

DESIGN DIVISION
FILE NO. K-21

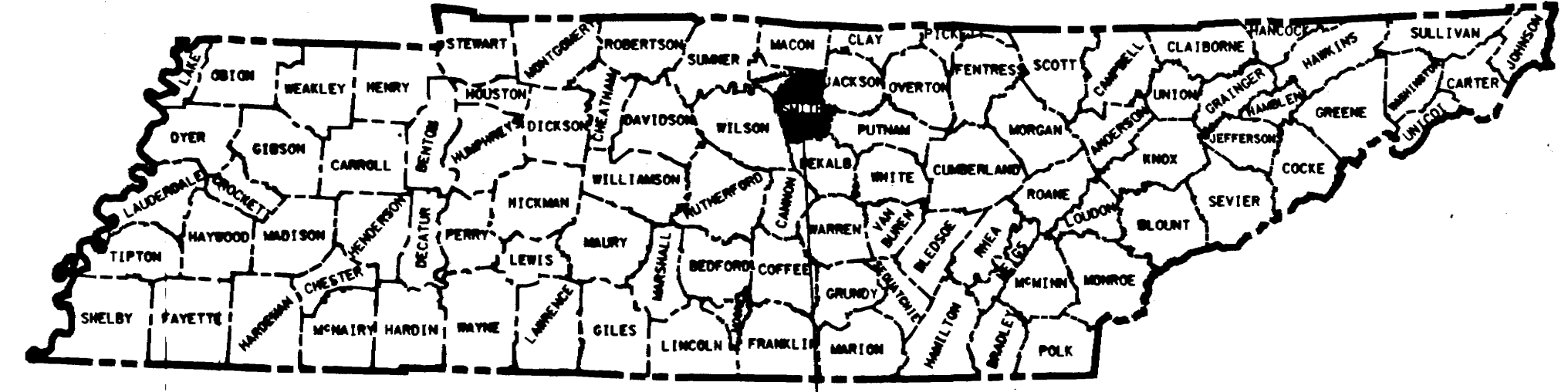
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING AND DEVELOPMENT

TENN.	YEAR	SHEET NO.
	1997	1
FED.AID PROJ.NO.		
STATE PROJ.NO.	80001-4163-04	

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ESTIMATED QUANTITIES
2A	GENERAL NOTES AND SCOPE OF WORK
2B & 2C	MISCELLANEOUS DETAILS
3	EXISTING SITE PLAN
4	PROPOSED SITE PLAN
5	HYDRAULIC PROFILE FOR PROPOSED WASTEWATER FACILITY
6	ALTERATIONS TO EXISTING SEPTIC TANK
7	PROPOSED WASTEWATER RECIRCULATION TANK
7A	PROPOSED FIBERGLASS RECIRCULATION TANK ALTERNATIVE
8	PROPOSED WASTEWATER RECIRCULATING SAND FILTER
9	PROPOSED FLOWMETER/U.V. DISINFECTION SYSTEM
10	PROPOSED ELECTRICAL SITE PLAN
11	ELECTRICAL DETAILS

SMITH COUNTY
I-40 WELCOME CENTER
WASTEWATER TREATMENT PLANT
MODIFICATIONS

STATE HIGHWAY NO. F.A.H.S. NO. I-40



PROJECT NO. 80001-4163-04

STANDARD ROADWAY DRAWINGS

DRAWING NO.	CURRENT REVISION DATE	STANDARD TITLE
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ROADWAY DESIGN STANDARDS

RD-A-1	9-05-94	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	10-26-94	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-S-11	10-26-93	DESIGN AND CONSTRUCTION DETAILS FOR ROADSIDE SLOPE DEVELOPMENT
RD-S-11A	1-19-96	ROADSIDE DITCH DETAILS FOR DESIGN AND CONSTRUCTION.

SAFETY APPURTENANCES AND FENCE

S-F-108	7-17-81	RIGHT-OF-WAY CHAIN LINK FENCE
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EROSION CONTROL AND LANDSCAPING

EC-STR-1	12-18-95	TEMPORARY DEWATERING STRUCTURE, PAY ITEMS & GENERAL NOTES
EC-STR-3	12-18-96	TEMPORARY SILT FENCE & FILTER BARRIER
EC-STR-5	12-18-95	STRAW OR HAY BALE OR FABRIC TEMPORARY EROSION CHECKS

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 1995 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT

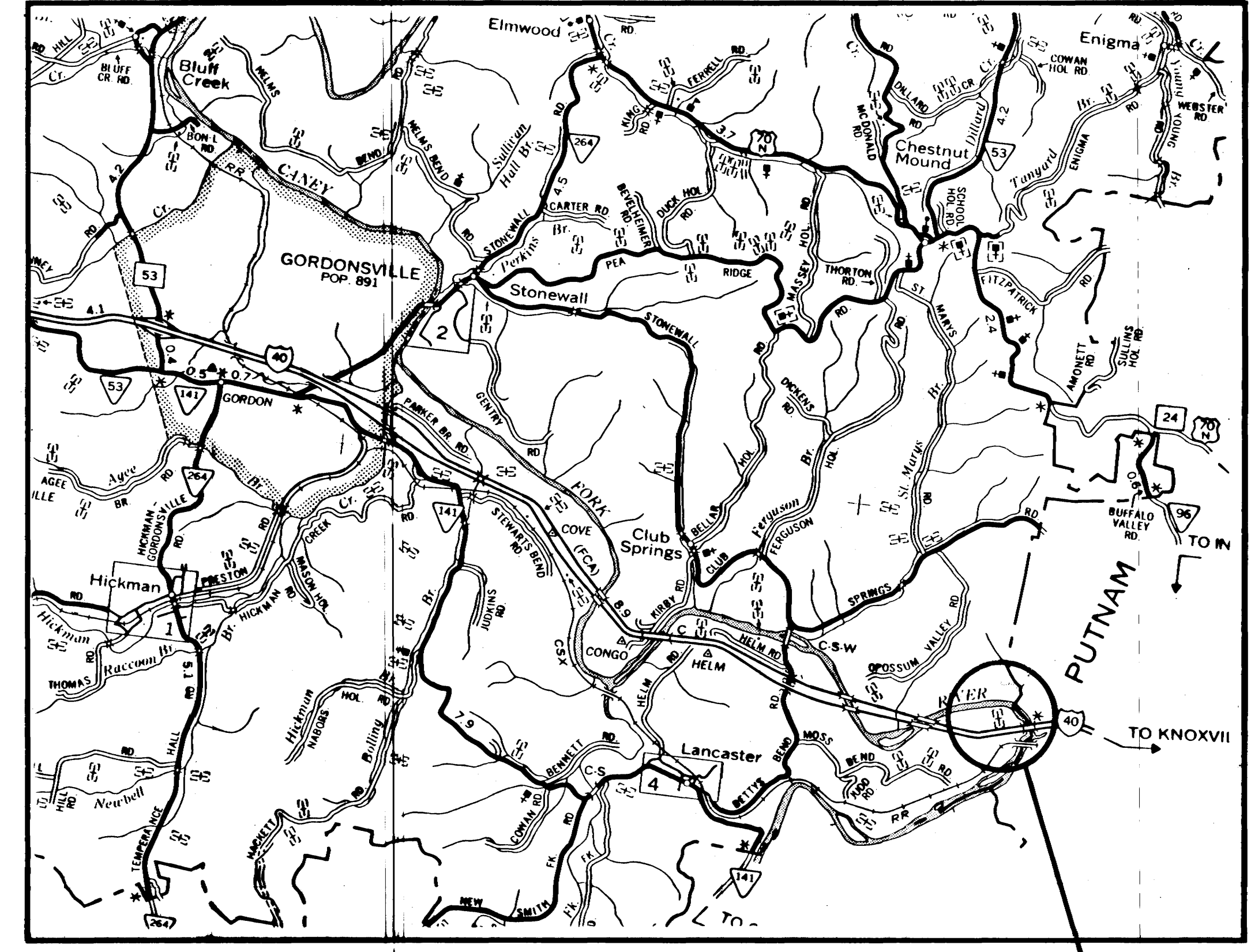
TDOT C.E. MANAGER 2 CARL COBBLE

DESIGNED BY BARGE, WAGGONER, SUMNER & CANNON, INC.

