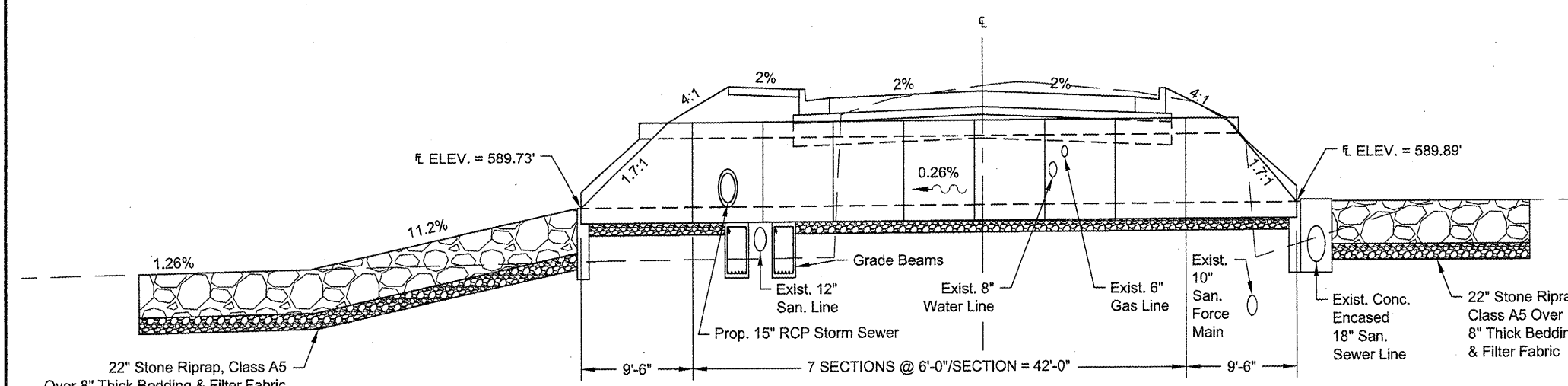


PLAN



ELEVATION

GENERAL NOTES

- 1) All dimensions and elevations are in feet except otherwise noted.
- 2) Exposed edges shall have a 3/4" chamfer unless otherwise noted.
- 3) The cast-in-place toewalls will not be paid for separately, but shall be included in the cost for GRATED BOX CULVERT END SECTIONS, CULVERT NO. 1. Approximately 3.5 yd³ of concrete will be required to pour all 4 precast end section toewalls as shown on the end section elevation.
- 4) The grating for the four end sections will not be paid for separately, but shall be included in the cost for GRATED BOX CULVERT END SECTIONS, CULVERT NO. 1.
- 5) All Class SI Concrete required to fill the space between multiple box culvert cells will not be paid for separately, but shall be included in the cost for PRECAST CONCRETE BOX CULVERTS 5x3 and GRATED BOX CULVERT END SECTIONS, CULVERT NO. 1 appropriately. Approximately 1.7 yd³ of Class SI Concrete will be required between the box culverts and approximately 0.6 yd³ will be required between the precast end sections as shown.
- 6) The proposed box culverts have an approximate fill height of 11 inches. The precast concrete box culverts shall be designed in accordance with AASHTO M273 except that the aggregate shall conform to the requirements of Articles 1003 and 1004 of the IDOT standard specifications with the exception of gradation. All compaction shall conform with the requirements of Article 502 of the IDOT standard specifications.
- 7) All excavation above the bottom-of-box elevation shall be included in the contractor's unit price for PRECAST CONCRETE BOX CULVERTS 5x3 and GRATED BOX CULVERT END SECTIONS, CULVERT NO. 1 appropriately. All excavation, backfilling, and compaction shall be executed according to Article 502 of the IDOT standard specifications.
- 8) The contractor shall submit shop drawings and calculations for the precast concrete box culverts, the precast box culvert end sections, and the grating for the box culvert end sections. Shop drawings and calculations shall be sealed by a structural engineer registered in the State of Illinois.
- 9) Structure excavation and porous granular embankment quantities calculated for placement of the aggregate base material have been determined based on the indicated minimum depth. Should unstable soils be encountered upon execution of the pay item STRUCTURE EXCAVATION, the Engineer shall determine the necessary depth of excavation required to reach stable soils. Any additional structure excavation and porous granular embankment required to reach the designed bottom-of-box elevation will be addressed according to the Standard Specifications.
- 10) Structure excavation and controlled low-strength material quantities calculated for construction of the cast-in-place grade beams have been determined according to the grade beam detail. Should unstable soils be encountered upon execution of the pay item STRUCTURE EXCAVATION, the Engineer shall determine the necessary depth of excavation required to reach stable soils. Any additional structure excavation and aggregate material required to reach the designed bottom-of-grade beam elevation will be addressed according to the Standard Specifications.
- 11) The porous granular backfill quantity for these culverts has been determined according to Article 209 of the IDOT Standard Specifications for the total width of the trench as illustrated on the culvert sections.
- 12) Structural design requirements are as follows:
 DESIGN SPECIFICATIONS
 2002 AASHTO Standard Specifications for Highway Bridges
 DESIGN STRESSES (PRECAST UNITS) DESIGN LOADING
 f_c = 5 ksi HS20-44
 f_y = 65 ksi (welded wire fabric)
 DESIGN STRESSES (GRADE BEAMS)
 f_c = 4 ksi
 f_y = 60 ksi

BILL OF MATERIALS		
STRUCTURE EXCAVATION	CU YD	26
REINFORCEMENT BARS	POUND	344
CONCRETE STRUCTURES	CU YD	6
CONTROLLED LOW-STRENGTH MATERIAL	CU YD	3
POROUS GRANULAR EMBANKMENT	CU YD	19
PRECAST CONCRETE BOX CULVERTS 5x3	FOOT	84
BOX CULVERT END SECTIONS, CULVERT NO. 1	EACH	4
POROUS GRANULAR BACKFILL	CU YD	65
FILTER FABRIC	SQ YD	212
STONE RIPRAP, CLASS A5	SQ YD	212