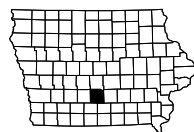


WARREN CO.
PCC PAVEMENT-GRADE AND REPLACE
NHSX-092-5(51)--3H-91

LETTING DATE
 10-21-2014

INDEX OF SHEETS	
No.	DESCRIPTION
A Sheets	Title Sheets
A.1	Title Sheet
A.2	Location Map Sheet
B Sheets	Typical Cross Sections and Details
B.1 - 12	Typical Cross Sections and Details
C Sheets	Quantities and General Information
C.1	Project Description
C.1 - 2	Estimated Project Quantities
C.2 - 6	Estimate Reference Information
C.7	Index of Tabulations
C.7	Standard Road Plans
C.8	Pollution Prevention Plan
C.9	General Notes
C.9 - 28	Tabulations
CH Sheets	Hydraulics Information
CH.1	Hydraulics Tabulation
CS Sheets	Soils Information
CS.1 - 5	Soils Tabulations
D Sheets	Mainline Plan and Profile Sheets
* D.1	Plan & Profile Legend & Symbol Information Sheet
* D.2 - 29	IA 92 Mainline
E Sheets	Side Road Plan and Profile Sheets
* E.1	Kennedy Street
* E.2	R-57
* E.3	90th Ave
* E.4	R-63
* E.5	Y Street
* E.6	Access 258
* E.7	Entrance 359
F Sheets	Detour or Temporary Pavement Sheets
* F.1	County Road R-57
* F.2	County Road R-63
* F.3 - 5	Y Street
* F.6 - 7	IA 92 North Side East End
* F.8	IA 92 South Side East End
* F.9	Spruce Street
G Sheets	Survey Sheets
G.1 - 5	Reference Ties and Bench Marks
G.6 - 11	Horizontal Control Tab. & Super for all Alignments
H Sheets	Right-of-Way Sheets
* H.1 - 15	IA. 92 Mainline Sheets
* HE.1 - 6	Side Road ROW Sheets
J Sheets	Traffic Control and Staging Sheets
* J.1	Traffic Control Plan
* J.1	Pedestrian Path Closures
* J.1	Coordinated Operations
* J.2 - 3	Staging Notes
* J.4	Traffic Control & Staging Legend & Symbol Info.
* J.5 - 12	Detour Signing Sheets
* J.13 - 23	Staging Typical
* J.24 - 34	Staging Lay-out Sheets
* J.35 - 42	Traffic Control Details
L Sheets	Geometric, Staking and Jointing Sheets
L.1 - 11	Geometric Details
L.12 - 22	Staking Details
L.23 - 27	Edge Profiles
L.28 - 30	Jointing Details
M Sheets	Storm Sewer Sheets
M.1 - 3	Storm Sewer Tabulations
* M.4	Storm Sewer Legend & Symbol Information Sheet
* M.5 - 18	Storm Sewer Plan Sheets
* M.19 - 30	Storm Sewer Profile Sheets



Highway Division

PLANS OF PROPOSED IMPROVEMENT ON THE

PRIMARY ROAD SYSTEM

WARREN COUNTY

PCC PAVEMENT-GRADE AND REPLACE

Ia. 92 From Just West Of Co. Rd. R-57
 East To Just East of South 'N' Street In Indianola

SCALES: As Noted

Refer to the Proposal Form for list of applicable specifications.

Value Engineering Saves. Refer to Article 1105.15 of the Specifications.



INDEX OF SHEETS	
No.	DESCRIPTION
Q Sheets	Soils Sheets
* Q.1	Soils Legend & Symbol Information Sheet
* Q.2 - 32	Soils Sheets Ia. 92 Mainline
S Sheets	Sidewalk Sheets
* S .1	Sidewalk Legend & Symbol Information Sheet
* S .2 - 6	Sidewalk Plan Sheets
* S .7 - 10	Sidewalk Tabulations
T Sheets	Earthwork Quantity Sheets
T.1 - 26	Earthwork Quantity Sheets
U Sheets	Detail Sheets
* U.1 - 18	Removal Detail Sheets
U.19 - 28	Pavement Marking Detail Sheets
U.29	Modified Details Of Mailbox Turnouts