JIM GILLIAM
GEORGE C. GARDEN
ROBERT BOYD

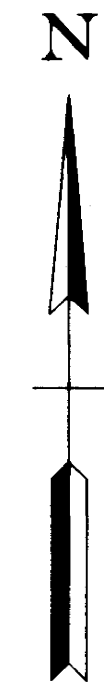
SHANNA CURLEY
CHARLIE CARRIGAN

P.E. NO. 80001-4162-04



SCALE: 1"= 1 MILE
PROJECT LENGTH 0.00 MILES

PROJECT NO. 80001-4163-04 CONST.
WELCOME CENTER



NO EQUATIONS
NO EXCLUSIONS

APPROVED: Paul R. Morrison
DIRECTOR, DESIGN DIVISION

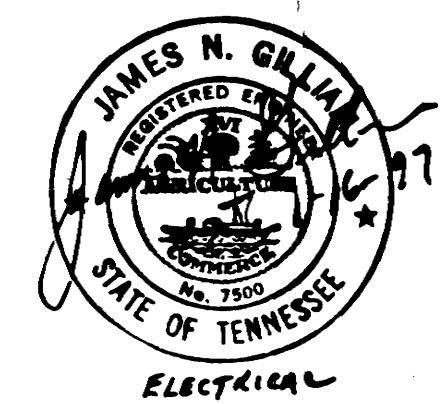
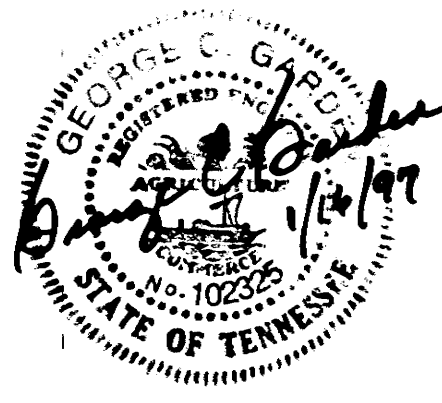
DATE:

APPROVED: Ben S. S.
COMMISSIONER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR

DATE: _____



TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	2

ESTIMATED ROADWAY QUANTITIES

ITEM No.	DESCRIPTION	UNIT	TOTAL QUANTITY
① 209-01.10	EROSION AND SILTATION CONTROL	L.S.	1
② 608-36.51	1" POLYVINYL CHLORIDE WATER PIPE	L.F.	100
608-36.52	2" POLYVINYL CHLORIDE WASTE PIPE	L.F.	260
③ 608-36.54	4" POLYVINYL CHLORIDE WATER PIPE	L.F.	180
608-36.55	6" POLYVINYL CHLORIDE WATER PIPE	L.F.	370
608-36.60	POLYVINYL CHLORIDE WATER PIPE (2.5")	L.F.	230
④ 611-02.10	MANHOLE, 4' DIAMETER, 0'-6' DEPTH	EACH	1
707-02	END AND CORNER POST ASSEMBLY (CHAIN-LINK FENCE 6')	EACH	9
707-02.02	GATE (CHAIN-LINK FENCE-6 FT.) (12 FT. WIDE SINGLE GATE W/ BARBWIRE)	EACH	1
707-02.07	CHAIN-LINK FENCE (6') W/ BARBWIRE	L.F.	689
714-03.03	DIRECT BURIAL CONDUIT (3/4" SCHEDULE 40 PVC)	L.F.	480
714-03.04	DIRECT BURIAL CONDUIT (1" SCHEDULE 40 PVC)	L.F.	170
714-04.01	CONDUIT (STRUCTURES - 1" RGS)	L.F.	15
714-04.04	CONDUIT (STRUCTURES - 3/4" RGS)	L.F.	40
714-06.01	CABLE (1/C *14 AWG)	L.F.	240
⑤ 714-06.03	CABLE (1/C *10 AWG)	L.F.	1790
714-06.04	CABLE (1/C *6 AWG)	L.F.	510
714-12.01	CONTROL CENTER (RECIRCULATION TANK PUMP STA. C.P.)	L.S.	1
714-12.11	MODIFY EXISTING CONTROL CENTER (PANEL C AS NOTED)	EACH	1
⑥ 714-13	CLASS "A" CONCRETE (ROADWAY STRUCTURE LIGHTING)	C.Y.	0.5
717-01	MOBILIZATION	L.S.	1
⑦ 720-62.14	1" FROST PROOF HOSE BIBB	EACH	1
⑧ 720-62.16	3/4" REDUCED PRESSURE BACKFLOW PREVENTER	L.S.	1
⑨ 720-62.33	RECIRCULATING SAND FILTER	L.S.	1
⑩ 720-62.34	SPLITTER BOX AND ULTRAVIOLET DISINFECTION SYSTEM	L.S.	1
⑪ 720-62.80	MODIFICATIONS OF EXISTING SEPTIC TANK	L.S.	1
⑫ 720-62.81	RECIRCULATION TANK	L.S.	1
801-01	SEEDING (WITH MULCH)	UNIT	18
801-03	WATER (SEEDING AND SODDING)	M.G.	2
803-01	SODDING (NEW SOD)	S.Y.	400

FOOTNOTES

- ① THE CONTRACTOR WILL SUBMIT AN EROSION CONTROL PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. ALL PROVISIONS OF TDOT STANDARD SPECIFICATION SECTION 209, PROJECT EROSION AND SILTATION CONTROL, AND EROSION CONTROL AND LANDSCAPING STANDARD DRAWINGS CITED (SEE SHEET 1) ARE INCLUDED IN THIS LUMP SUM ITEM.
- ② SCH. 40 (FOR WATER SUPPLY), INCLUDES COST FOR PVC FITTINGS, 1" CORP STOP, VALVES & VALVE BOXES, TRENCH & BACKFILL COMPLETE AND IN PLACE.
- ③ SCH. 40 (FOR SEWAGE FORCE MAIN AND DRAINAGE PIPING OUTSIDE FILTER), INCLUDES COST FOR PVC FITTINGS, VALVES & VALVE BOXES, TRENCH & BACKFILL COMPLETE AND IN PLACE.
- ④ COMPLETE AND IN PLACE (SEE DETAIL, SHEET 2B).
- ⑤ COPPER, TYPE THWN / THHN INSUL. 600 VOLT.
- ⑥ FOR CONTROL PANEL PAD.
- ⑦ INCLUDES DRAIN LINE, FRENCH DRAIN AND ASSOCIATED FITTINGS COMPLETE AND IN PLACE (SEE DETAIL, SHEET 2C).
- ⑧ INCLUDES BACKFLOW PREVENTER, INSULATED COVER, HEATER OR HEAT CORD, CONCRETE PAD AND ASSOCIATED WIRING COMPLETE AND IN PLACE (SEE DETAIL, SHEET 2C).
- ⑨ COMPLETE AND IN PLACE - INCLUDES EXCAVATION, BACKFILL, GRADING, UNDERDRAIN CONTROL VALVE & ASSOCIATED FITTINGS (SEE DETAIL, SHEET 12).
- ⑩ COMPLETE AND IN PLACE - INCLUDES MODIFICATION OF EXISTING CHLORINE CONTACT CHAMBER AND SUBSEQUENT INSTALLATION OF LADDER, ULTRAVIOLET DISINFECTION UNIT AND PALMER-BOWLUS FLUME (SEE DETAIL, SHEET 8). ALSO INCLUDES FLOW SPLITTER (SEE DETAIL, SHEET 2B).
- ⑪ INCLUDES REMOVAL AND PLUGGING OF EXISTING DOSING MECHANISM, INSTALLATION OF FILTERS (3), RISER ACCESSES (2), AND DISCHARGE LINES TO COLLECTION MANHOLE, COMPLETE AND IN PLACE (SEE DETAIL, SHEET 6).
- ⑫ COMPLETE AND IN PLACE - INCLUDES EXCAVATION, LEVELING SAND, BACKFILL, GRADING, FILTERS & ASSOCIATED FITTINGS (SEE DETAIL, SHEET 7). A RECIRCULATION TANK OF APPROVED FIBERGLASS CONSTRUCTION MAY BE BID AS AN ALTERNATIVE (SEE DETAIL, SHEET 7A).



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

ESTIMATED
QUANTITIES

I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	2A

GENERAL NOTES

1.0 GRADING

- 1.1 ANY AREA THAT IS DISTURBED OUTSIDE LIMITS OF CONSTRUCTION DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
- 1.2 THE CONTRACTOR SHALL NOT DISPOSE OF ANY MATERIAL EITHER ON OR OFF STATE-OWNED R.O.W. IN A REGULATORY FLOOD WAY AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY WITHOUT APPROVAL BY SAME. ALL MATERIAL SHALL BE DISPOSED OF IN UPLAND (NON-WETLAND) AREAS AND ABOVE ORDINARY HIGH WATER OF ANY ADJACENT WATERCOURSE. THIS DOES NOT ELIMINATE THE NEED TO OBTAIN ANY OTHER LICENSES OR PERMITS THAT MAY BE REQUIRED BY ANY OTHER FEDERAL, STATE OR LOCAL AGENCY.

2.0 SEEDING AND SODDING

- 2.1 ITEM NO. 801-01, SEEDING (WITH MULCH), SHALL BE USED ON ALL SLOPES .

3.0 UTILITIES

- 3.1 THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED.
- 3.2 THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- 3.3 THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.
- 3.4 SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC. AT 1-800-351-1111.

4.0 MISCELLANEOUS

- 4.1 NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA.

5.0 WETLANDS MITIGATION & EROSION CONTROL

- 5.1 TO REDUCE SEDIMENT IN RUNOFF, EROSION CONTROL STRUCTURES SHALL BE INSTALLED PROMPTLY DURING ALL CONSTRUCTION PHASES.
- 5.2 TO INSURE EROSION CONTROL STRUCTURES WORK PROPERLY, IT IS IMPERATIVE THAT THE SEDIMENT BE REMOVED. THEREFORE, "INSPECTION" AND "MAINTENANCE" OF STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS.
- 5.3 DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO INSURE THAT STRUCTURAL COMPONENTS OF EROSION CONTROL STRUCTURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTORS OWN EXPENSE.
- 5.4 STOCKPILED TOPSOIL OR FILL MATERIAL IS TO BE TREATED SO THE SEDIMENT RUN-OFF WILL NOT CONTAMINATE SURROUNDING AREAS OR ENTER NEARBY STREAMS.
- 5.5 CLEARING AND GRUBBING IS TO BE HELD TO THE MINIMUM WIDTH NECESSARY TO ACCOMMODATE SLOPES. UNNECESSARY CANOPY REMOVAL (TREES, SHRUBS, ETC.) IS PROHIBITED.
- 5.6 BORROW AND DISPOSAL AREAS SHALL BE LOCATED IN NON-WETLAND AREAS.
- 5.7 EQUIPMENT STAGING AND MAINTENANCE AREAS SHALL BE DEVELOPED A SUFFICIENT DISTANCE FROM WETLAND AREAS TO INSURE THAT OIL, GASOLINE AND OTHER PETROLEUM POLLUTANTS DO NOT ENTER THE WETLANDS.
- 5.8 WETLAND AREAS SHALL NOT TO BE USED AS EQUIPMENT STAGING AREAS OR BORROW SOURCE.

