F.A.U. RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
5763	09-00242-00-RP	ROCK ISLAND	50	4

PAVEMENT DESIGN CALCULATIONS

GIVEN ASSUMPTIONS:

1) Reconstruct with jointed, P.C.C Concrete
2) ADT = 3500 (Design Year Traffic) PV = 3080, SU = 245, MU = 175
3) Subgrade Support Rating (SSR) = Poor
4) Class II, Two Lane Urban Collector
5) Non-reinforced Integral Curb & Gutter with 15 ft. transverse joint spacing
6) Stabilized subbase required for Class I roadway

SOLUTION:

1) Determine traffic factor using equation 37-2C allowing an 80,000 lb. Load limit.

$$TF = DP \left[\frac{(.073 \times PV) + (67.89 \times SU) + (283.605 \times MU)}{1 \times 10^6} \right]$$

Where DP = Design Period = 20 Years

$$TF = 20 \left[\frac{(.073 \times 3080) + (67.890 \times 245) + (283.605 \times 175)}{10^6} \right]$$

TF = 20 (.0665) = 1.330

2) Determine rigid pavement thickness from figure 37-2E using:
   a. SSR = Poor
   b. TF = 1.330
   c. Joint spacing = 15 feet

NESS = 7.2" thickness for 0.5 TF with 15' joint spacing fair subgrade
TMENTS :-0.00 integral curb and gutter are not reinforced (section 37-2.03c)
-0.00" Subbgrade adjustment (Figure 37-2K)
+0.60" Overload adjustment (Figure 37-2L) garbage trucks, buses, commercial
7.80" jointed P.C.C Pavement

3) Since reinforcing will be used at expansion joints only, and the subgrade rating is poor, the designer has decided to use 8" P.C.C pavement over 6" drainable sub-base.

NOTE:

SIDEWALK & PAVEMENT NOT MARKED FOR REMOVAL SHALL BE PROTECTED. ANY SIDEWALK OR PAVEMENT DAMAGED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

NOTE:

EXISTING FIRE HYDRANTS SHALL REMAIN THE PROPERTY OF THE CITY OF MOLINE WATER DEPARTMENT.
PLEASE REFER TO THE SPECIAL PROVISIONS FOR THE TRACER WIRE INSTALLATION FOR PROPOSED WATER MAIN.

UTILITY CROSSINGS

STORM OVER SANITARY			
STA. 11+72.92 / 5.7' RT	B/P ST = 569.68	T/P SAN = 564.80	
STA. 15+05.80 / 18.0' LT	B/P ST = 570.32	T/P SAN = 567.17	
STA. 19+80.10 / 14.4' RT	B/P ST = 573.34	T/P SAN = 568.76	
STORM OVER WATER MAIN			
STA. 10+12.0 / 7.3' LT	B/P ST = 568.5	T/P WATER = 567.00	MAX
STA. 10+91.44 / 7.2' LT	B/P ST = 568.55	T/P WATER = 567.05	MAX
STA. 11+72.92 / 6.8' LT	B/P ST = 569.58	T/P WATER = 567.58	MAX
STA. 14+92 - 15+00 / 5' LT	B/P ST = 567.60 ±	T/P WATER = 566.30±	MAX
STA. 15+65.16 / 4.7' LT	B/P ST = 570.96	T/P WATER = 569.22	MAX
STA. 16+30.6 / 3.1' LT	B/P ST = 571.76	T/P WATER = 570.26	MAX
STA. 18+82.75 / 3.1' LT	B/P ST = 571.34	T/P WATER = 569.84	MAX
STA. 19+25.0 / 3.0' LT	B/P ST = 568.64	T/P WATER = 567.14	MAX
STA. 19+80.1 / 3.3' LT	B/P ST = 573.16	T/P WATER = 571.60	MAX
WATER OVER SANITARY			
STA. 11+00.1 / 7.0' LT	B/P WATER = 566.91 MAX	T/P SAN = 564.75	
STA. 15+05.8 / 5.0' LT	B/P WATER = 569.35 MAX	T/P SAN = 566.90	
STA. 19+09.3 / 10.6' RT	B/P WATER = 571.10 MAX	T/P SAN = 568.95	

LEGEND

EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED
LIGHT STRUCTURE	SEE STREETSCAPE PLAN	CLEAN OUT		POLE	
STREET SIGN		CATCH BASIN SPECIAL		STORM SEWER	
BENCH MARK	B.M. #	FLARED END SECTION		UNDERDRAIN	
DRAINAGE		FIRE HYDRANT		SANITARY SEWER	
ROW MARKER		MANHOLE		WATER MAIN	12"W
LIGHT POLE		INLET/CATCHBASIN		WATER SERVICES	
BUSH		VALVE VAULT		RETAINING WALL	
EVERGREEN TREE		GAS VALVE			
STUMP		GUY WIRE			
TREE		JUCTION BOX			
TO BE REMOVED		HANDHOLE			
WATER VALVE		SERVICE VALVE			
CATCH BASIN		CONTOURS			

CITY OF MOLINE
DEPARTMENT OF PUBLIC WORKS - ENGINEERING DIVISION
3635 4TH AVENUE, MOLINE, IL 61265
(309) 797-0700

CITY ENGINEER - SCOTT HINTON, P.E.

5TH AVENUE
14TH STREET TO 17TH STREET
GENERAL NOTES

DATE	REVISION
9/25/09	PER IDOT COMMENTS
8/14/09	PER IDOT COMMENTS

DATE 5-15-09	SHEET 4 OF 50
SCALE NTS	
MFT PROJ. # 09-00242-00 RP	DESIGNER JWC