DESIGN DATA RURAL				DESIGN DATA URBAN			
2014	AADT	6500	V.P.D.	2014	AADT	9500	V.P.D.
2034	AADT	11000	V.P.D.	2034	AADT	16000	V.P.D.
2034	DHV	1130	V.P.H.	2034	DHV	1650	V.P.H.
TRUCKS 8 %				TRUCKS 8 %			
Total				Total			
Design ESALs 8,300,000				Design ESALs 11,500,000			

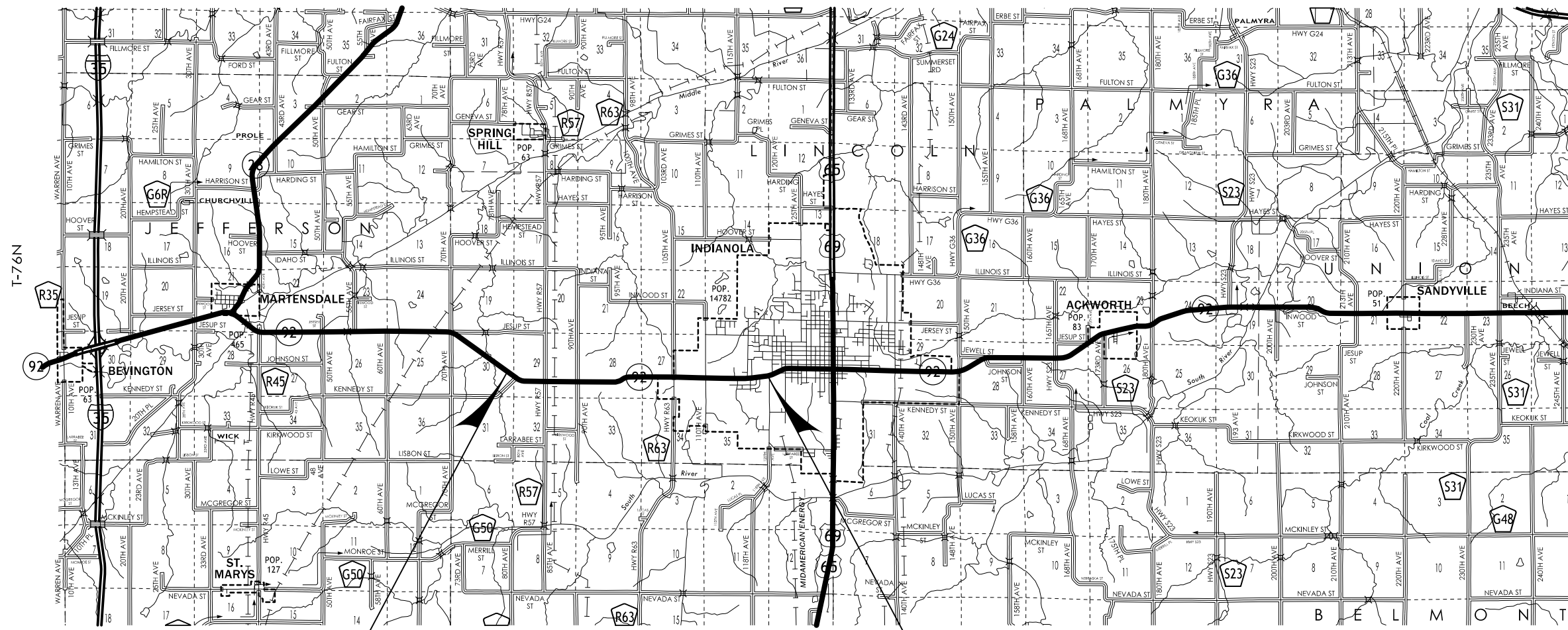
INDEX OF SEALS		
SHEET NO.	NAME	TYPE
A.1	Jason M. Holst	Primary Signature Block
CH.1	David R. Claman	Hydraulic Signature Block
CS.1	Robert L. Stanley	Geotechnical Signature
J.5	Zachary Abrams	Signing Signature Block

REVISIONS

TOTAL
791
PROJECT IDENTIFICATION NUMBER
04-91-092-010-01
PROJECT NUMBER
NHSX-092-5(51)--3H-91
R.O.W. PROJECT NUMBER
STPN-092-5(50)--2J-91

