BENCH MARK:

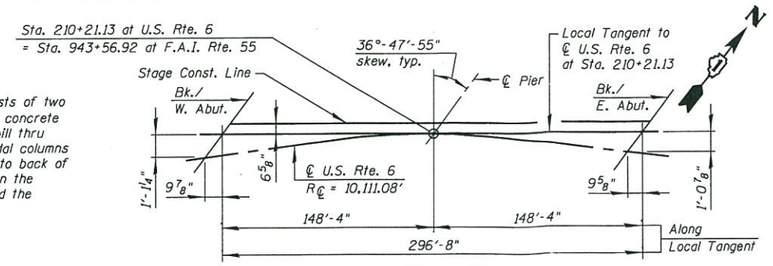
Disk N.W. corner of bridge U.S. Rte. 6 over F.A.I. Rte. 55
Sta. 208+97. 32.78' Lt., Elev. 558.98

EXISTING STRUCTURE:

S.N. 099-0277 U.S. Rte. 6, Sec. 87-H-B-I was Built in 1989. The superstructure consists of two spans of equal length (145'-0" from ℄ bearing to ℄ of piers). The reinforced composite concrete deck is supported by 39" web welded plate girders. The substructure consists of two spill thru concrete pile bent abutments supported on steel H-piles and one pier with five trapezoidal columns supported on a spread footing. The existing deck measures 67'-2" out to out and back to back of abutments measures 296'-8". No reconstruction or major repairs have been performed on the structure. The existing deck is to be removed and widened as composite construction and the abutments and pier are to be widened as necessary.

Traffic will be maintained utilizing stage construction.

Salvage: none



OFFSET SKETCH

SCOPE OF WORK:

1. Remove and replace the existing deck.
2. Widen the existing deck, the existing superstructure and the existing substructure.
3. Remove & replace lighting fixtures and conduit under the deck.
4. Complete removal and replacement of the paint system for the entire existing structural steel superstructure and bearings.
5. Install stud shear connectors.
6. Add additional plate girders beneath the widened portion of the deck.
7. Add a 10'-0" shared use path on the north side of the bridge and add a 7'-0" sidewalk on the south side of the bridge.
8. Replace joints at abutments.
9. Remove and replace approach slabs.
10. Repair abutments, pier and slopewalls.
11. Install Bridge Fence Railing, Parapet Mounted on bridge and approach slabs.

HIGHWAY CLASSIFICATION

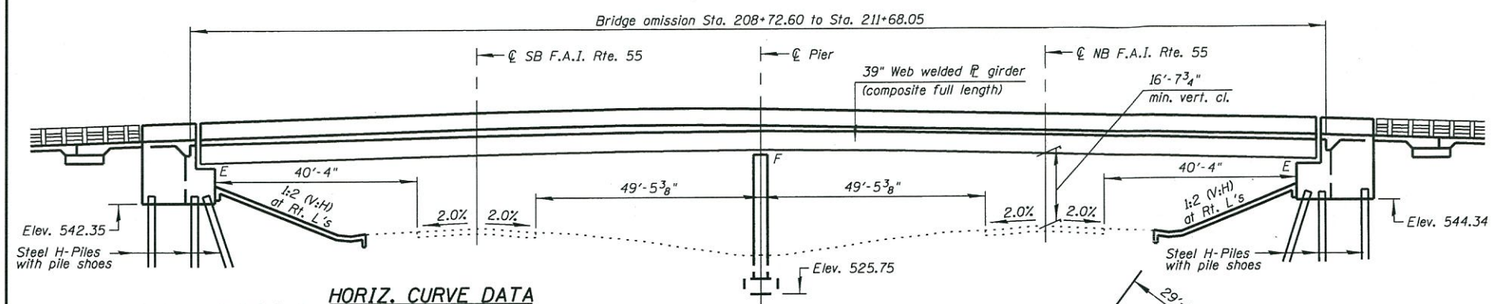
U.S. Rte. 6	F.A.I. Rte. I-55
Functional Class: Other Principle Arterial (Suburban)	Functional Class: Interstate
ADT: 16,300 (2010); 23,000 (2020)	ADT: 69,500 (2010); 83,400 (2020)
ADTT: 2,550 (2010)	ADTT: 8,000 (2010)
DHV: 3,227 (2020)	DHV: 9,600 (2020)
Design Speed: 45 m.p.h.	Design Speed: 70 m.p.h.
Posted Speed: 40 m.p.h.	Posted Speed: 65 m.p.h.
2-Way Traffic	2-Way Traffic
Directional Distribution: 50:50	Directional Distribution: 50:50

DESIGN SPECIFICATIONS

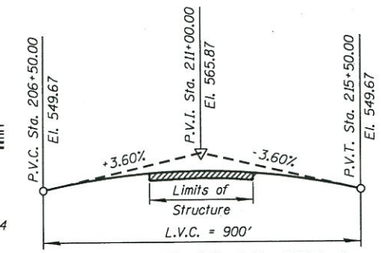
2002 AASHTO Standard Specifications for Highway Bridges

LOADING HS 20-44

Allow 50#/sq. ft. for future wearing surface.