6.0 SPECIAL NOTES

- 6.1 THE CONTRACTOR WILL SUBMIT AN EROSION CONTROL PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCING WORK. ALL COSTS TO BE INCLUDED IN PRICE BID FOR ITEM NO. 209-01.10. MATERIAL QUANTITIES REQUIRED TO MEET LEGAL AND REGULATORY STANDARDS ARE CONSIDERED TO BE INCIDENTAL TO THE PROJECT'S CONSTRUCTION WORK AND SHALL BE PROVIDED BY THE CONTRACTOR AS NECESSARY WITHOUT ADDITIONAL COST TO THE OWNER.
- 6.2 SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES IS TO BE PLACED AT A SITE APPROVED BY THE ENGINEER. IT SHALL BE TREATED IN A MANNER SO THAT THE AREA AROUND THE DISPOSAL SITE WILL NOT BE CONTAMINATED OR DAMAGED BY THE SEDIMENT IN RUN-OFF. COST FOR THIS TREATMENT IS TO BE INCLUDED IN BID PRICE FOR OTHER ITEMS.
- 6.3 UPON COMPLETE REMOVAL OF EROSION AND SEDIMENT CONTROL STRUCTURES, THE AREA WHERE THEY WERE CONSTRUCTED IS TO BE TOPSOILED, SEEDED AND MULCHED. COST TO BE INCLUDED IN BID PRICE FOR ITEM NO. 209-01.10
- 6.4 EXCAVATION FOR SANITARY MANHOLES, SANITARY SEWER LINES, SAND FILTER (INCLUDING PLANT PIPING), RECIRCULATION TANK WILL BE CONSIDERED AS UNCLASSIFIED AND WILL NOT BE MEASURED AND PAID FOR DIRECTLY, BUT THE COST WILL BE INCLUDED IN THE COST BID FOR EACH RESPECTIVE ITEM.
- 6.5 LOCATION OF THE FENCE SHALL BE WHERE SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

SCOPE OF WORK

FOR WELCOME CENTER

1. THE CLEARING AND GRUBBING AND REMOVAL OF EXISTING STRUCTURES OBSTRUCTING WORK AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
2. THE SITE GRADING AND DRAINAGE FOR THE PROPOSED WASTEWATER FACILITIES IMPROVEMENTS.
3. THE CONSTRUCTION OF PROPOSED WASTEWATER FACILITY MODIFICATIONS INCLUDING GRAVITY SEWER LINES, SEPTIC TANK ALTERATIONS, RECIRCULATION TANK, FORCE MAINS, SAND FILTER, ULTRAVIOLET DISINFECTION UNIT, AND ASSOCIATED APPURTENANCES COMPLETE AND IN PLACE .
4. ALL SEEDING, EROSION CONTROL AND ALL OTHER ITEMS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER TO COMPLETE THE PROJECT.

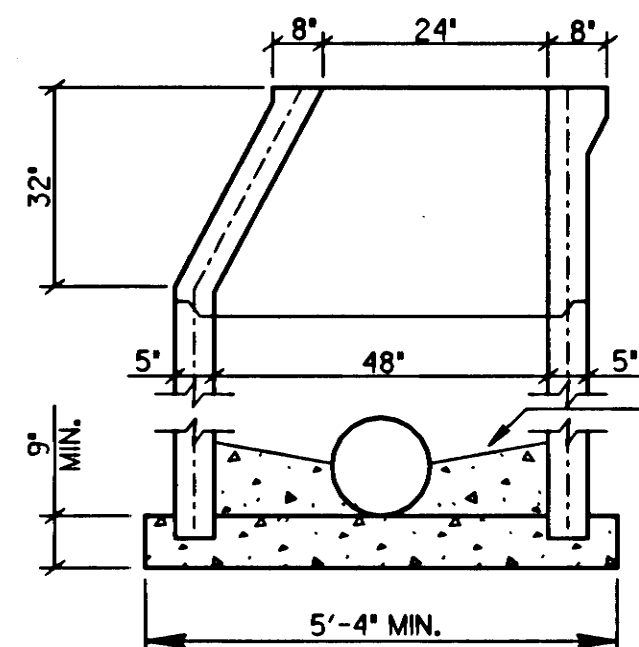


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

GENERAL NOTES
AND
SCOPE OF WORK

I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	2B

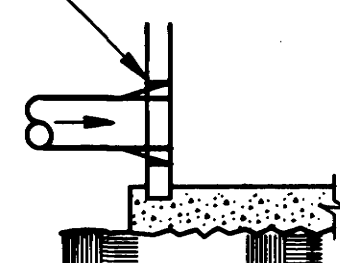


ECCENTRIC CONE

GENERAL NOTES:

1. ALL MATERIALS, DESIGN, MANUFACTURE, PHYSICAL TEST REQUIREMENTS, FINISH, MARKING, INSPECTION, REJECTION AND REPAIRS TO MEET ASTM C478 FOR PRECAST REINFORCED CONCRETE MANHOLE RISERS AND TOPS EXCEPT AS MAY BE MODIFIED IN THESE SPECIFICATIONS.
2. SIZE AND LOCATE PIPE CUTOUTS AS REQUIRED.
3. MANHOLE STEPS TO BE CAST IN PLACE.
4. ALL CONNECTIONS TO MANHOLES SHALL BE W/ KOR-N-SEAL OR PSX BOOT W/ SS STRAP.

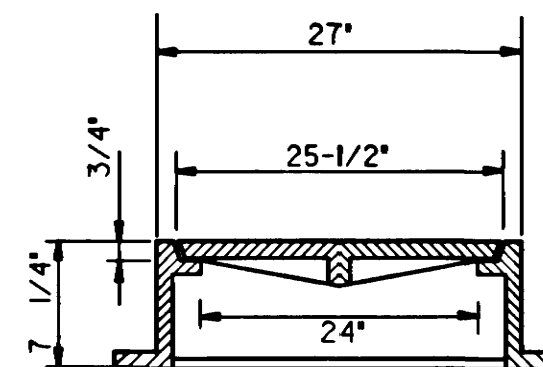
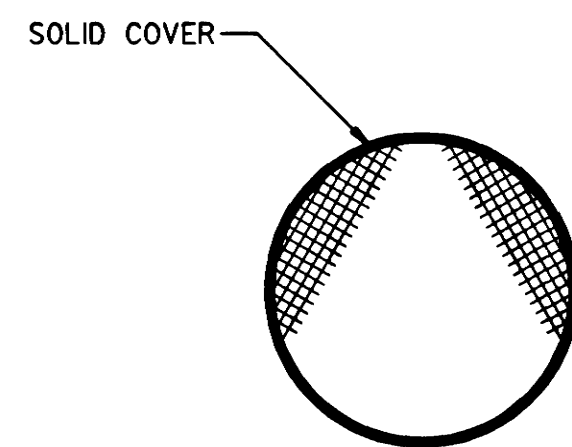
CORED OPENING:
KOR-N-SEAL OR PSX
BOOT W/ SS STRAP



