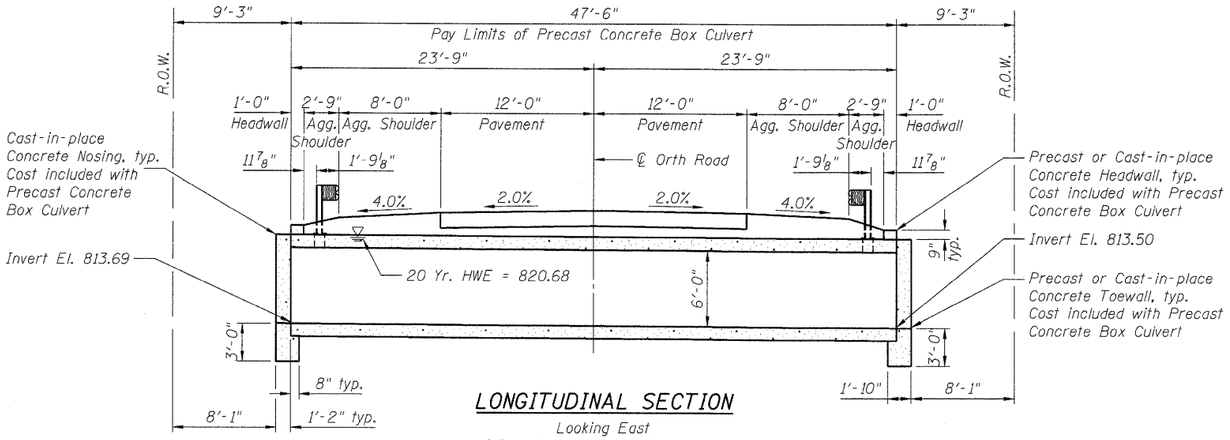
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
F.A.U. 5208	•	BOONE	12	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

