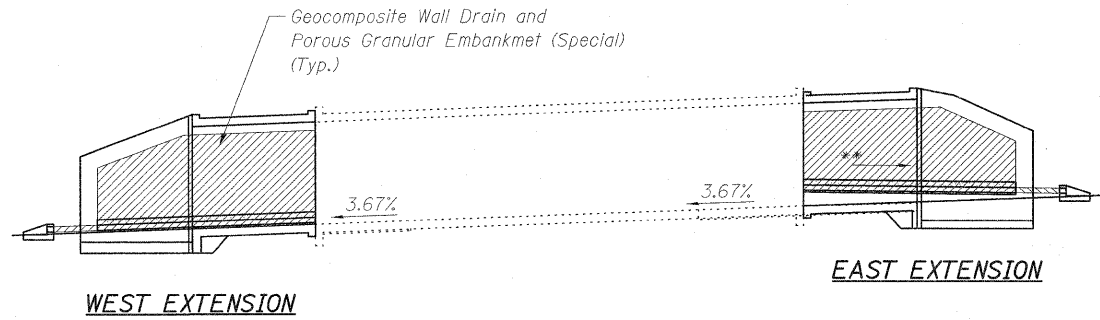
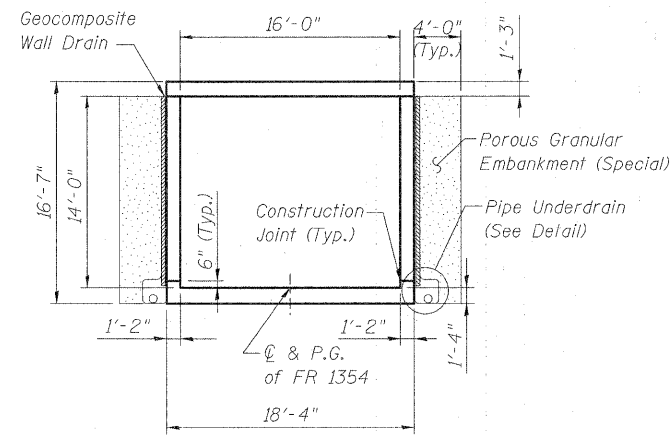


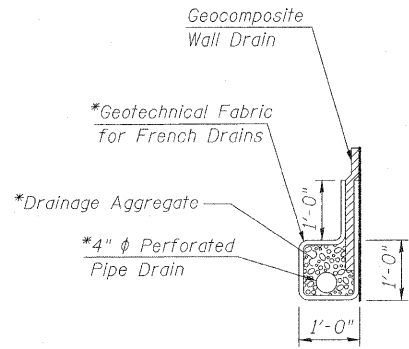
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



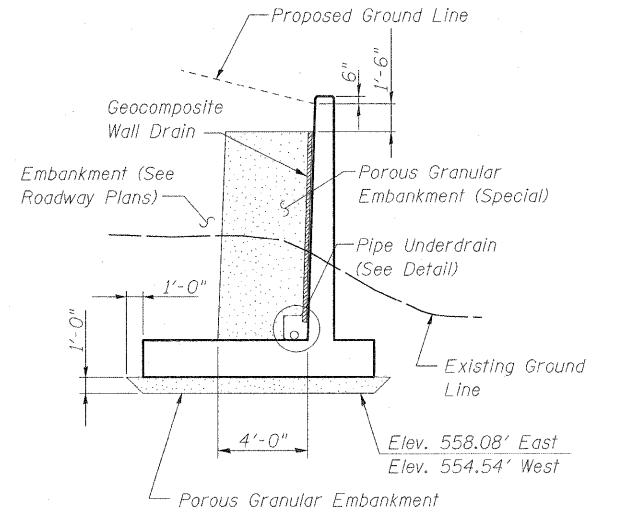
DRAINAGE ELEVATION
**For East Extension slope to drain 1.0% min.