DETAIL - CORED OPENING

STANDARD PRECAST CONCRETE MANHOLES

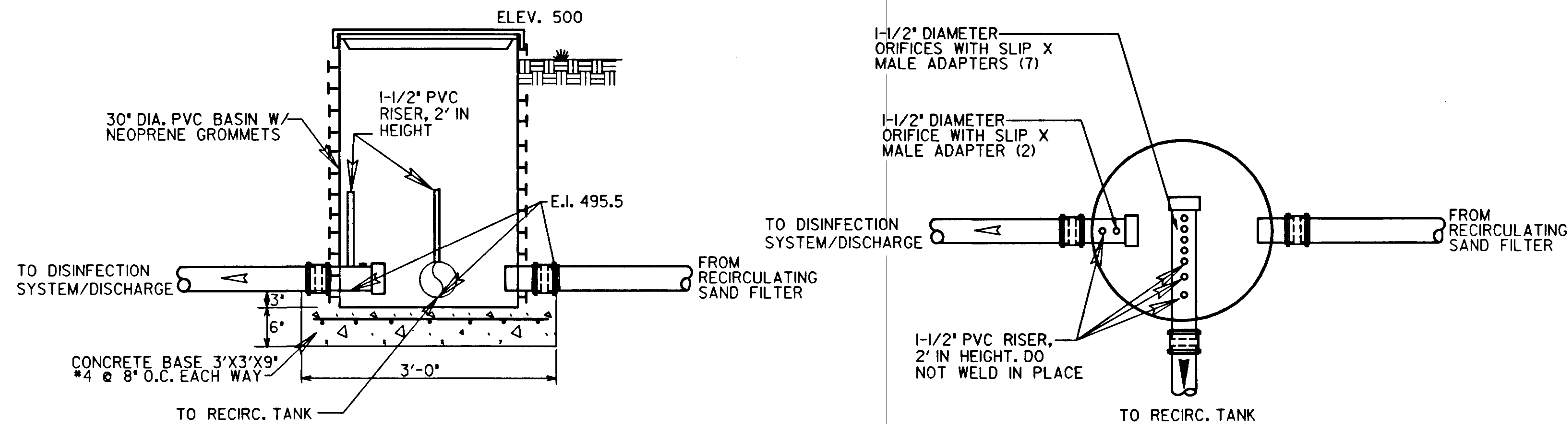
SCALE: N.T.S. ITEM NO. 611-02.10



NOTE:
ANCHOR W.J. CASTINGS TO
TOP CONE W/ 10 3/4" BOLTS

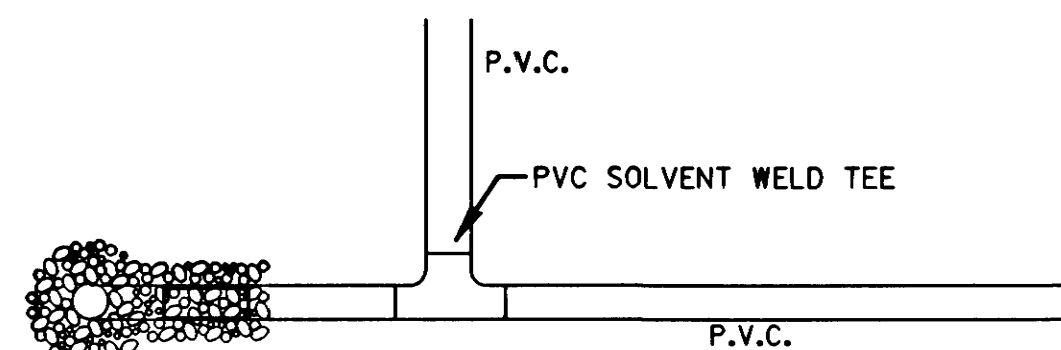
MANHOLE FRAME AND COVER

SCALE: N.T.S. ITEM NO. 611-02.10

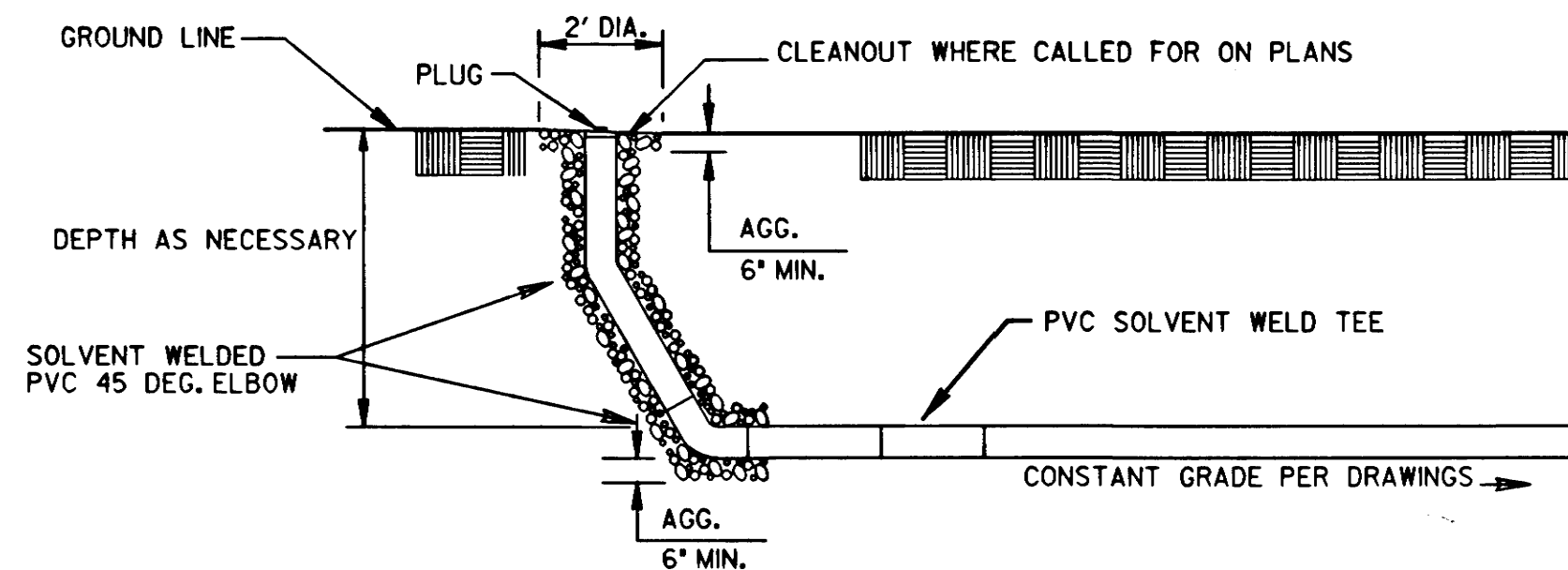


FLOW SPLITTER

SCALE: N.T.S. INCLUDED IN ITEM NO. 720-62.34



PLAN VIEW-N.T.S.



PROFILE VIEW-N.T.S.

CLEANOUT AT GRAVITY SEWER TURNS

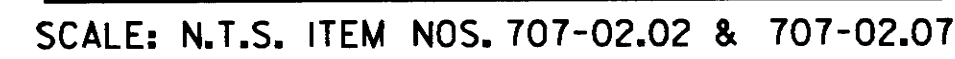
SCALE: N.T.S. INCLUDED IN ITEM NO. 608-36.54

Brady C. Baker
4/3/97
STATE OF TENNESSEE

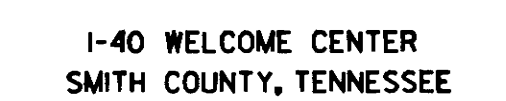
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

MISCELLANEOUS
DETAILS

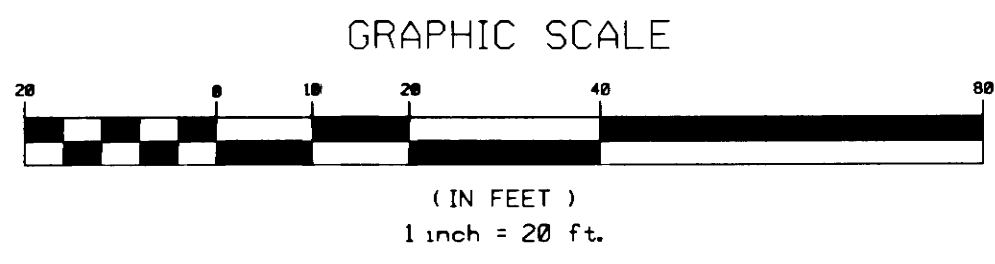
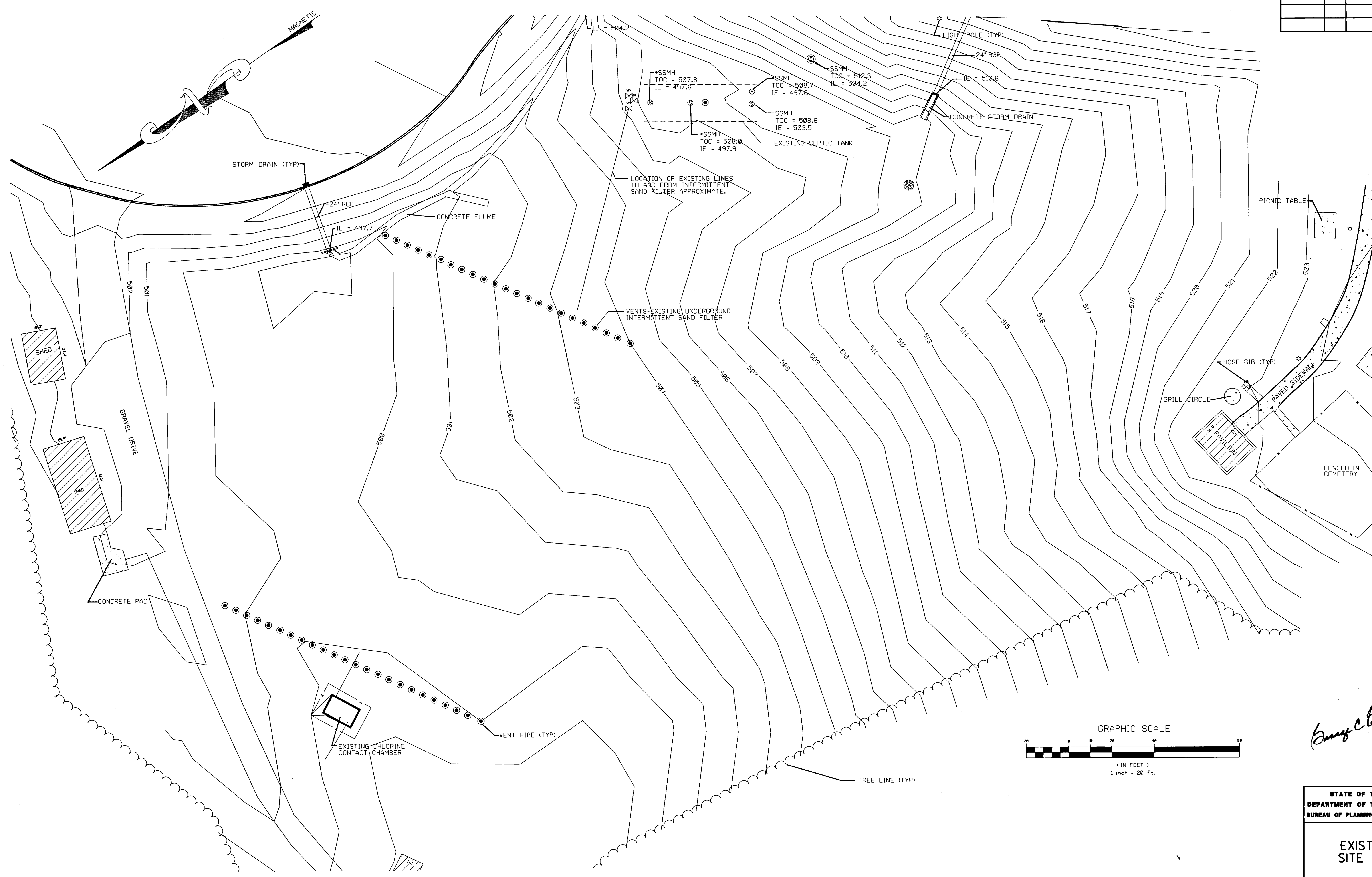
I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE



TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	2C
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TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	3



George C. Barber
1/16/97

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

EXISTING
SITE PLAN

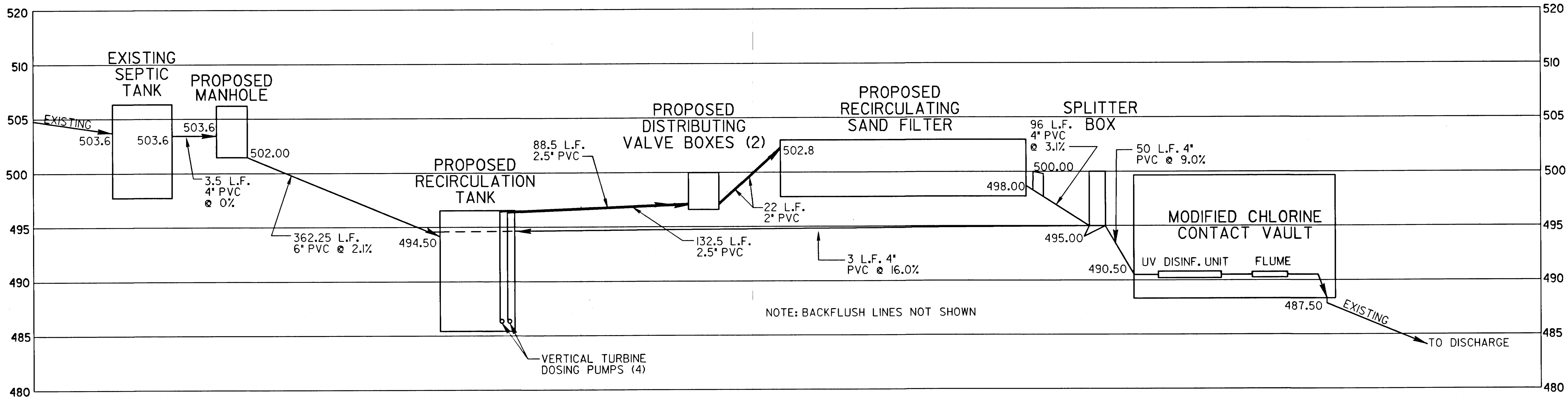
I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
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PROPOSED
SITE PLAN

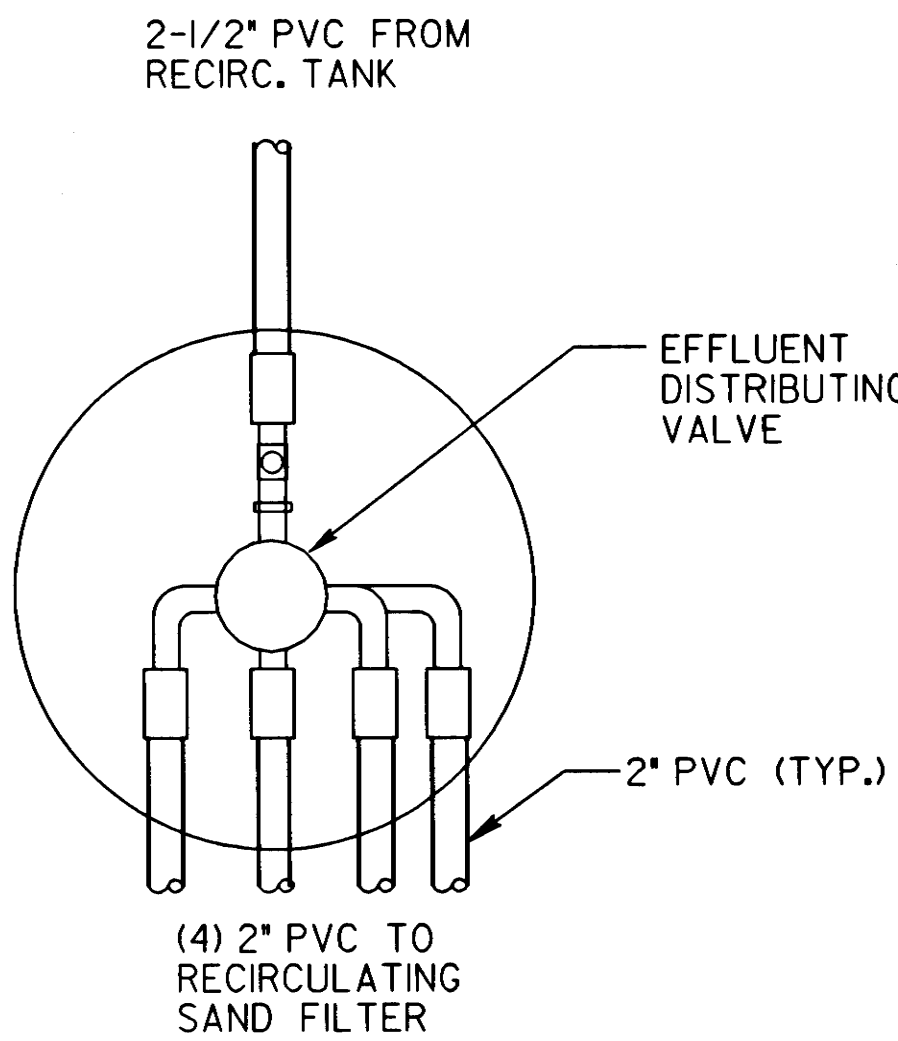
I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	5

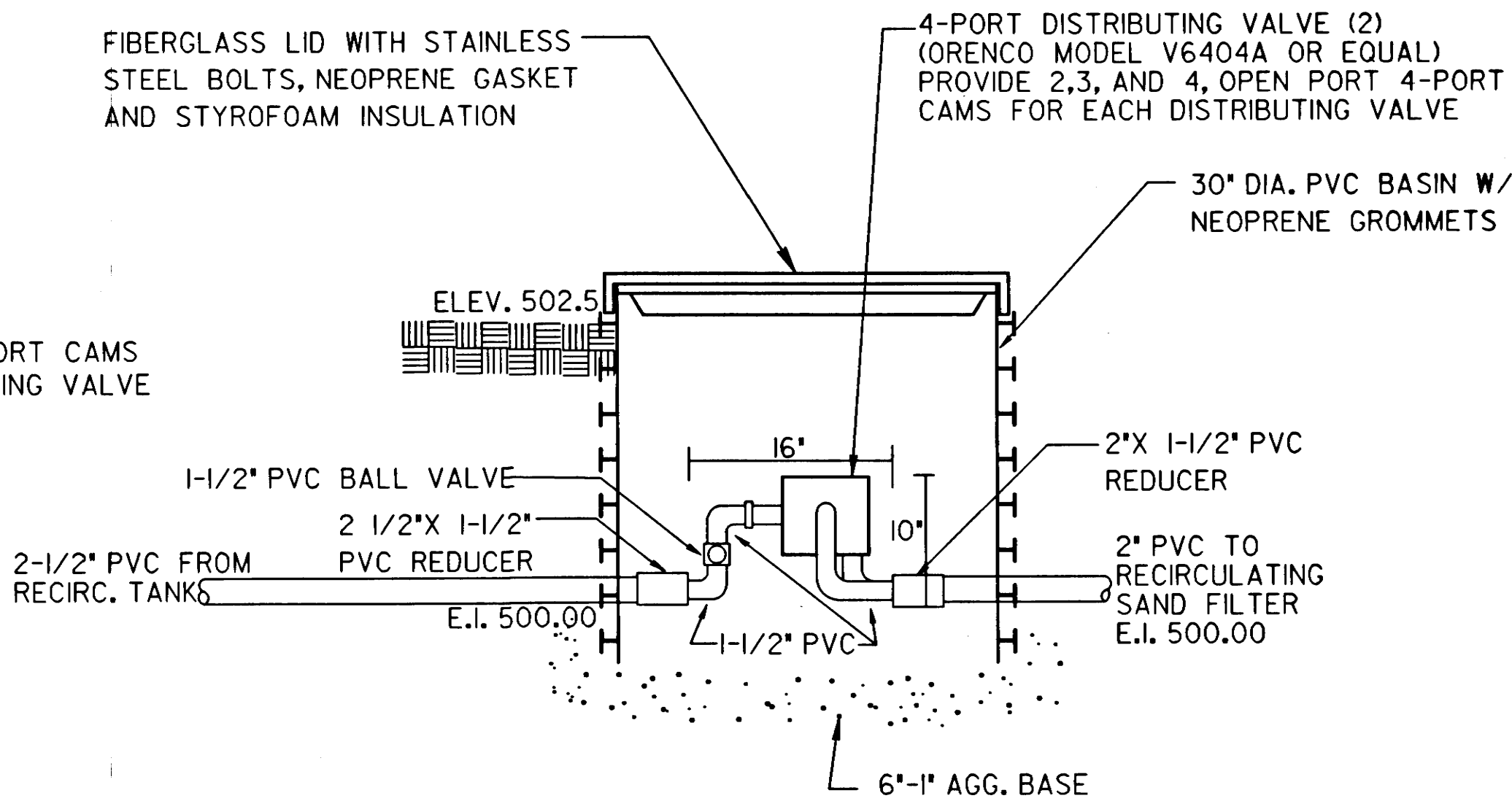


HYDRAULIC PROFILE

SCALE: N.T.S.