ELEVATION



PROFILE GRADE U.S. RTE. 6

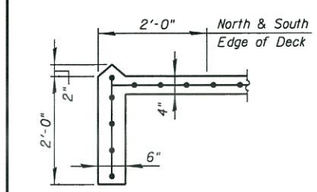
(Along WB P.G. & EB P.G.)

DESIGN STRESSES

FIELD UNITS EXISTING STRUCTURE	FIELD UNITS NEW CONSTRUCTION
f'c = 3,500 psi	f'c = 3,500 psi
fy = 60,000 psi (Reinforcement)	fy = 60,000 psi (Reinforcement)
fy = 50,000 psi (M223 Steel Grade 50)	fy = 50,000 psi AASHTO (M270 Steel Grade 50)
fy = 36,000 psi (M183 Steel)	fy = 36,000 psi AASHTO (M270 Gr. 36)

SEISMIC DATA

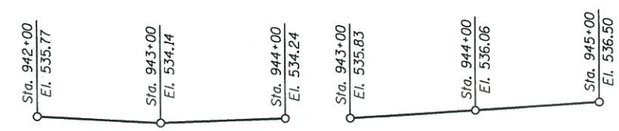
Seismic Performance Category (SPC) = A
Bedrock Acceleration coefficient (A) = 0.04 g
Site coefficient (S) = 1.0



SECTION A-A

HORIZ. CURVE DATA U.S. RTE. 6

Δ = 24°-50', 00.23" (Rt.)
D = 0.567
T = 2,226.15'
L = 4,382.39'
E = 242.17'
R = 10,111.08'
S.E. = not required
P.C. = Sta. 174+78.80
P.T. = Sta. 218+61.19
P.I. = Sta. 197+04.96



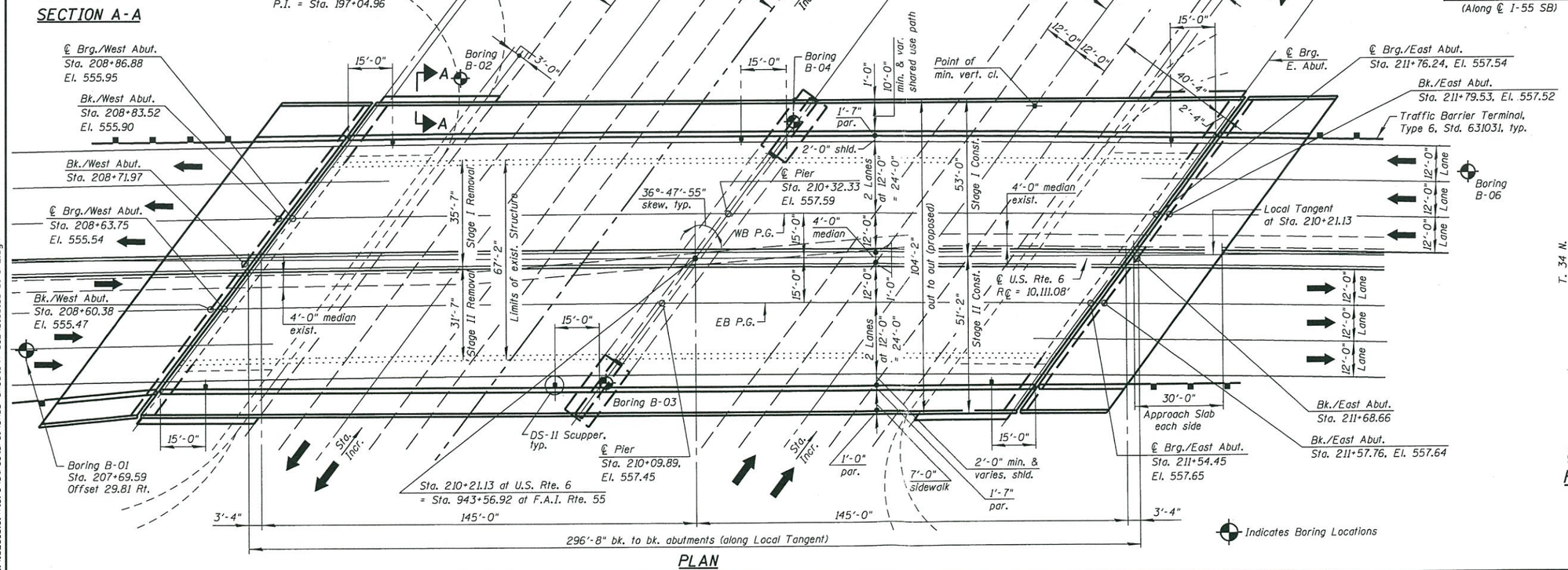
PROFILE GRADE F.A.I. Rte. 55 SB

(Along ℄ I-55 SB)