INDEX OF SHEETS	
No.	DESCRIPTION
W Sheets	Mainline Cross Sections
W.1	Cross Sections Legend & Symbol Information Sheet
W.2 - 161	IA 92 Cross Sections - Rural Section
W.161 - 219	IA 92 Cross Sections - Urban Section (Stage 2)
W.220 - 275	IA 92 Cross Sections - Urban Section (Stage 3)
W.276 - 300	IA 92 Cross Sections - Widening Section
X Sheets	Side Road Cross Sections
X.101 - 103	Kennedy St
X.201 - 204	R-57 (South)
X.205 - 208	R-57 (North)
X.301 - 310	90th
X.401 - 404	R-63 (South)
X.405 - 407	R-63 (North)
X.501 - 503	Y Street (South)
X.504 - 508	Y Street (North)
X.601 - 603	Access 258
X.701 - 703	Entrance 359 Rt
X.801 - 836	Various Entrances
Y Sheets	Ramp Cross Sections
Y.101 - 113	R-57 Detour
Y.201 - 210	R-63 Detour
Y.301 - 307	Y St. Detour SW
Y.401 - 403	Y St. Detour SE
Y.501 - 507	Y St. Detour NW
Y.601 - 610	Detour ML East Tie (North)
Y.701 - 704	Detour ML East Tie (South)
Y.801 - 802	Spruce St. Detour
Y.901 - 910	R-57 Detour Obliteration
Y.911 - 919	R-63 Detour Obliteration
Y.920 - 924	Y St. Detour SW Obliteration
Y.925 - 927	Y St. Detour SE Obliteration
Y.928 - 933	Y St. Detour NW Obliteration
* Color Plan Sheets	

ROADWAY DESIGN	
	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.
	Signature: <i>Jason M. Holst</i> Date: 8/19/2014 Jason M. Holst Printed or Typed Name
	My license renewal date is December 31, 2015
	Pages or sheets covered by this seal: A.1-A.2; B.1-B.12; C.1-C.27; D.1-D.29; E.1-E.7; F.1-F.9; G.1-G.11; H.1-H.15; HE.1-HE.6; J.1-J.4; J.6-J.42; L.1-L.30; M.1-M.30; S.1-S.10; T.1-T.26; U.1-U.29; W.1-W.300; X.101-X.836; Y.101-Y.933



R-25W

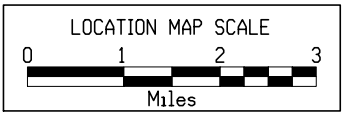
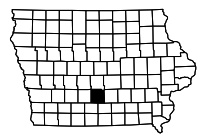
R-24W