NOTE: PROVIDE 2 AND 4-PORT CAMS FOR EACH DISTRIBUTING VALVE



DISTRIBUTING VALVE BOXES (2)

SCALE: N.T.S.

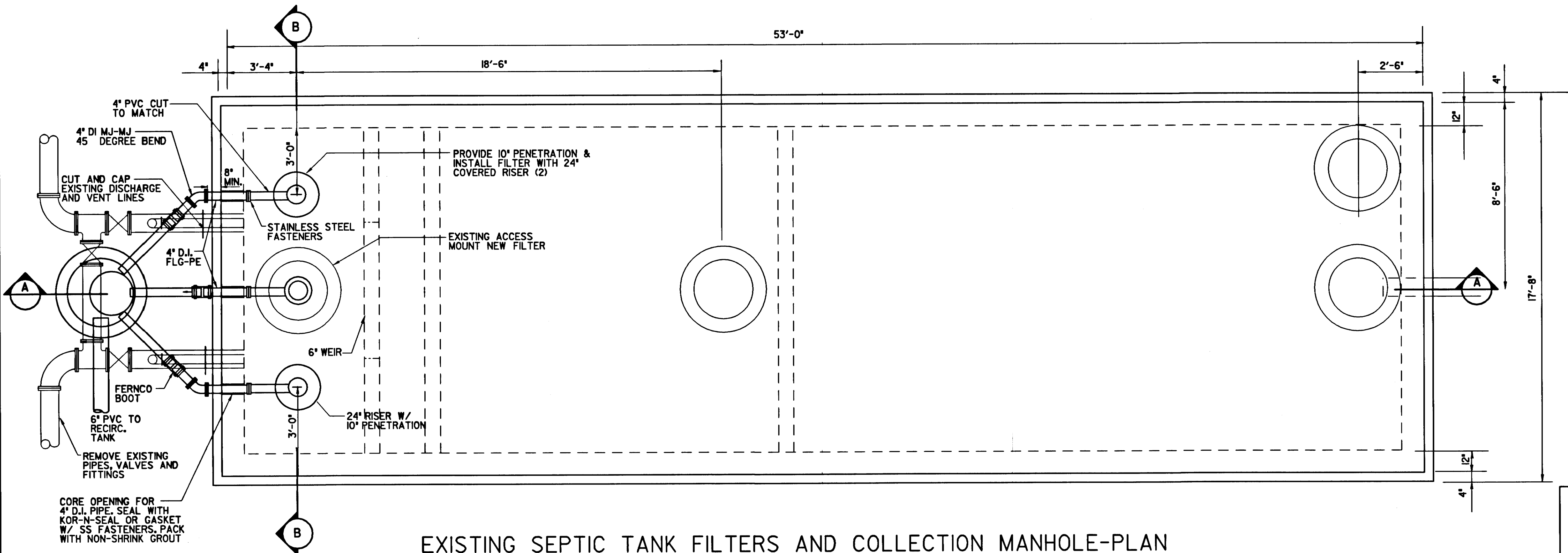
George C. Butler
4/3/97

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

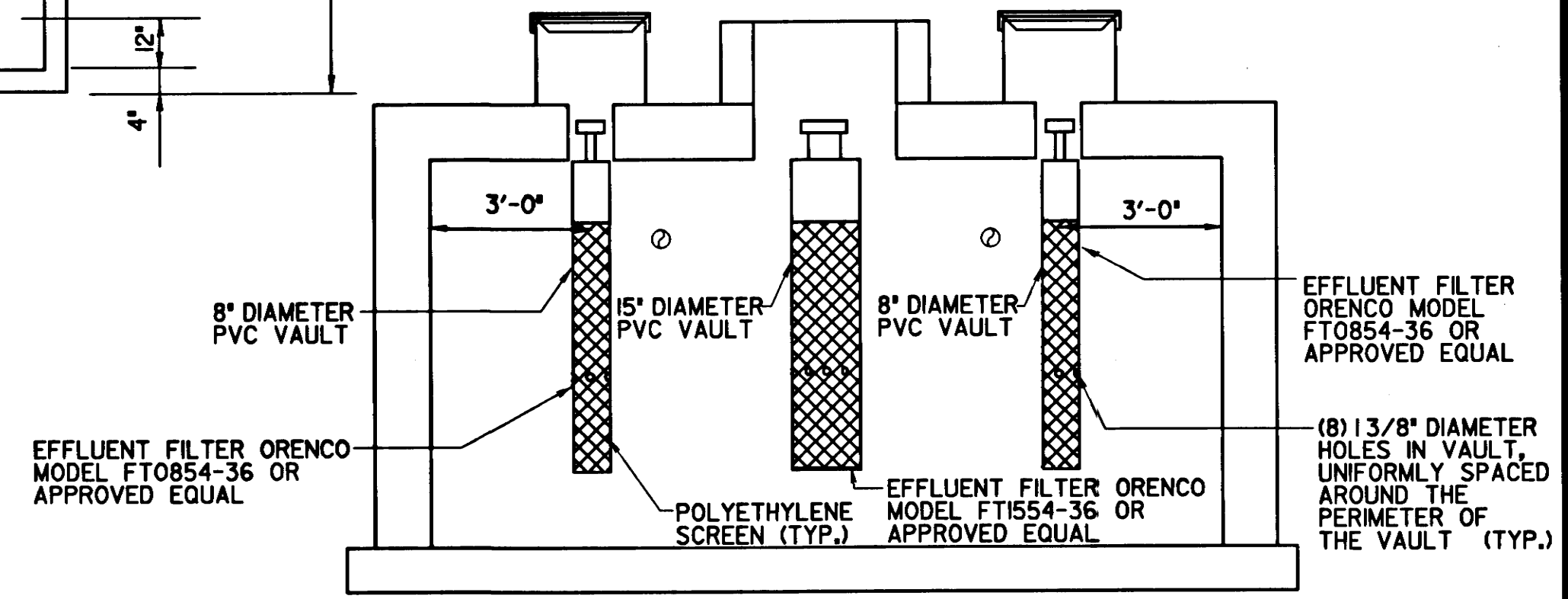
HYDRAULIC PROFILE
FOR PROPOSED
WASTEWATER
FACILITY

I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

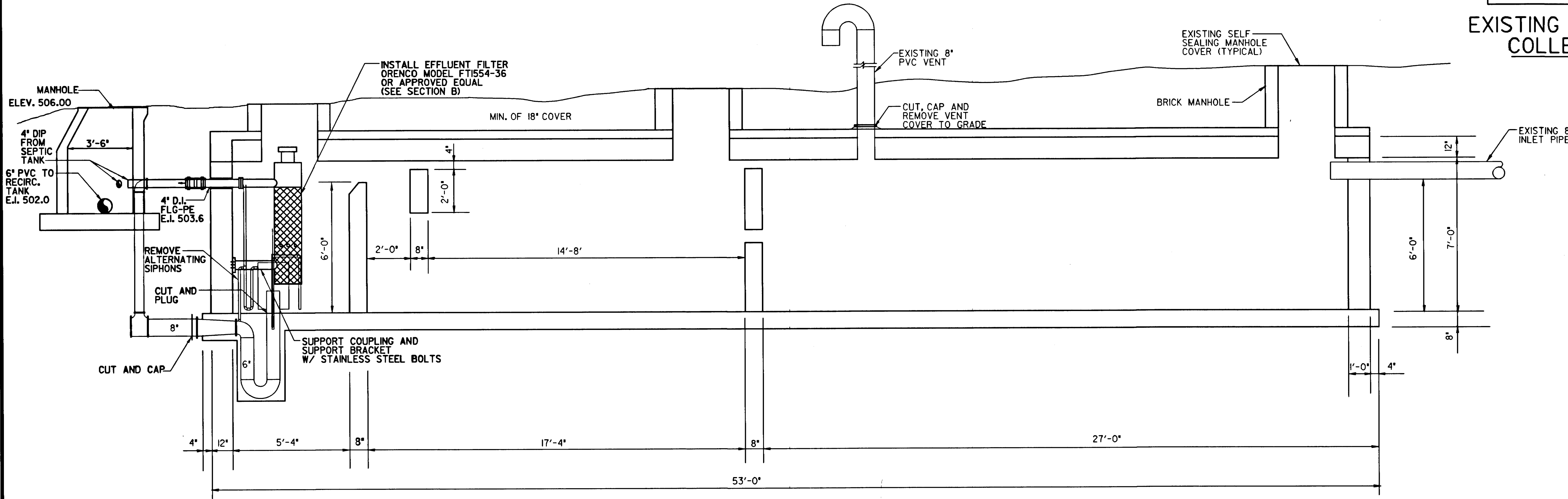
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	6



EXISTING SEPTIC TANK FILTERS AND COLLECTION MANHOLE-PLAN
SCALE: 3/8"=1'-0"



