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
$$\frac{(.073 \times PV) + (67.89 \times SU) + (283.605 \times MU)}{1 \times 10^6}$$

Where DP = Design Period = 20 Years

TF = 20
$$\frac{10^{6}}{10^{6}}$$

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.

				LEGEND				
EXISTING		PROPOSED	EXISTING		PROPOSED	EXISTING		PROPOSED
+ _L	LIGHT STRUCTURE	SEE STREETS	CAPE 👨	CLEAN OUT		ķ	POLE -	k
•+	- STREET SIGN -	······	<u> </u>	CATCH BASIN SPECIAL			STORM SEWER	
⊕ B.M. #	BENCH MARK	——— 🕳		FLARED END SECTION	— Ø		UNDERDRAIN	
	DRAINAGE		Д	FIRE HYDRANT	¥		SANITARY SEWER -	((-
- ∞	ROW MARKER		© 	MANHOLE	•		WATER MAIN	
ಘ	LIGHT POLE		S	INLET/CATCHBASIN	×		WATER SERVICES	
o	BUSH	•	⊗	VALVE VAULT		~~~	RETAINING WALL	
*	- EVERGREEN TREE -	*	·	GAS VALVE	•			
為	- STUMP -		•	GUY WIRE				
0	TREE -	o	IJ ——	JUCTION BOX	J			
×	TO BE REMOVED -	— ×	H	HANDHOLE	—— H			
W	WATER VALVE	W		SERVICE VALVE				
⊜ _{C.B.}	CATCH BASIN —	&		CONTOURS				

		UTILITY CROSSINGS		
eto.			SENTALISM COCORDA IN THEIR SUPERIORISM COCORDANIA COCOR	882798877568801857795887803688836837875 90-888488745
31 Ur	RM OVER SANITARY	HITARIO CONTINUE PER PROPERTO CONTINUE DE L'ARTINICA DE L'ARTINICA CE L'ARTINICA DE L'ARTINICA DE L'ARTINICA C L'ARTINICA CONTINUE PER PROPERTO CONTINUE DE L'ARTINICA DE L'ARTINICA CONTINUE DE L'ARTINICA DE L'ARTINICA CONTINUE D	COLOGOR PERFORDE TO LESCOTI A GEOGRAPHICA DE TOMBRE CONTRACTOR DE CONTRACTOR DE CONTRACTOR DE CONTRACTOR DE CO	and the control of th
STA.	11+72.92 / 5.7' RT	B/P ST = 569.68	T/P SAN = 564.80	
sum acelonamento n	kati wikika kata masa kilikentok eta samahanna manakan matikila samahan matikan getasa ekista araka	this agreement and the weather with more wind with a shall also this property commences and any accommission of the analysis also the property of the analysis and the analysis	e grave di nonventra escripto a servici de ven de conservicio de conservicio de conservicio de conservicio de c	
SIA.	15+05.80 / 18.0' LT	B/P ST = 570.32	T/P SAN = 567.17	Annother control works about consens about all the control of the
STA.	19+80.10 / 14.4' RT	B/P ST = 573.34	T/P SAN = 568.76	
STOF	RM OVER WATER MAIN	19 восно до на на применения на применения на применения на прости на применения по со на применения на примен В на применения	ant constitutiva alta sala de employe de esta d Esta de esta d	
o o mi diarronnico	MOTOGOROMORIA (COST (III) A EXCEPT AND PROTOCOLO TIME E VISA AND AND AND AND AND AND AND AND AND AN	endi ^k in wedie in meteorial den meteorial meteorial symmetrical den meteorial den meteorial symmetrical meteorial	nnggammenennen var var ver verste steller vermenskete steller verte steller verste verste verste verste verste	eggodentroscareraciendos coma necessarionas sec
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
CONTRACTOR SEA	## 1.74 (Method Control Method (Method	er gegen versum versum mensen anderen versum en er en en en anderen en en mensen anderen anderen anderen andere	en de la company de la company commanda de la company de l	Agricus con reserve in transfer services of transfer en
STA.	11+72.92 / 6.8' LT	B/P ST = 569.58	T/P WATER = 567.58	MAX
ег сунам жама-часта	ыставическая постана мена мексанталия и места завина, очен беспективалися и маке компенсательного и	коруджень, меренистрительноски перих объектический поставлений поставлений поставлений поставлений поставлений	enggenetationen Liebenet Antonia 1950 state Services States and Services States and Services and Services and Services	e francosco de mario en encama de caracterio de como d
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
Savardiner-Stiertsteid	Company of the Compan	AND THE RESERVE OF THE PROPERTY OF THE PROPERT	and a second contraction of the traction of th	обек и положить какимическая улок поченения посущего
STA.	16+30.6 / 3.1' LT	B/P ST = 571.76	T/P WATER = 570.26	MAX
uwwysersterwer		atti gasa kannatkiin katalanii saantii kannatkiin kaasaan katalan oo kaakaan ka saan kannatkiin ka	ta fjällistättille hilligt vali untiläntillät til alligi, set alla av va havtejattensi och valentalistensationelensa istika	Kyrianan harantan kanana k
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
ELL, ST. BETTER ST. OF SE	TO THE STATE OF TH	TO COMPANY OF THE STREET OF A COLOR AND A	Marie Santar Louise de la complete de la contrata de la complete d	Transference of the second section of the secti
STA.	19+80.1 / 3.3' LT	B/P ST = 573.16	T/P WATER = 571.60	MAX
WAT	ER OVER SANITARY		and via a decimal programment of the angle of the second state of the angle of the angle of the angle of the a The angle of the angle o	
STA.	11+00.1 / 7.0' LT	B/P WATER = 566.91 MAX	T/P SAN = 564.75	endersteds i desse Hermoscopi not undansistin has della sed
STA	15+05.8 / 5.0' LT	B/P WATER = 569.35 MAX	T/P SAN = 566.90	Annual Communication of the Annual Communication of the Communication of
AND	HARTONIAN TOUR CONTROL MEDIA TRES MEDIANI MENTER PROPERTIES AND TOUR CONTROL THE CONTROL THE MEDIANICATION FOR	 Удення менятельного подавлення в подавлення в подавлення в подавления и подавления и подавления и подавления в подавления	g gang ang mang at tempologic distribution of the artificial property in the complete description of the angular and the complete angular and the complete angular ang	con transcer on colores on consecutive consecutive colores col
STA.	19+09.3 / 10.6' RT	B/P WATER = 571.10 MAX	T/P SAN = 568.95	consideración de la consid

F.A.U.

5763

RTE

SECTION

09-00242-00-RP



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

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

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

TOTAL

SHEETS

50

COUNTY

ROCK ISLAND

SHEET

NO.

4