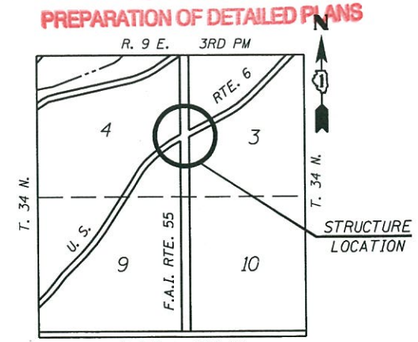
PROFILE GRADE F.A.I. Rte. 55 NB

(Along ℄ I-55 NB)

APPROVED
JUL 30 2013
AS A BASIS FOR PREPARATION OF DETAILED PLANS



PLAN



LOCATION SKETCH

GENERAL PLAN & ELEVATION
U.S. RTE. 6 OVER F.A.I. RTE. 55
F.A.I. RTE. 55 SEC. 86-I-HBK-R
WILL COUNTY
STATION 210+21.13
STRUCTURE NO. 099-0277

FILE NAME = I:\1028.U.S. Rte. 6\Structural\CADD Sheets\T-S.L\D160130-01-GPE.dgn

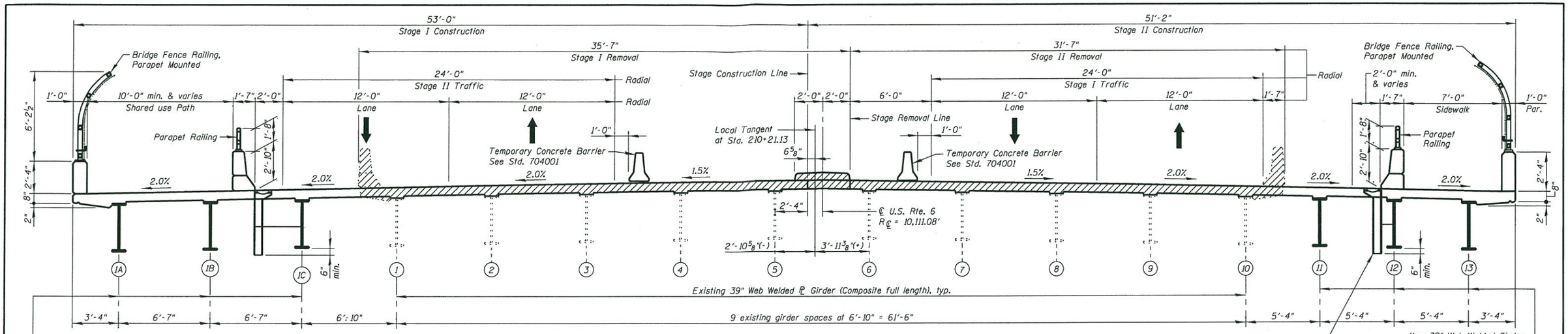
CHRISTIAN-ROGE & ASSOCIATES, INC.

USER NAME = IDOT	DESIGNED - J.C.N./B.N.S.	REVISED -	
	CHECKED - B.N.S.	REVISED -	
PLOT SCALE = 100.0000 ' / IN.	DRAWN - F.M.	REVISED -	
PLOT DATE = 7/22/2013	DATE - MAY 16, 2013	REVISED -	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

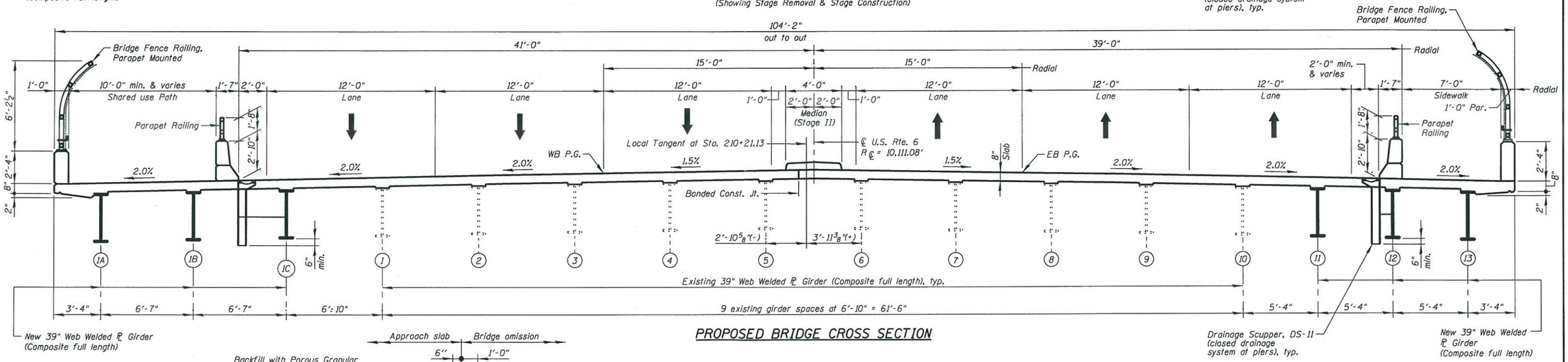
SHEET NO. 1 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
55	86-I-HBK-R	WILL		
		CONTRACT NO. 60130		
		ILLINOIS FED. AID PROJECT		

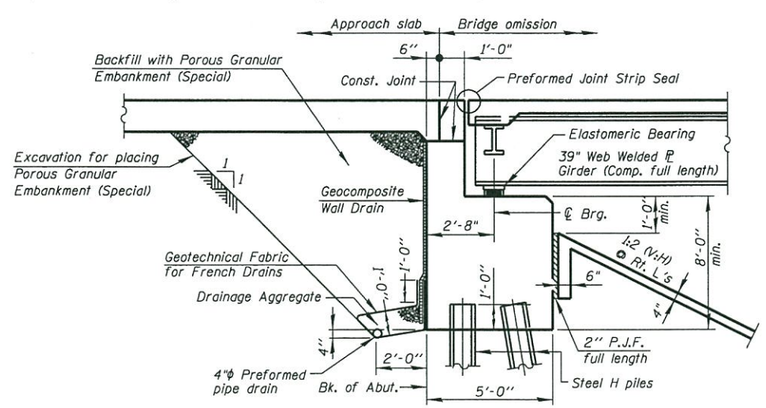


EXISTING & PROPOSED BRIDGE CROSS SECTION

(Showing Stage Removal & Stage Construction)



PROPOSED BRIDGE CROSS SECTION



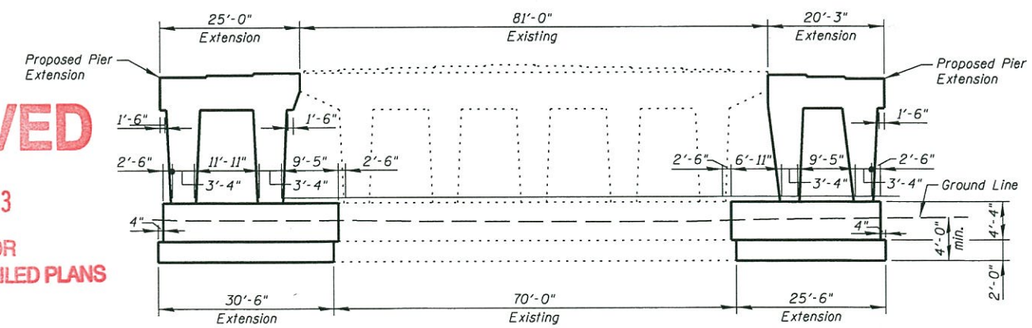
SECTION THRU PILE SUPPORTED STUB ABUTMENT

(Horiz. dim. @ Rt. L's)

APPROVED

JUL 30 2013

AS A BASIS FOR PREPARATION OF DETAILED PLANS



PIER SKETCH

Notes:
All cross sections are looking East.
For quantity of Temporary Concrete Barrier, see roadway plans.
Hatched area indicates Removal of Existing Structures.

FILE NAME = I:\1028.U.S. Rte. 6\Structural\CADD Sheets\T-S.L\D160130-02-const_stage.dgn

CHRISTIAN-ROGE & ASSOCIATES, INC.	USER NAME = IDOT	DESIGNED - J.C.N./B.N.S.	REVISED -	STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	STAGE CONSTRUCTION DETAILS STRUCTURE NO. 099-0277	F.A.I. RTE. 55	SECTION 86-I-HBK-R	COUNTY WILL	TOTAL SHEETS / SHEET NO.
		CHECKED - B.N.S.	REVISED -						
	PLOT SCALE = 100.0001 ' / IN.	DRAWN - F.M.	REVISED -					CONTRACT NO. 60130	
	PLOT DATE = 7/22/2013	DATE - MAY 16, 2013	REVISED -		SHEET NO. 2 OF 2 SHEETS		ILLINOIS	FED. AID PROJECT	