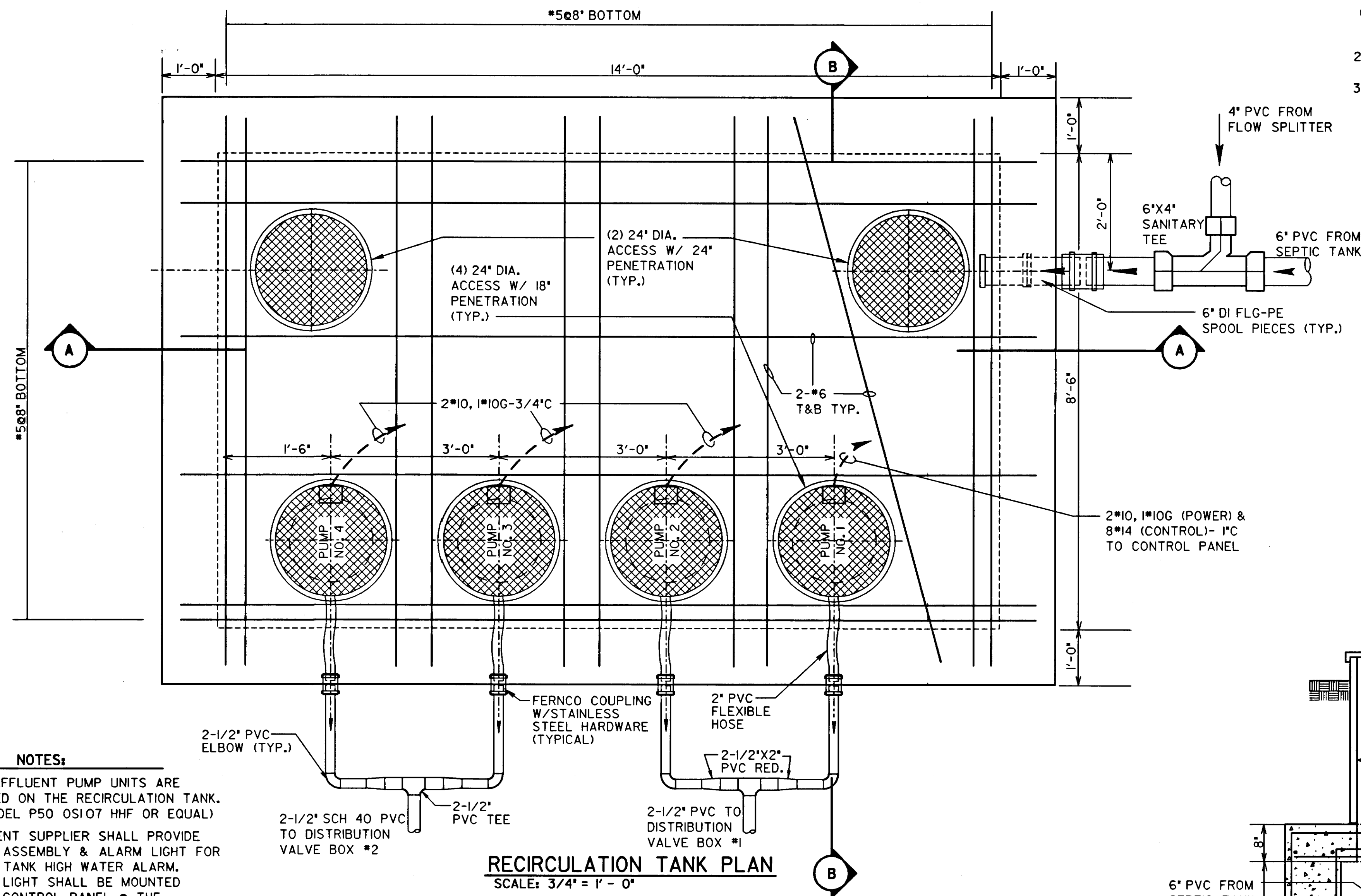
EXISTING SEPTIC TANK FILTERS AND COLLECTION MANHOLE-SECTION
SCALE: 3/8"=1'-0"



EXISTING SEPTIC TANK FILTERS AND COLLECTION MANHOLE-SECTION
SCALE: 3/8"=1'-0" ITEM NOS. 720-62.80 AND 611-02.10

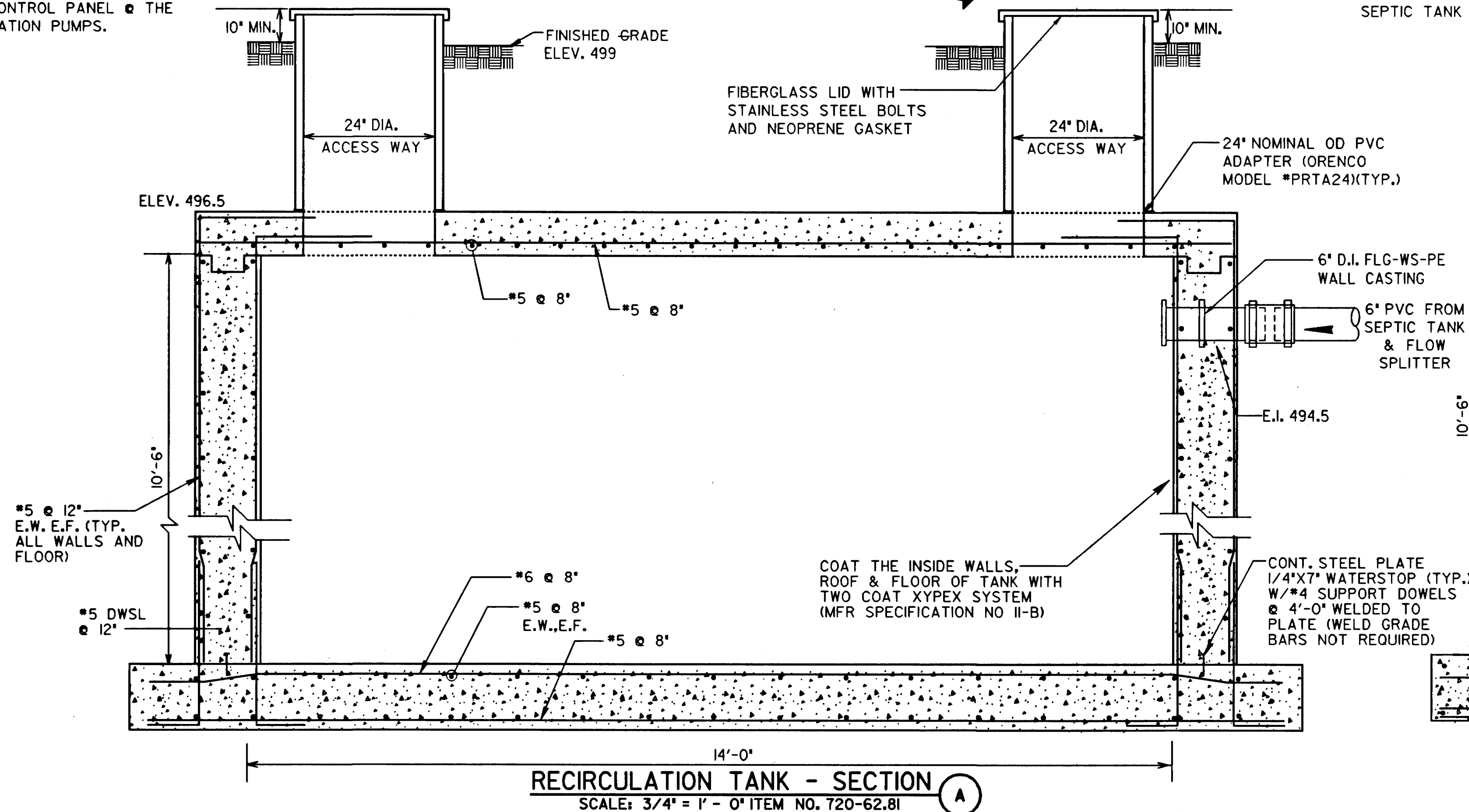
Samuel Barber
4/3/97

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	7



- NOTES:**
- FOUR EFFLUENT PUMP UNITS ARE REQUIRED ON THE RECIRCULATION TANK. (OSI MODEL P50 OSI07 HHF OR EQUAL)
 - EQUIPMENT SUPPLIER SHALL PROVIDE ALARM ASSEMBLY & ALARM LIGHT FOR RECIRC. TANK HIGH WATER ALARM. ALARM LIGHT SHALL BE MOUNTED IN THE CONTROL PANEL & THE RECIRCULATION PUMPS.