R-23W

R-22W

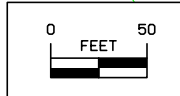
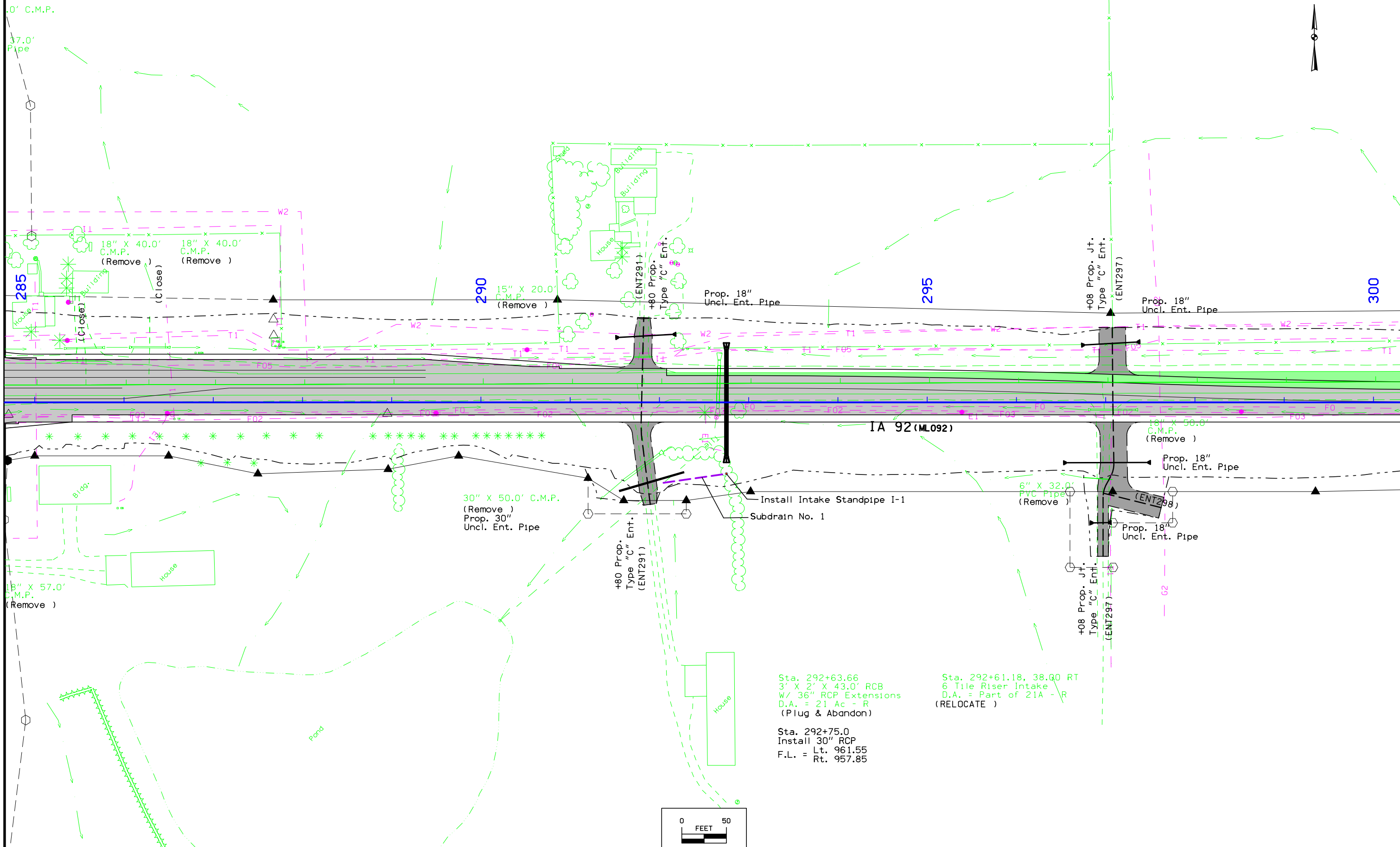
STA. 256+50.00
BEGIN PROJECT
M.P. 125.97

STA. 465+03.68
END PROJECT
M.P. 129.92

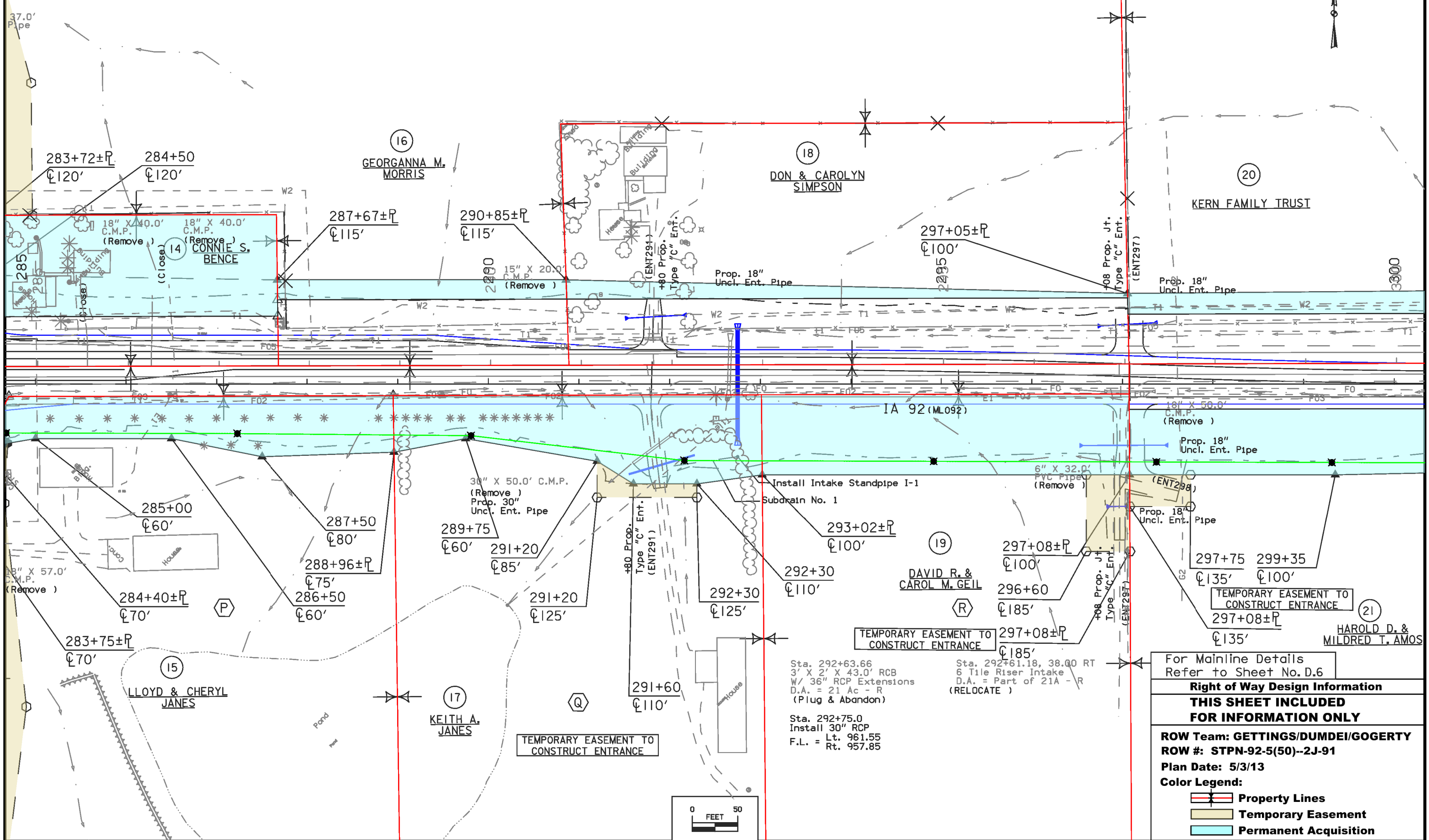


LOCATION MAP SHEET

Lincoln TWP.
T-76N R-24W
SEC. 29



0' C.M.P.