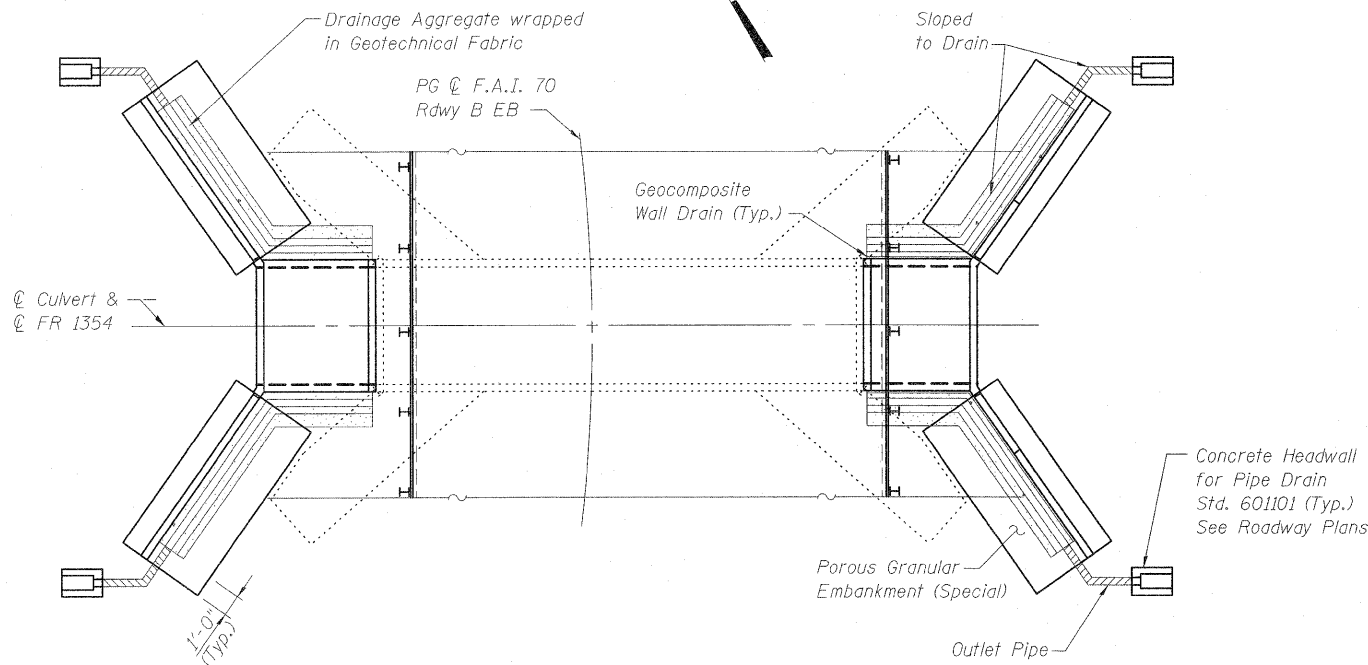
SECTION THRU BARREL



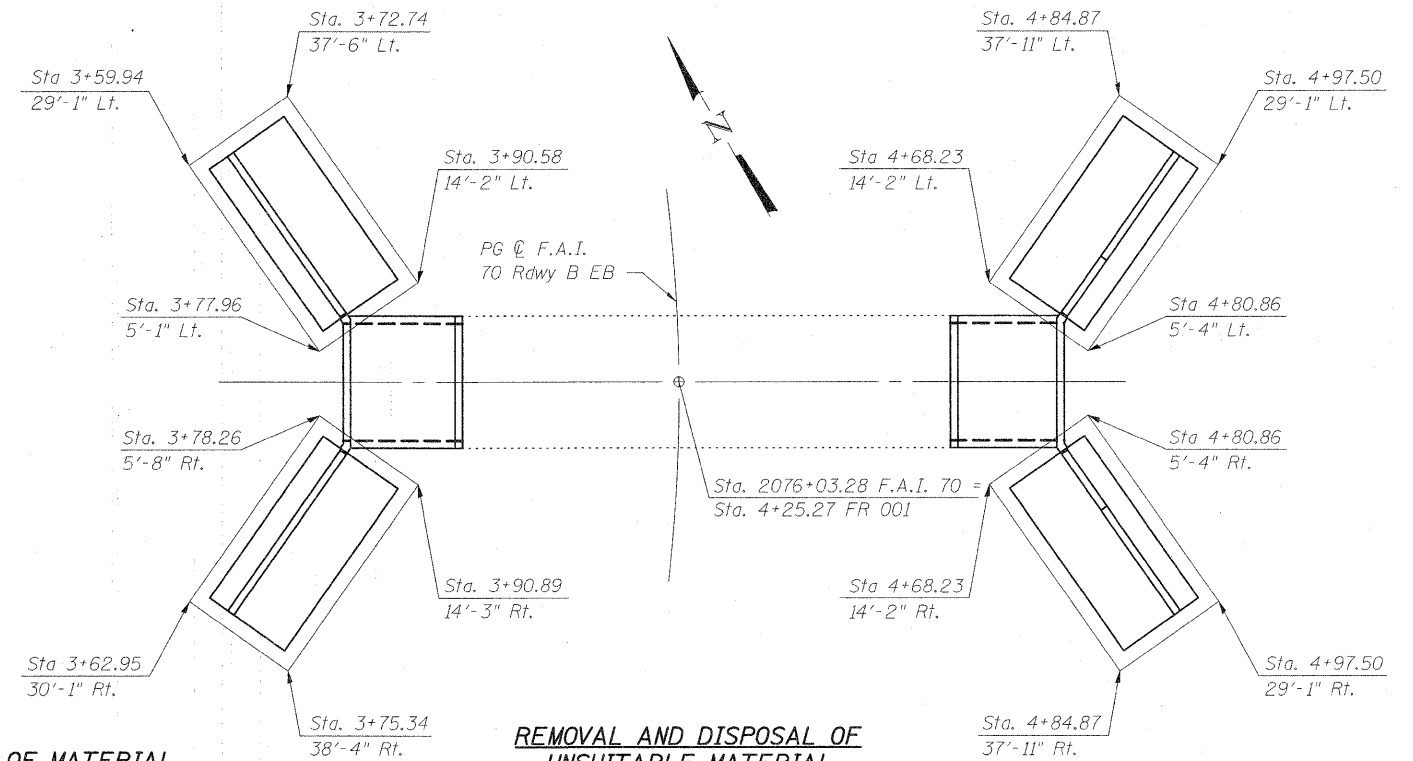
PIPE UNDERDRAIN DETAIL
*Included in the cost of "Pipe Underdrain for Structures".



SECTION THRU WINGWALL



DRAINAGE PLAN



BILL OF MATERIAL

ITEM	UNIT	TOTAL
Geocomposite Wall Drain	Sq. Yd.	258
Pipe Underdrains for Structures, 4"	Foot	164
Porous Granular Embankment	Cu. Yd.	60
Porous Granular Embankment (Special)	Cu. Yd.	350
Removal and Disposal of Unsuitable Materials	Cu. Yd.	60

REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL

Note:
The limits and quantities of removal and replacement shown are based on the boring data and may be modified by the District Geotechnical and Field Engineers for variable subsurface conditions encountered in the field.

DESIGNED	B.B.
CHECKED	C.J.F.
DRAWN	J.G.
CHECKED	C.J.F. & B.B.

Notes:
A Geocomposite Wall Drain shall be installed on the fill faces of the culvert extension walls and wings and draped under the approximate 1'-0" x 1'-0" block of wrapped drainage aggregate.
A 4" diameter perforated drain shall be situated within an approximate 1'-0" x 1'-0" block of drainage aggregate shall be wrapped completely in Geotechnical Fabric for French Drains. Extend perforated drain and wrapped drainage aggregate past wings parallel to centerline of tunnel to intersection with fill slope at the low end of tunnel. Pipes shall drain onto concrete headwalls (Article 601.05 of the Std. Specifications and Highway Std. 601101).
Cost of perforated drain pipes, outlet pipe concrete headwalls, drainage aggregate, and geotechnical fabric shall be included with the pay item Pipe Underdrain for Structures, Per GBSP 51.

**DRAINAGE AND EXCAVATION DETAILS
STRUCTURE NO. 025-2018**



**BERNARDIN
LOCHMUELLER &
ASSOCIATES, INC.**

3 Oak Drive
Maryville, IL 62963-5635
Local (618) 288-4666
Fax 618-288-4666

SHEET NO. 4	F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	70	(25-3)BY	EFFINGHAM	1416	470
9 SHEETS	SN 025-2018		CONTRACT NO. 74296		
FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT					