



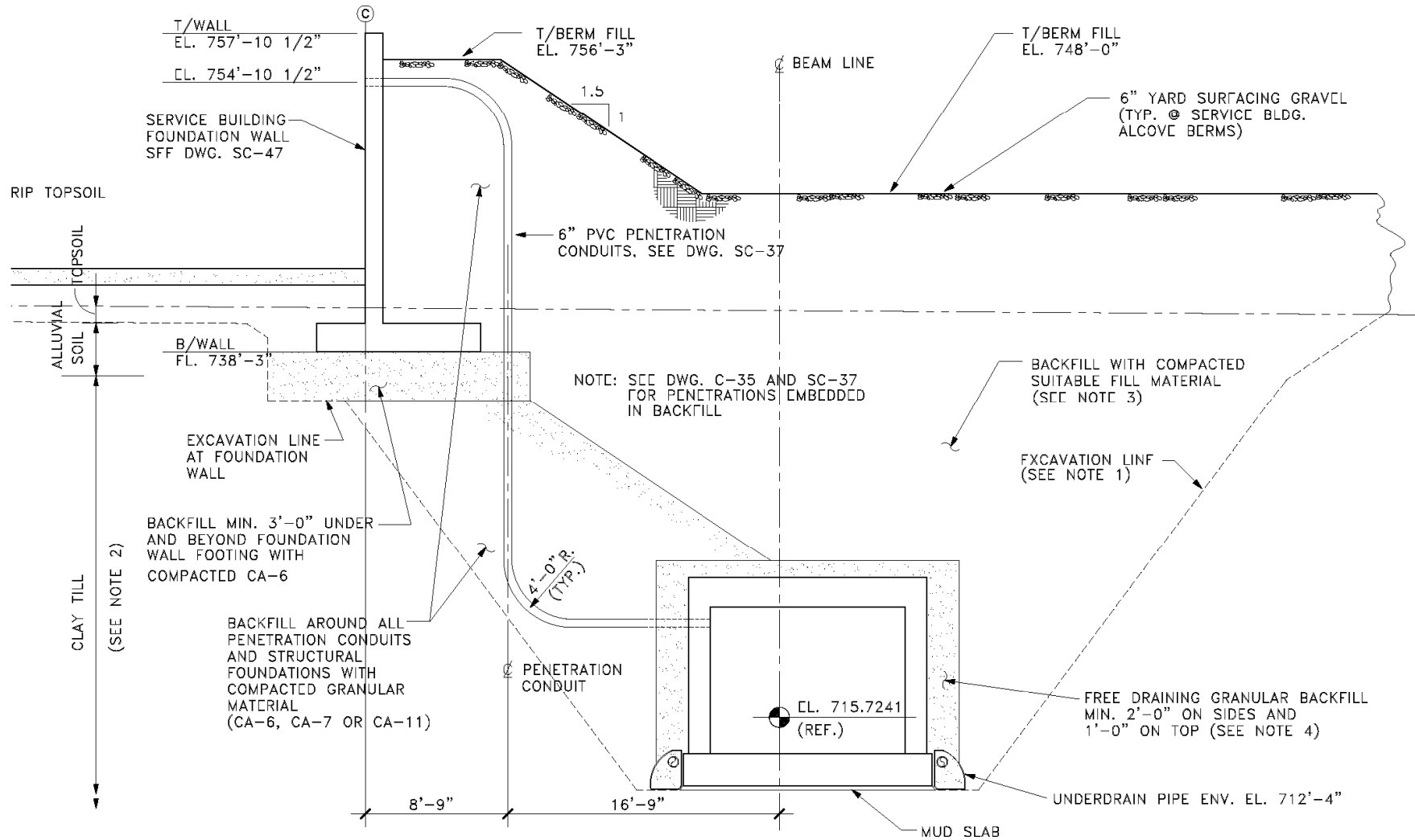
Main Injector, E/W NLC and Proton Driver Projects

24 August 2007

T. Lackowski

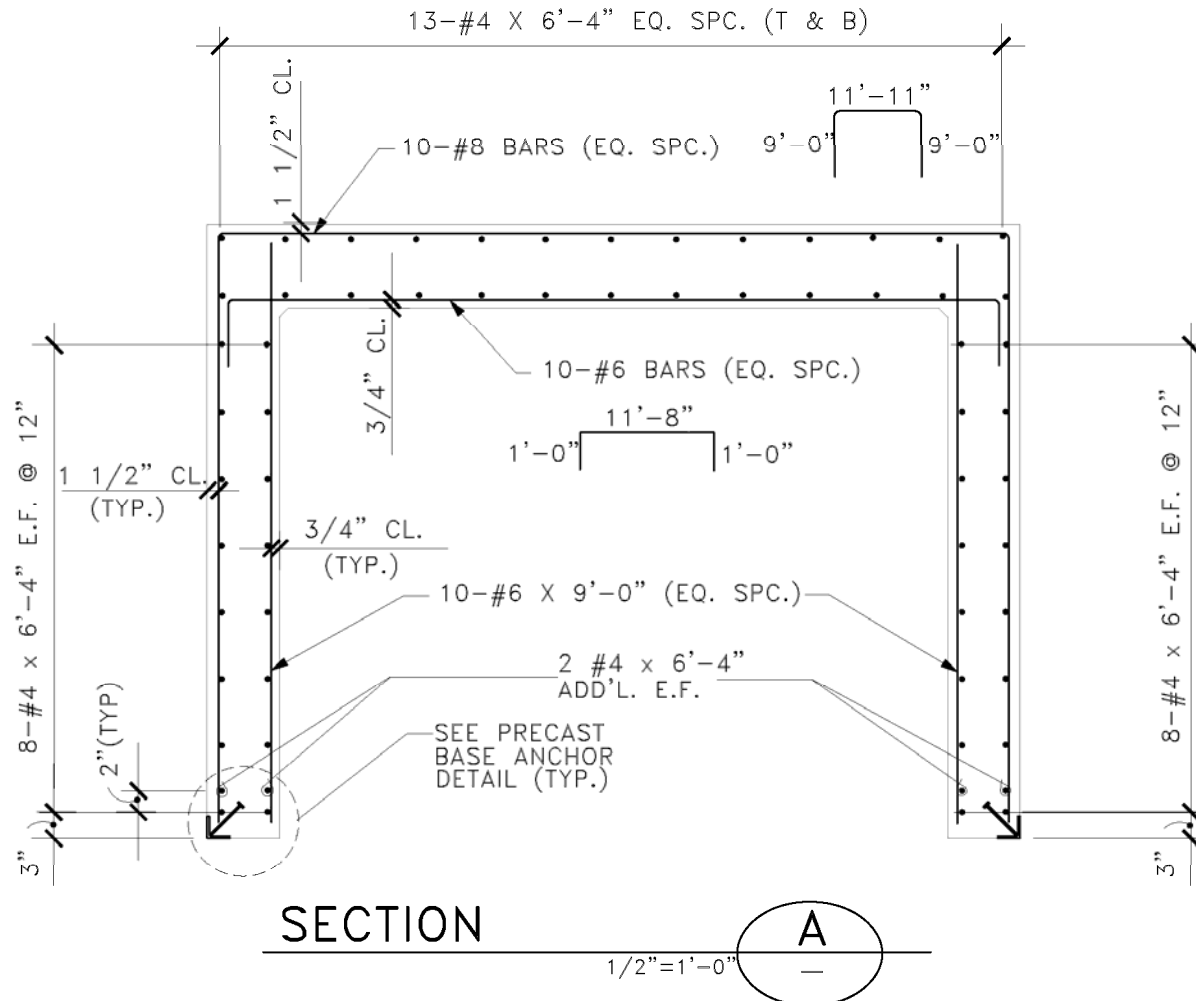


MI Section View



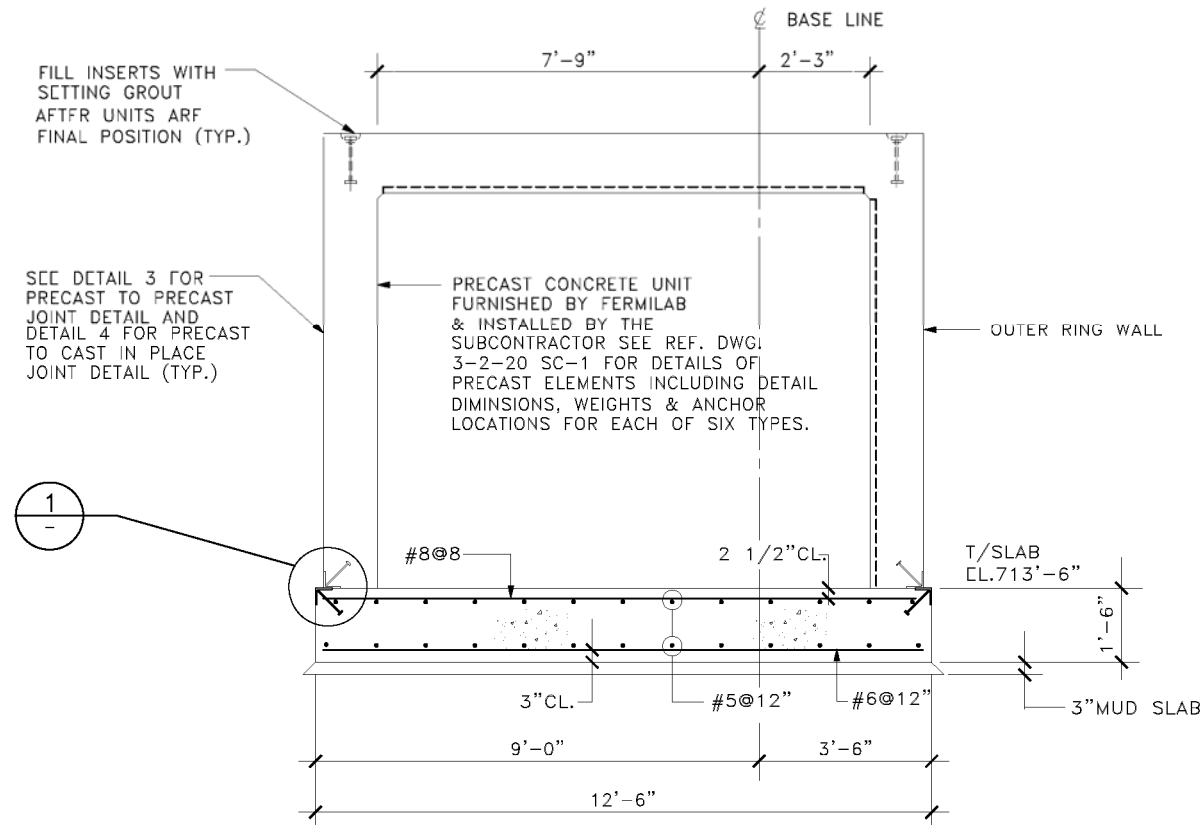


1,392 Precast Enclosure





Precast 10' W x 8' H



SECTION

1/2"=1'-0" **A** SC-9 THRU SC-24, SC-26



Putting it together..



At the precast plant

Transporting to final location on site



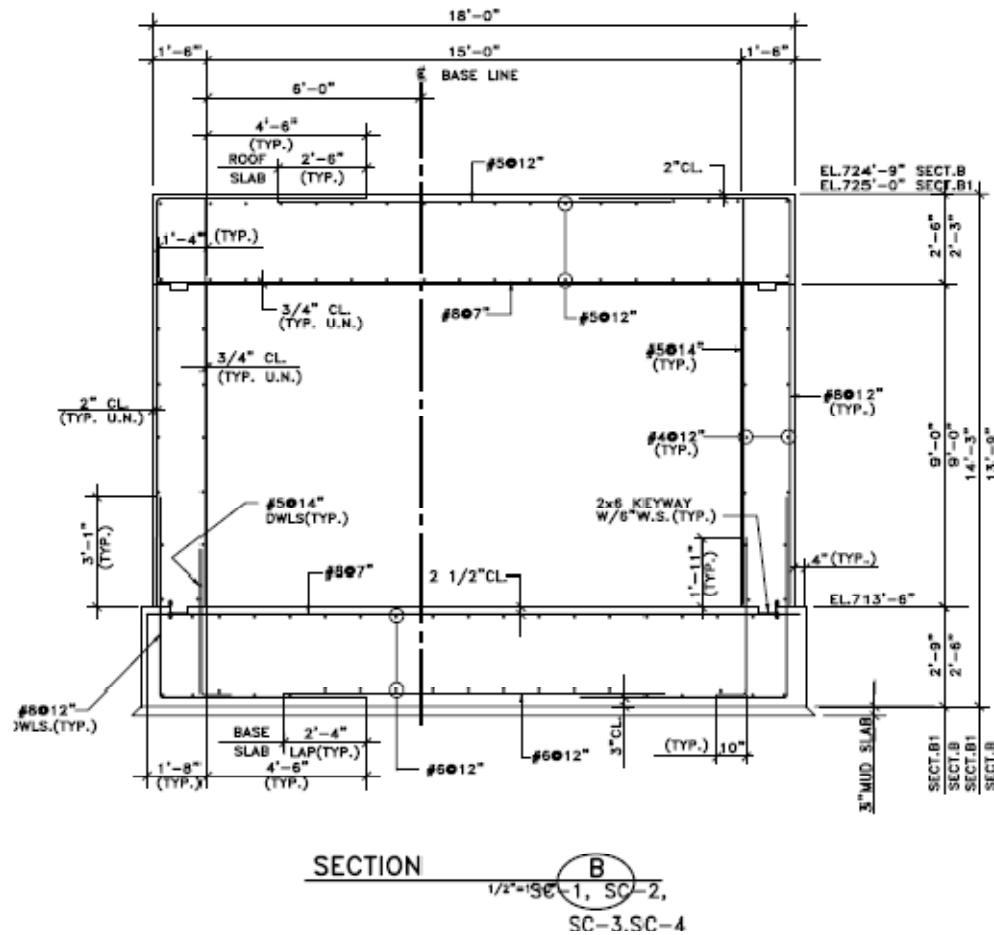


Main Injector



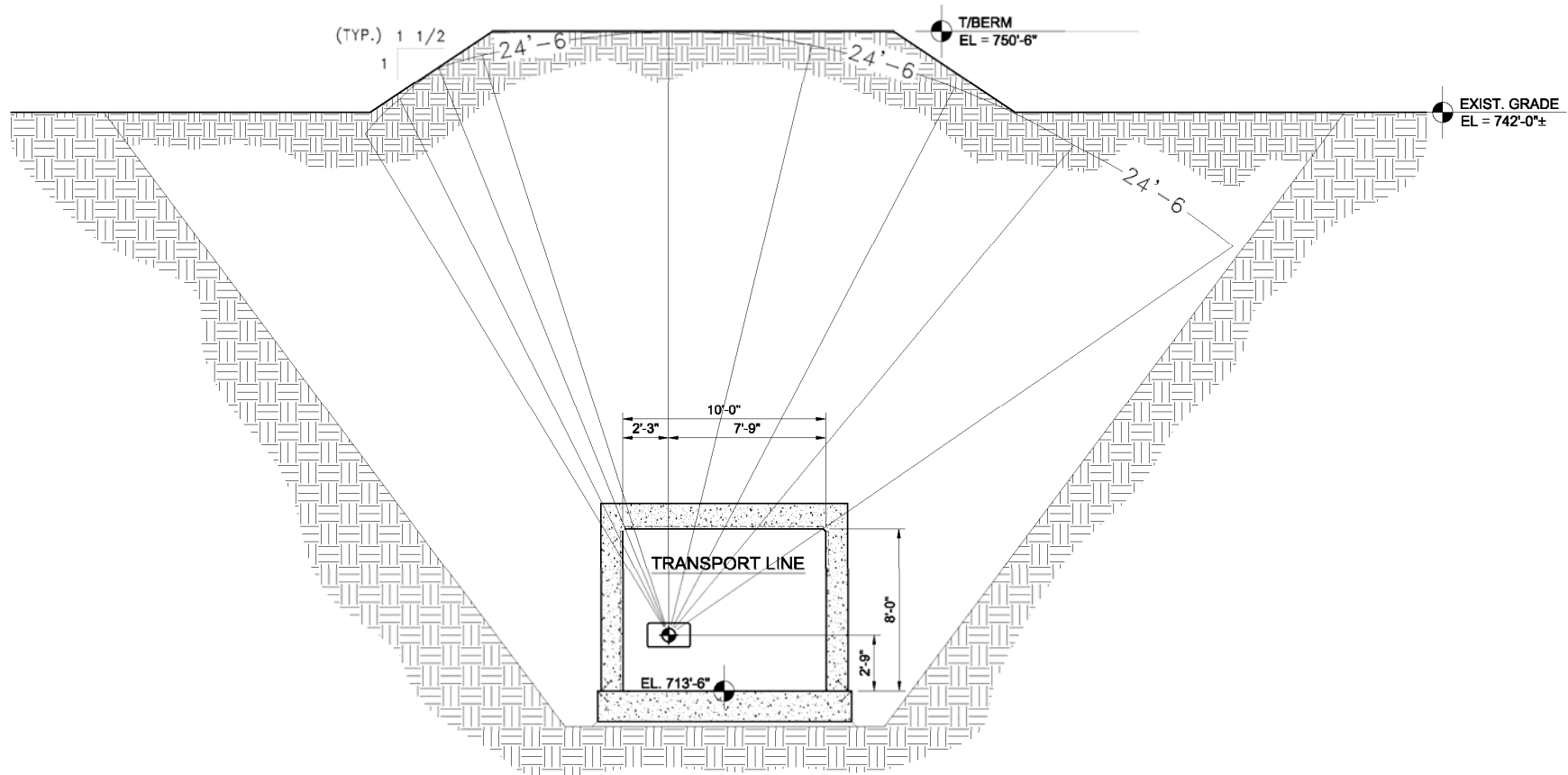


Cast-in Place 15' W x 9' H





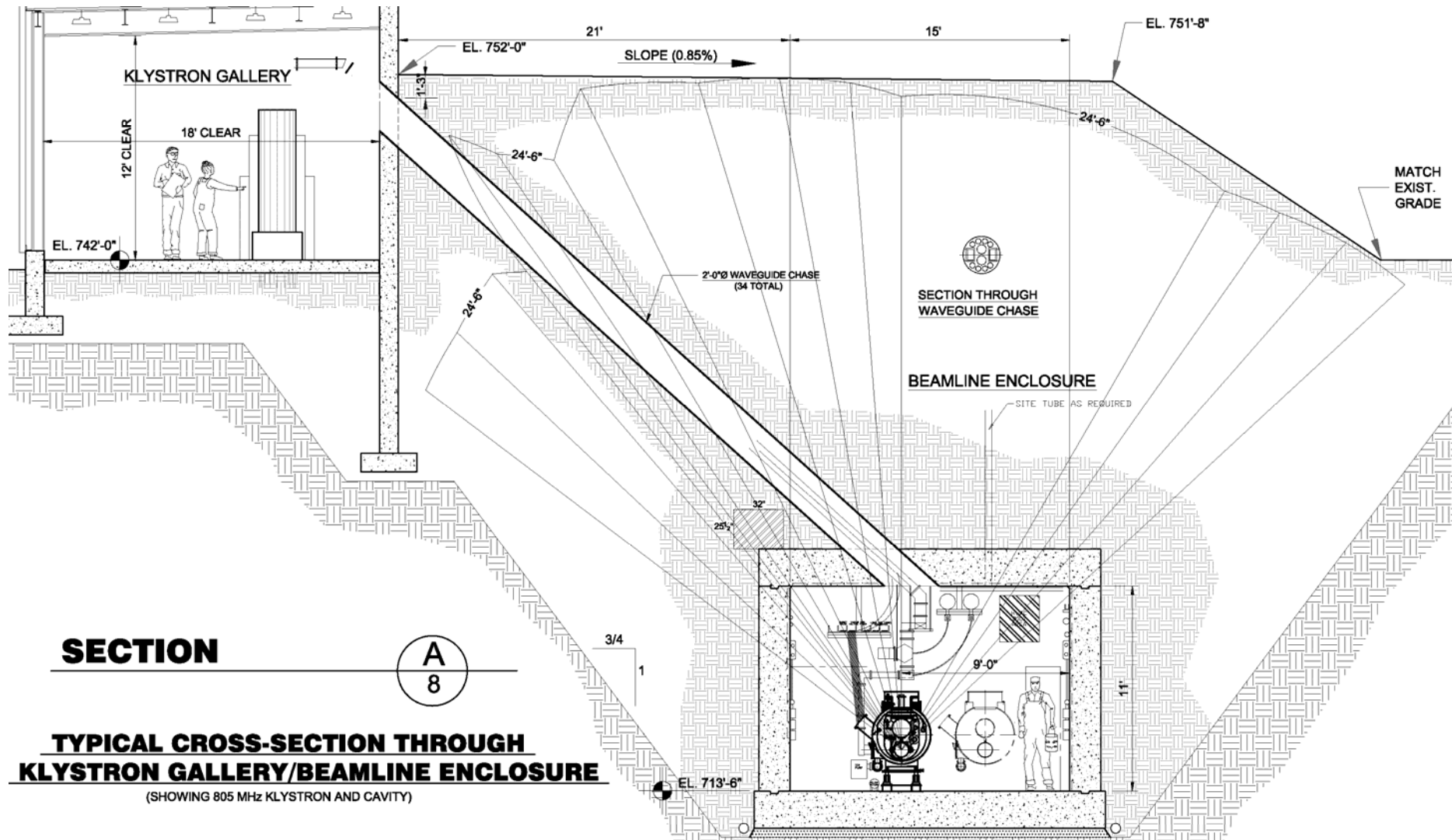
Proton Driver



SECTION THROUGH TRANSPORT LINE ENCLOSURE



Proton Driver





03	Beamline Tunnel Enclosures @ MI flr elev 713.50	\$19,270,000				
	<i>Linac 15' wide x 11' high, open cut construction</i>	\$7,577,000				
	<i>Cost per ft length of tunnel =</i>		2,200	lf	\$3,444	\$7,576,800
	Excavation per ft length		64.3	cy	\$20	\$1,288
	Mud Slab per ft length		0.8	cy	\$100	\$80
	Cast In Place Enclosure per ft length		3.8	cy	\$425	\$1,530
	Dampproofing per ft length		5.1	sy	\$5	\$26
	Crushed Stone Fill around enclosure per ft length		1.2	cy	\$25	\$30
	Drainage per ft length		1	lf	\$8	\$8
	Embankment per ft length		9.3	cy	\$5	\$47
	sump pump and pit @ 1 per 500 ft per ft length		0.002	each	\$20,000	\$40
	Cable tray per ft length		1	lf	\$100	\$100

FY 04 dollars

04	Buildings	\$20,390,000				
	<i>Klystron Gallery</i>	\$6,384,400				
	<i>Cost per ft length of building =</i>		2,200	lf	\$2,902	\$6,384,400

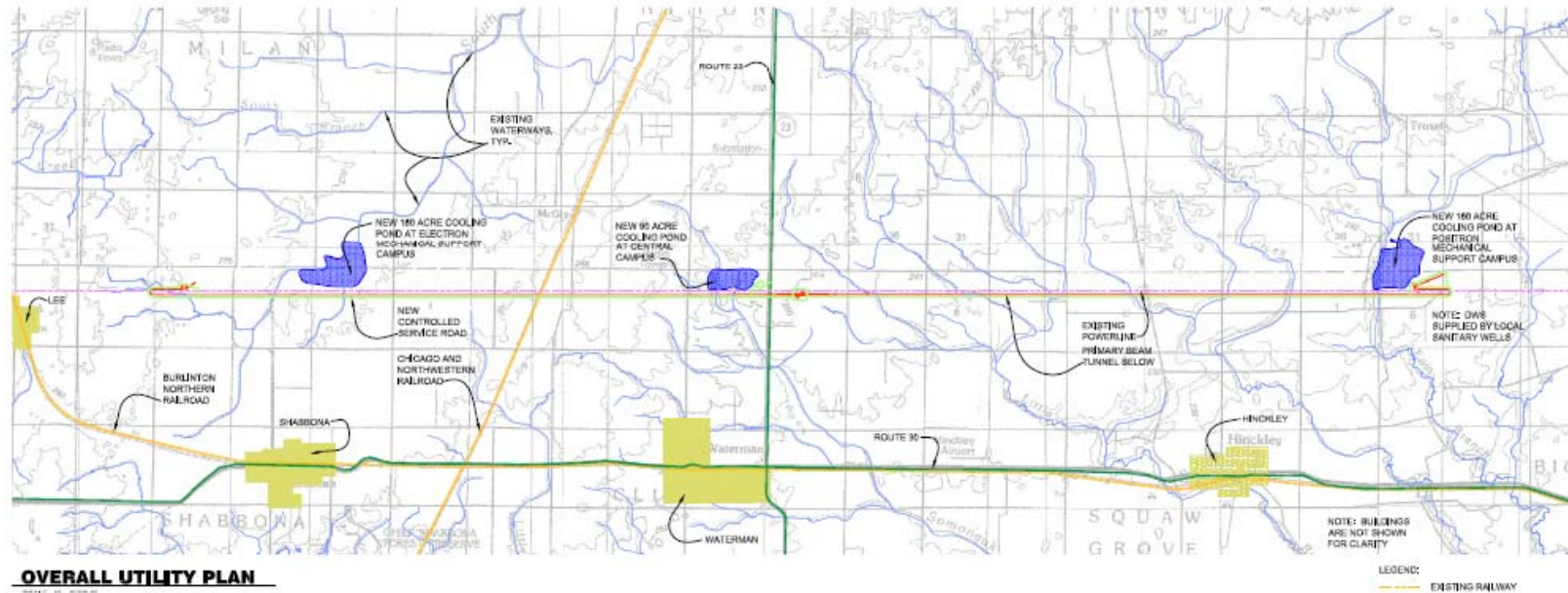
All costs herein are in Jan. 2000 US\$

				FINAL CONTRACT COST	
				Man-Hours Total	\$ Total
1.7.1.2.2	Tunnels				\$ 407,116,330
	e- ML 4.5m dia. Beam Tunnel, TBM Excavation (37,129 l	11,317	lin m	\$7,458	\$ 84,403,318
	e- ML 4.5m dia. Service Tunnel, TBM Excavation (37,129	11,317	lin m	\$7,458	\$ 84,403,318
	e- ML 4.5m dia. Tunnels, Conc. Inv. (74,258 lin ft)	22,634	lin m	\$1,405	\$ 31,807,560
	e+ ML 4.5m dia. Beam Tunnel, TBM Excavation (37,129	11,317	lin m	\$7,458	\$ 84,403,318
	e+ ML 4.5m dia. Service Tunnel, TBM Excavation (37,12	11,317	lin m	\$7,458	\$ 84,403,318
	e+ ML 4.5m dia. Tunnels, Conc. Inv. (74,258 lin ft)	22,634	lin m	\$1,405	\$ 31,807,560
	Provide Tunnel Construction Water Treatment Plant	4	ea.	\$162,500	\$ 650,000
	Maintain and Operate Tunnel Construction Water Treatm	4	ea.	\$1,206,477	\$ 4,825,907
	Treatment of Tunnel Construction Water	4	ea.	\$103,008	\$ 412,032

\$2742/ft. per tunnel;
FY06

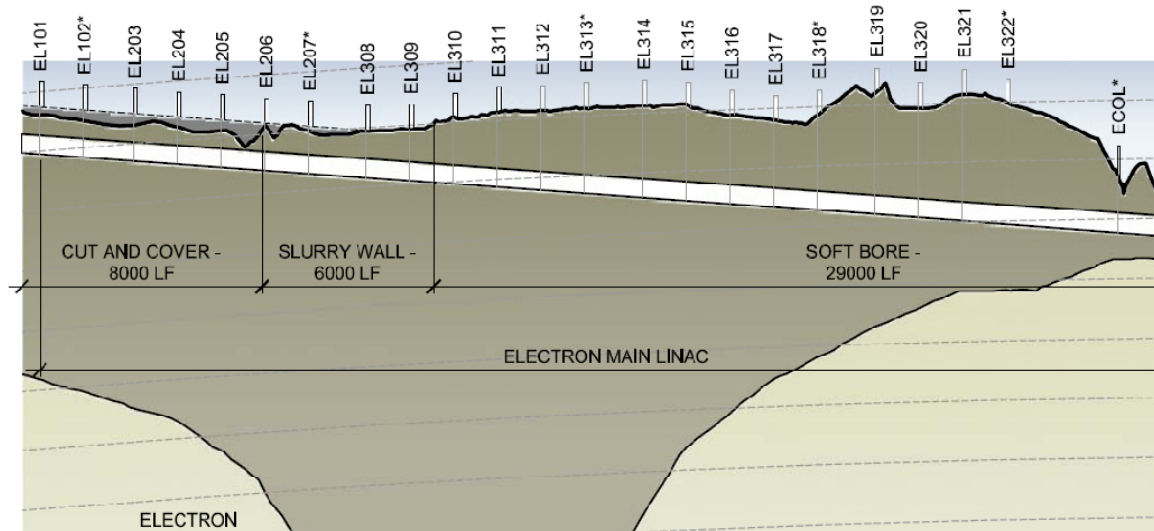
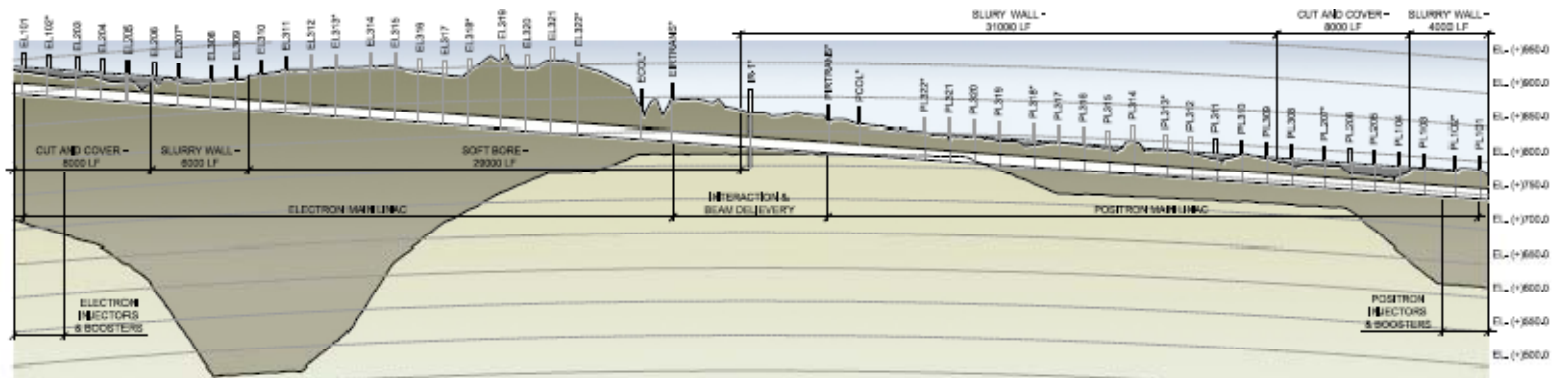