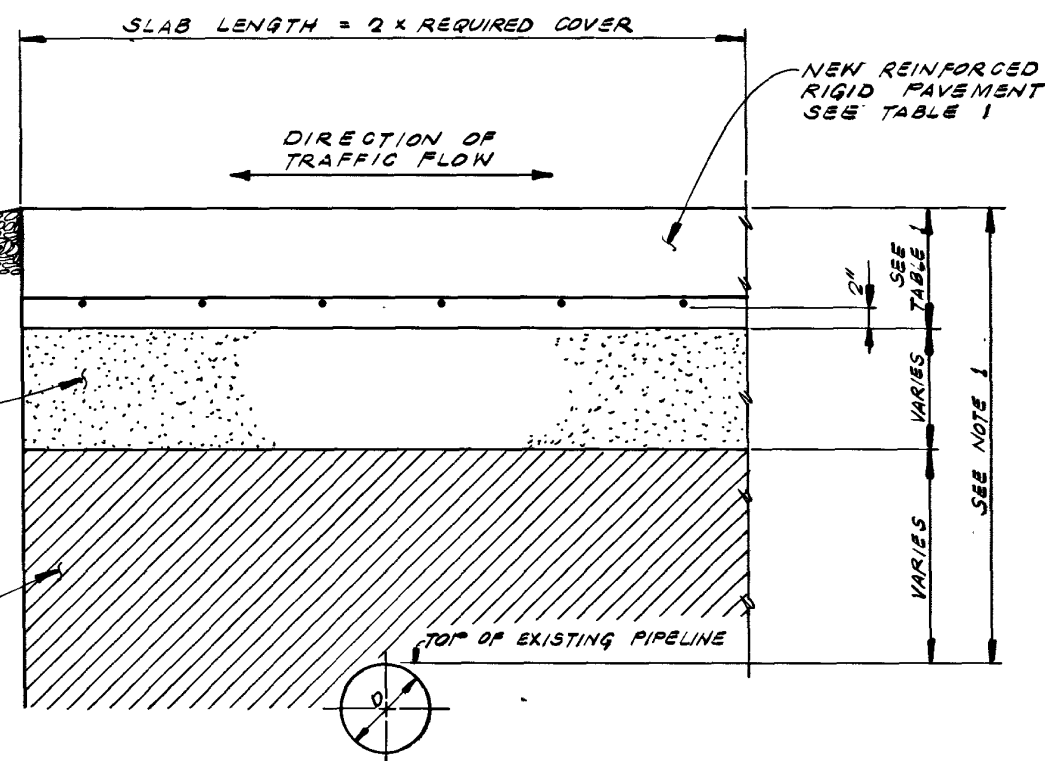


For Mainline Details Refer to Sheet No. D.6
Right of Way Design Information
THIS SHEET INCLUDED FOR INFORMATION ONLY
ROW Team: GETTINGS/DUMDEI/GOGERTY
ROW #: STPN-92-5(50)--2J-91
Plan Date: 5/3/13
Color Legend:
 Property Lines
 Temporary Easement
 Permanent Acquisition

SLOPE BACK TO EXISTING GRADE WITH WELL COMPACTED CRUSHED STONE MIX OR APPROVED PAVEMENT DESIGN AT 5:1 SLOPE (MAX.) TYPICAL EACH END

INSTALL COMPACTED SAND FILL TO ACHIEVE REQUIRE COVER

UNDISTURBED WELL COMPACTED SOIL



NOTES:

1. DEPTH OF REQUIRED COVER TO BE DETERMINED BY PIPELINE DESIGN DEPARTMENT FOR SPECIFIC CONDITIONS AT EACH CROSSING. ANY REQUIRED SAND FILL SHALL BE MECHANICALLY COMPACTED TO 95% PROCTOR OF ADJACENT UNDISTURBED SOIL.
2. REMOVE EXISTING TOPSOIL TO A MINIMUM DEPTH OF 1'-0" BELOW GRADE.
3. SLAB WIDTH SHALL BE DETERMINED BY N.G.P.L. FIELD REPRESENTATIVE.
4. SLAB LENGTH SHALL BE A MINIMUM OF TWO TIMES THE REQUIRED COVER OR 4'-0", WHICHEVER IS GREATER, AS DETERMINED BY SPECIFIC CONDITIONS (SEE NOTE 1.)
5. SLAB THICKNESS AND REINFORCEMENT REQUIREMENTS SHALL BE DETERMINED BY VEHICLE WEIGHT (SEE TABLE 1.)
6. FOR HEAVY EQUIPMENT CROSSINGS OF NEW PIPELINES OR RECENTLY EXCAVATED PIPELINES, CONSULT ENGINEERING SERVICES.
7. CONCRETE SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.

TABLE 1

VEHICLE WEIGHT (LOADED) LBS.	SLAB AND REINFORCEMENT DESCRIPTION
UP TO 100,000	1'-0" THICK SLAB WITH #6 REBARS AT 8" ON CENTER EACH WAY
101,000 TO 200,000	1'-3" THICK SLAB WITH #7 REBARS AT 8" ON CENTER EACH WAY
201,000 TO 300,000	1'-6" THICK SLAB WITH #8 REBARS AT 10" ON CENTER EACH WAY

DESIGNED IN ACCORDANCE WITH TITLE 49-PART 192 OF MINIMUM FEDERAL SAFETY STANDARDS AND ASME GUIDE FOR GAS PIPING SYSTEMS. LATEST EDITIONS.

MW 6/16

NO.	DATE MADE	BY	A.F.E. NO.	DATE AS BUILT	DESCRIPTION	ENGR.	DATE	BY	DWG. NO.	TITLE
1.	3/17/93	JM	STD.		ADDED NOTE #7 & REV. NOTE #6	CPD	3-18-93	JW		
0	3/16/90	JM	STD.		ISSUED FOR NGPL SYSTEM WIDE USE		3-22-90	JW		

N
NATURAL GAS PIPELINE COMPANY OF AMERICA
A MIDCON CORP. COMPANY
LOMBARD, ILLINOIS

A.F.E. STANDARD	DATE	APPROVED
PRELIMINARY		REB
APPROVED FOR CONSTRUCTION		APPROVED

CHIEF ENGR.

PROTECTIVE SLAB FOR HEAVY EQUIPMENT CROSSING (EXISTING PIPELINES ONLY)
STANDARD DRAWING

DRAWN JM	CHK. DR. JW	SCALE #	DATE 3-16-90
CHK. ENGR. PROJ. ENGR. MGR. DES.	FILE NO.		
DIRECTOR	STD-32-D2		