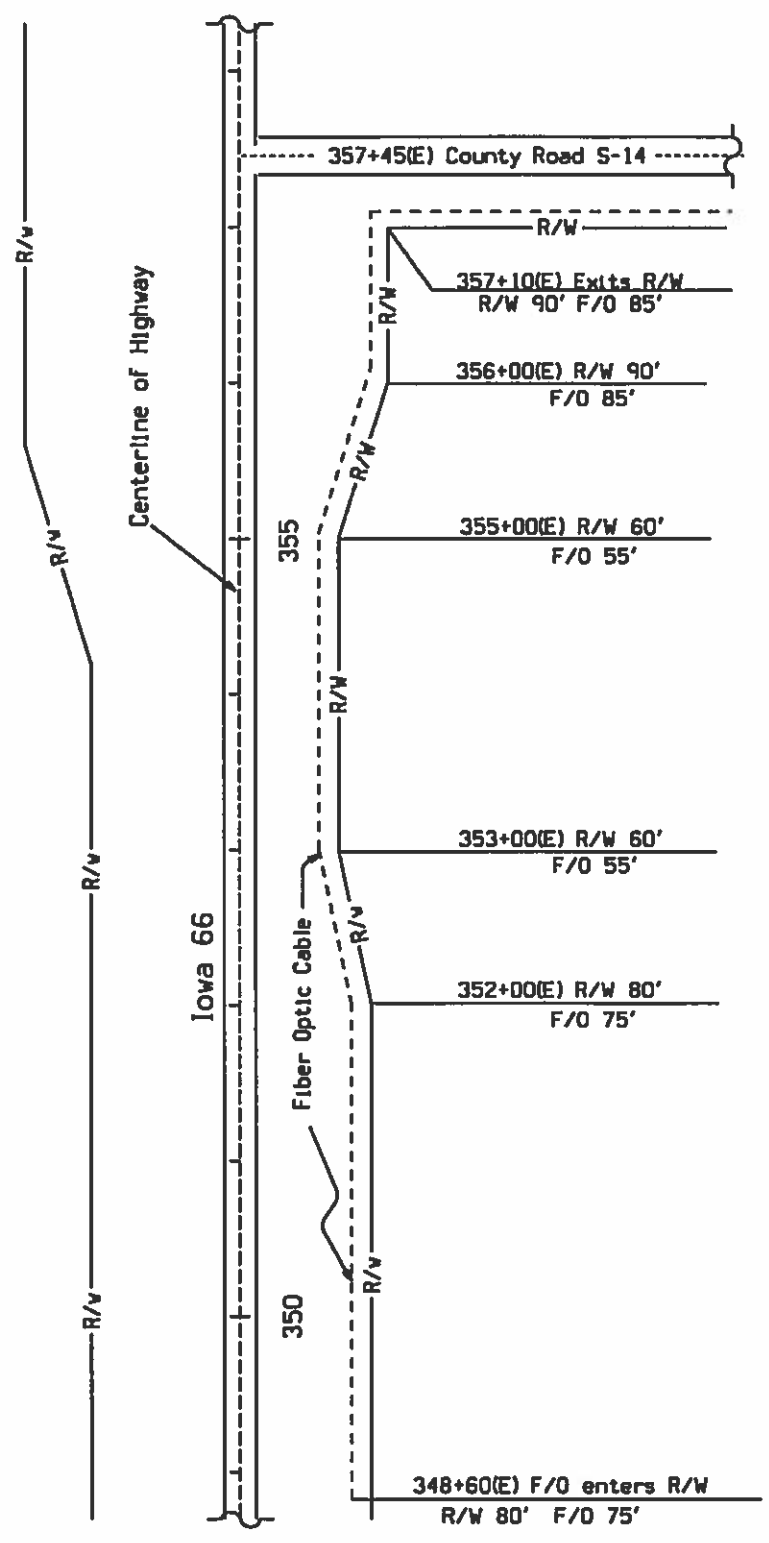


# UTILITY EXHIBIT "EXAMPLE"

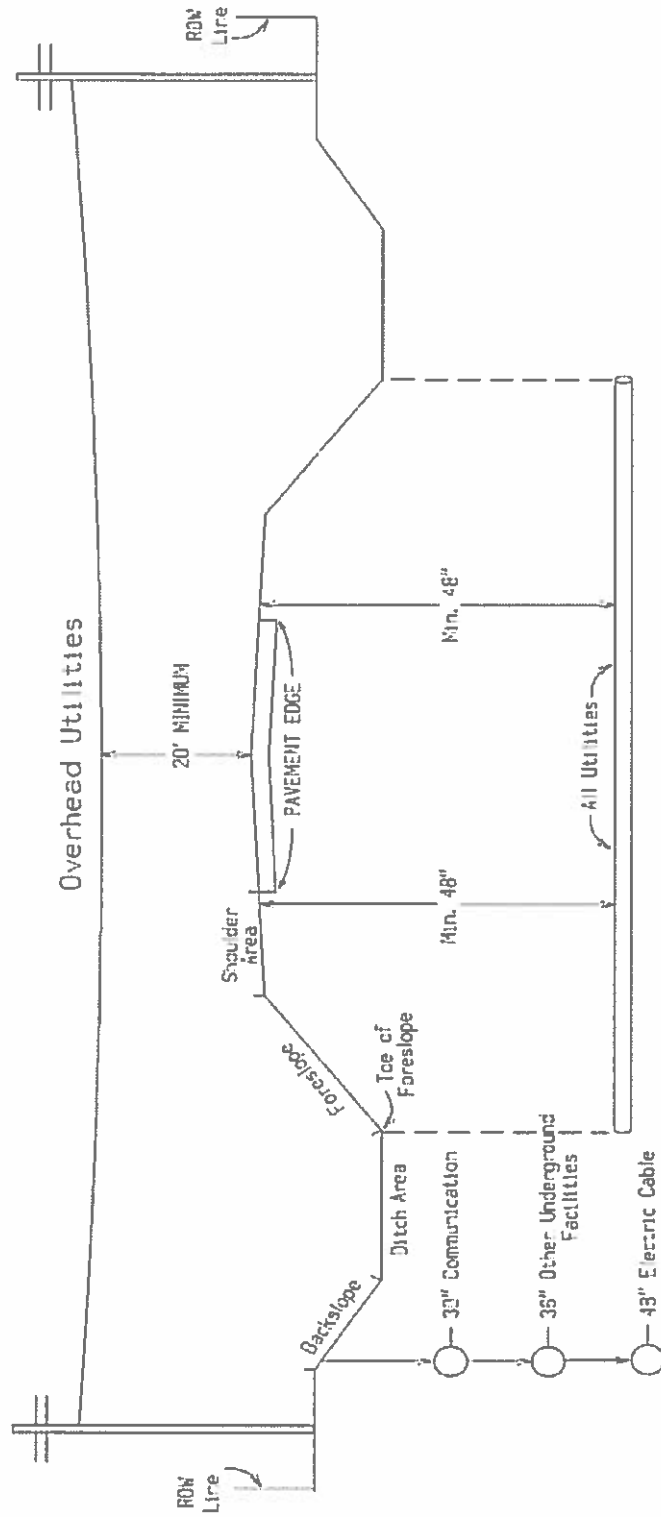


SECTION 32, T76N, R16W  
of  
MILES COUNTY

- R/W = Right-of-Way Line
- F/O = Fiber Optic Line
- Distances on measured from centerline of highway

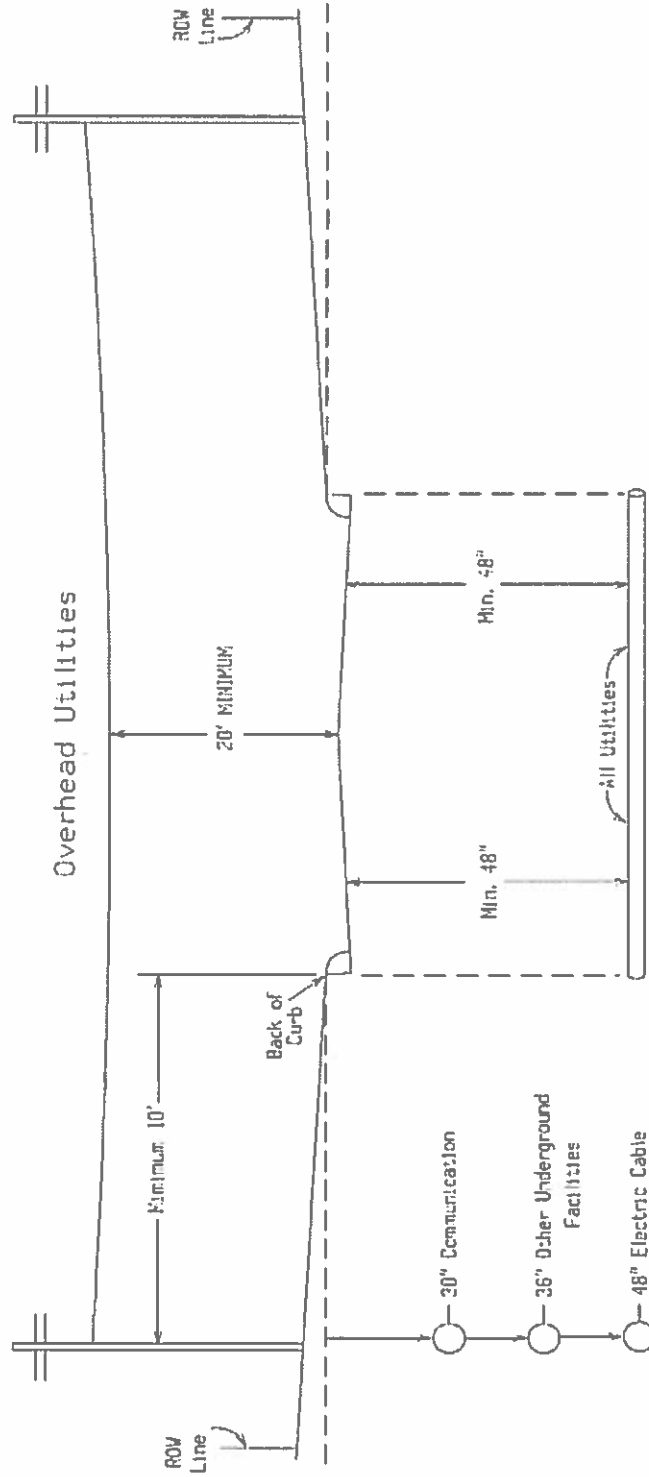


# Minimum Policy Requirements Rural Section Non-Freeway Highway



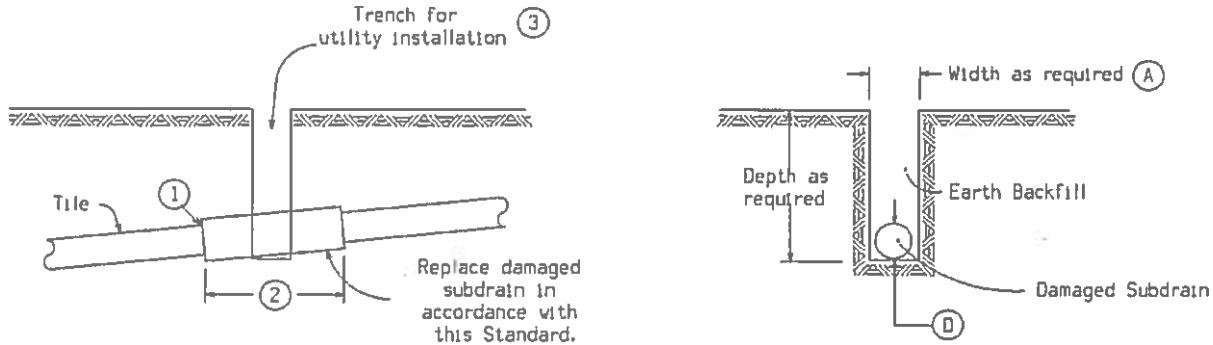
Notes:  
 Utilities shall be located between the toe of foreslope and the highway row line.  
 Utilities should be located as near to the highway row line as practical.  
 See Utility Policy, Section 115.13 for further details.

Minimum Policy Requirements  
 Urban Section  
 Non - Freeway Highway



Notes:  
 Utilities shall be located between back of curb and the highway row.  
 Utilities should be located as near to the highway row line as practical.  
 See Utility Policy, Section 115.13 for further details.

# Tile Line Repair Guideline



**Note:**  
Replacement of drainage tile shall be accomplished so as to cause the minimum of disturbance to existing field tile. The repaired drainage tile shall be left in a functional condition with special emphasis placed on maintaining existing flow line elevations.

(A) = A minimum of 24" shall be excavated outside the normal utility trench wall or such greater width as may be required to expose a minimum of 12" of undamaged drain tile.

REPLACEMENT SCHEDULE - CASE 'A'										
Existing Tile (D)	4	6	8	10	12	15	18	21	24	>24
Proposed Subdrain Size										
Concrete Pipe	-	-	12	15	15	18	21	24	30	D+6"
Coated C.M.P.	10	12	15	18	21	24	30	36	36	*

\* Replacement sizes provide equivalent capacity based on 6" settlement assuming a 0.20% slope with  $n = 0.013$  for concrete pipe and  $n = 0.025$  for corrugated pipe (Manning Formula)

**NOTES:**

Tile lines disturbed within the right-of-way (outside the Roadway Embankment Area \*) limits shall be repaired as follows:

May be repaired with schedule 40 PVC pipe of compatible size or in accordance with the replacement schedule-case 'A' as listed above. Replacement with schedule 40 PVC pipe shall require using a connecting device of a Femco plain and plain flexible pipe coupling or equal.

Tile lines disturbed within the "Roadway Embankment Area" shall be replaced in accordance with the replacement schedule - case 'A' stated above and as follows:

- ① Concrete collar to be placed around joint where existing tile line and corrugated aluminized metal pipe connect.

- ② Minimum length of corrugated metal pipe shall be 4 feet. Minimum length of 2 feet on each side of the tile line break location.

- ③ Trench shall be backfilled with 8 inches loose material, compacted to 6 inches with a minimum of 95% compaction of natural density.

A. Backfill and compact area around drain tile to be completed by hand until new tile is completely covered. Remainder of the trench shall be backfilled by acceptable methods.

B. Area shall require inspection by the Iowa Department of Transportation inspectors or their designated personnel prior to backfilling of trench.

\* "Roadway Embankment Area" is defined as the area lying between the foreslopes of a two-lane roadway and from near foreslope to far foreslope of a four lane roadway.