NLC EW Site Plan



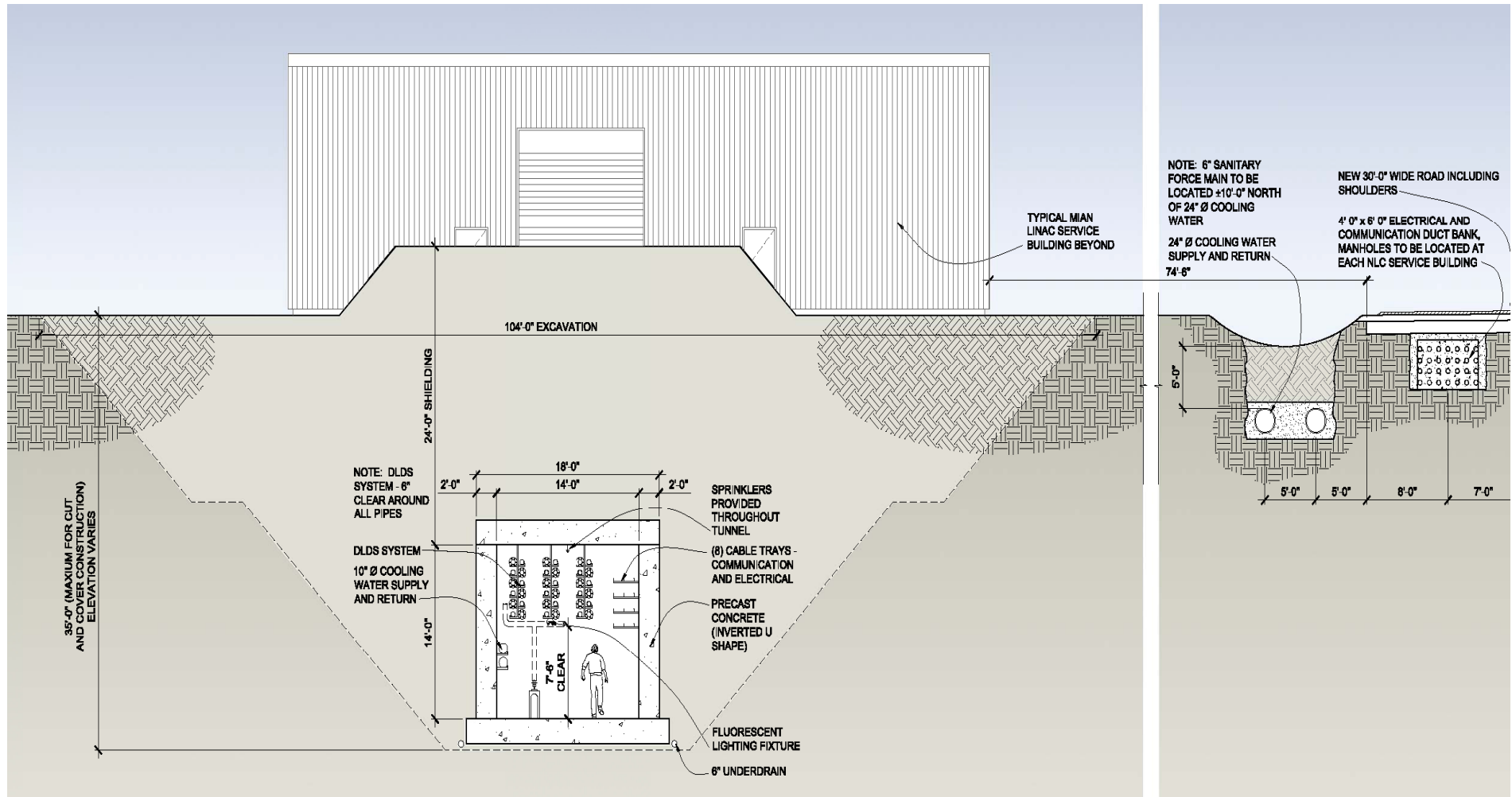


Site Sections





NLC Open Cut





NLC..