• 07-00081-00-BR

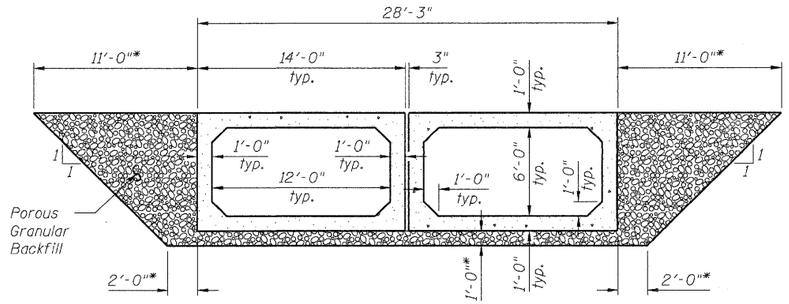
SHEET NO. 1
3 SHEETS

85442



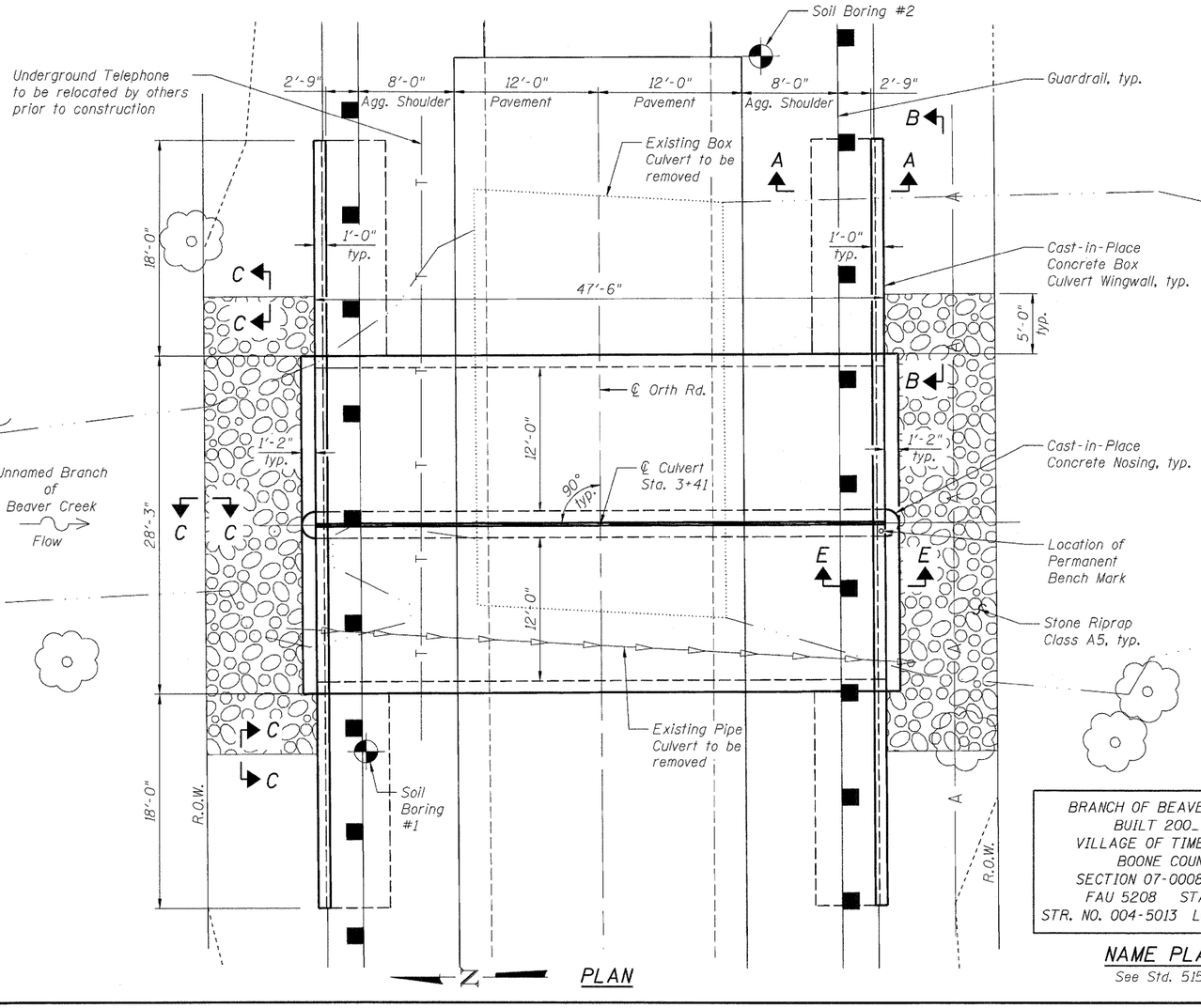
LONGITUDINAL SECTION

Looking East
(Wingwalls not shown for clarity)



* Pay Limits of Porous Granular Backfill

SECTION THRU BARREL



LOADING HS20

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

DESIGN SPECIFICATIONS

2002 (17th Edition) AASHTO Standard Specifications for Highway Bridges

DESIGN LOADINGS

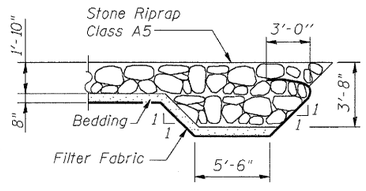
Design Fill Height <2 Feet
Allowable Average Net
Bearing Pressure = 3400 psf (culvert)
Allowable Average Net
Bearing Pressure = 1500 psf (strip footing)

DESIGN STRESSES

f'c = 5,000 psi
fy = 60,000 psi (Reinforcement)
fy = 65,000 psi (Welded Wire Fabric)

SEISMIC DATA

Seismic Performance Category (SPC) = A
Bedrock Acceleration Coefficient (A) = 0.035g
Site Coefficient (S) = 1.0



SECTION C-C
FLANK STONE RIPRAP DETAIL

GENERAL NOTES

Precast concrete box culvert sections shall conform to the requirements of Article 540.06 of the Standard Specifications and the applicable requirements of AASHTO M273.

Reinforcement bars shall conform to the requirements of AASHTO M31, M42, or M53 Grade 60.

Lifting holes shall be filled with concrete plugs and mastic after box sections are in place.

Box culvert sections shall be precast. Cast-in-place concrete alternative for box culvert sections is not allowed. Headwall and toewall may be either precast or cast-in-place. Box culvert wingwalls cast-in-place alternative is shown. Contractor may submit precast concrete alternative to Engineer for approval. See Special Provisions.

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the engineer.

Expansion bolts shall be 3/4" dia. hooked bolts. Hooked bolts shall extend a minimum of 9" into new concrete.

CULVERT BILL OF MATERIAL

ITEM	UNIT	TOTAL
Porous Granular Backfill	Cu. Yd.	410
Stone Riprap Class A5	Sq. Yd.	85
Filter Fabric	Sq. Yd.	85
Removal of Existing Structures	L. Sum	1
Name Plates	Each	1
Box Culvert Wingwall	Each	4
Precast Concrete Box Culvert 12'x6' (M273)	Foot	95
Steel Plate Beam Guardrail, Attached to Structures (Special)	Foot	75
Permanent Bench Marks	Each	1

WATERWAY INFORMATION

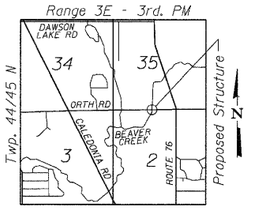
Drainage Area = 4.29 sq. mi. — Low Grade Elev. 822.30

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Nat. H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	20	425	128	144	820.68	0.21	0.11	820.89	820.80
Base	100	630	128	144	820.75	0.47	0.19	821.22	820.94

BRANCH OF BEAVER CREEK
BUILT 200_ BY
VILLAGE OF TIMBERLANE
BOONE COUNTY
SECTION 07-00081-00-BR
FAU 5208 STA. 3+41
STR. NO. 004-5013 LOADING HS20

NAME PLATE

See Std. 515001



LOCATION SKETCH

Corporate License Number 184-001-084

GENERAL PLAN & ELEVATION

ORTH ROAD BOX CULVERT
OVER BRANCH OF BEAVER CREEK
FAU 5208
SECTION 07-00081-00-BR
BOONE COUNTY, ILLINOIS
STATION 3+41
STRUCTURE NO. 004-5013

HANSON

JOB NO. 08L0031

DATE 10/17/08

LAYOUT	JKR	07/17/08
DRAWN	MGM	09/24/08
REVIEWED	JKR	09/24/08

I:\446 PM
10\6\2008
I:\08Jobs\08L0031\CADD\Struct\Sheets\S-001-GP&E.dgn