RECIRCULATION TANK PLAN
SCALE: 3/4" = 1' - 0"



RECIRCULATION TANK - SECTION A
SCALE: 3/4" = 1' - 0" ITEM NO. 720-62.81

STRUCTURAL GENERAL NOTES

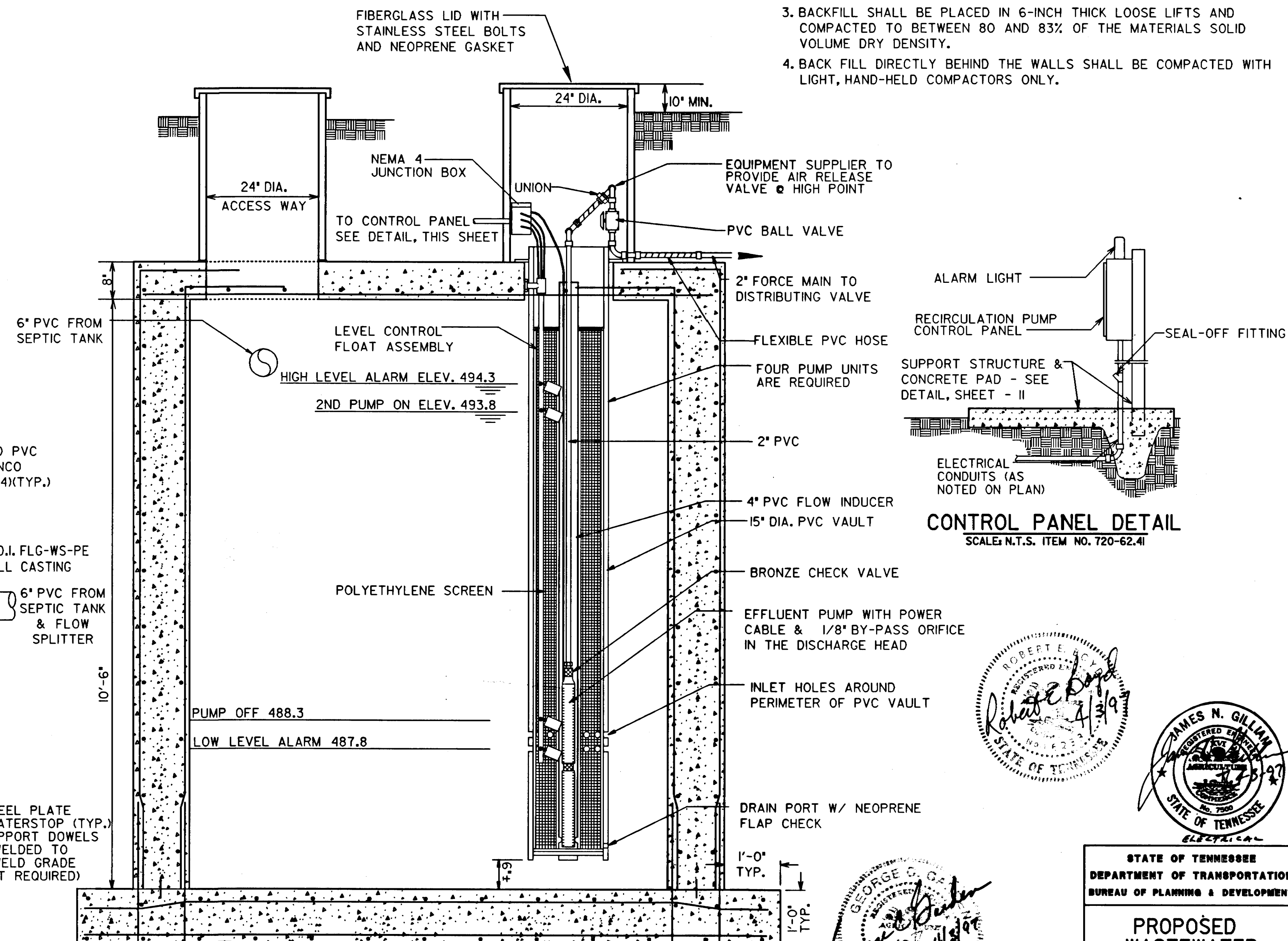
- CODES AND STANDARDS:**
- AMERICAN CONCRETE INSTITUTE, "BUILDING CODE REQUIREMENTS FOR REINFORCEMENT CONCRETE" (ACI 318-83).
 - AMERICAN CONCRETE INSTITUTE, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301) LATEST ADOPTED EDITION.
 - STANDARD BUILDING CODE (SBCCI) 1991 EDITION.
- DESIGN LOADS:**
- SOIL UNIT WEIGHT - 120 PSF
 - EQUIVALENT FLUID PRESSURE - 50 PSF/FT.
- REINFORCED CONCRETE:**
- MATERIALS**
 - CONCRETE - 28 DAY STRENGTH - f'_c - 4,000 PSI
 - REINFORCING STEEL - ASTM A615, GRADE 60
 - ALL EXPOSED CONCRETE SHALL BE AIR ENTRAINED
 - ALL WATER RETAINING STRUCTURES SHALL HAVE WATER/CEMENT RATIO=0.45 AND SHALL CONTAIN SUPER PLASTICIZER TO ACHIEVE 6" TO 8" SLUMP.
 - SHOP DRAWINGS SHALL CONFORM TO CONTRACT DRAWINGS AND TO "DETAILS AND DETAILING OF REINFORCED CONCRETE STRUCTURES" (ACI 315-80).
 - CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI LATEST ADOPTED EDITION).
 - DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS, UNLESS OTHERWISE NOTED, MUST FOLLOW THE CRSI, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES."
 - EMBEDDED ITEMS SHALL BE INSTALLED AS SHOWN ON THE DRAWINGS. CONTRACTOR IS TO FURNISH ALL EMBEDDED ITEMS UNLESS SHOWN ON THE DRAWINGS AS FURNISHED BY OTHERS.
 - CONTRACTOR IS TO PROVIDE AND COORDINATE WITH ALL OTHER TRADES FOR SIZE AND LOCATIONS OF ANY AND ALL OPENINGS, SLEEVES, ETC.

FOUNDATIONS:

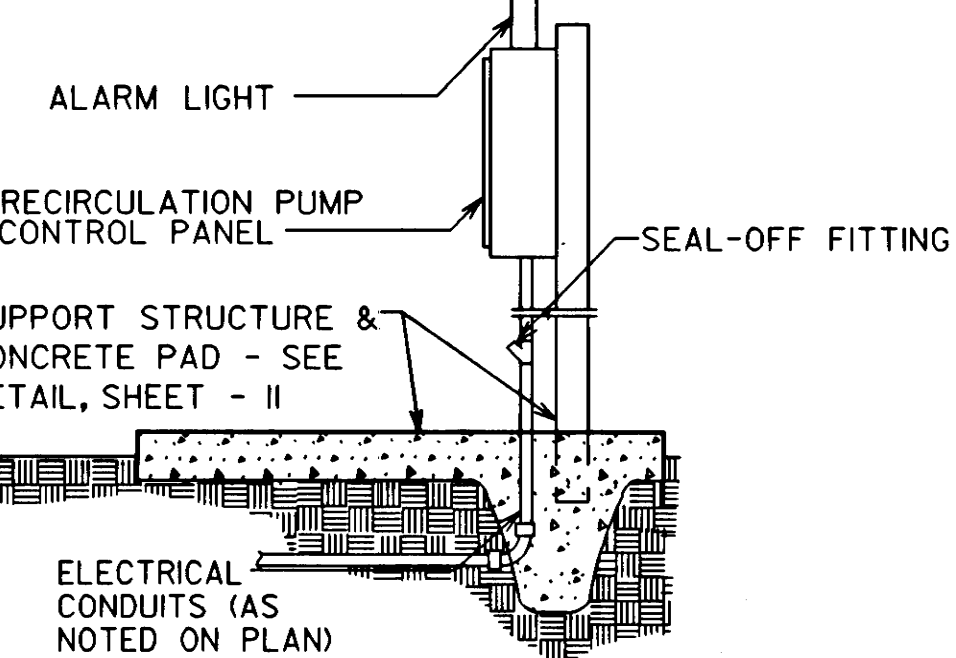
- ALLOWABLE SOIL BEARING PRESSURE - 3,000 PSF
 - ALLOWABLE SOIL BEARING PRESSURES ARE BASED ON BEARING AGAINST FIRM, UNDISTURBED SOIL. NOTIFY ENGINEERS OF DISCREPANCIES.
- MISCELLANEOUS:**
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND FIELD CONDITIONS PRIOR TO BEGINNING WORK.
 - FOR LOCATION OF MISCELLANEOUS ITEMS (SUCH AS OPENINGS, INSERTS, ETC.) AFFECTING STRUCTURAL WORK, SEE CIVIL, MECHANICAL, AND ELECTRICAL DRAWINGS.

NOTES

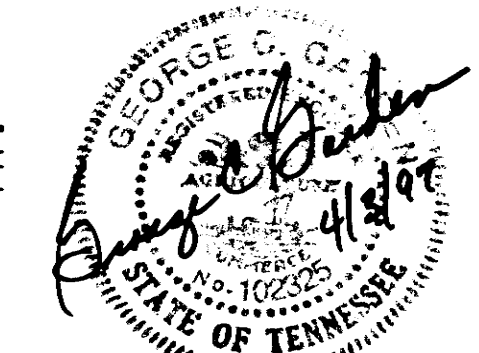
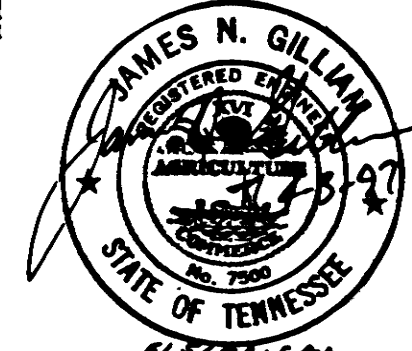
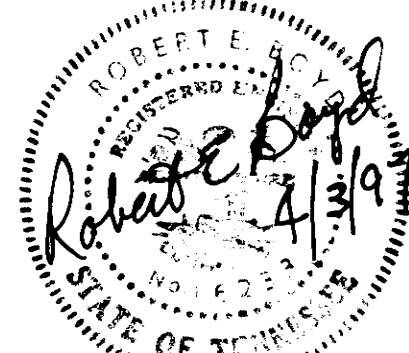
- TOP SLAB SHALL BE PLACED AND CURED BEFORE BACKFILLING AROUND TANK.
- HEAVY COMPACTORS AND GRADING EQUIPMENT SHALL NOT OPERATE WITHIN 5 FEET OF THE WALLS.
- BACKFILL SHALL BE PLACED IN 6-INCH THICK LOOSE LIFTS AND COMPACTED TO BETWEEN 80 AND 83% OF THE MATERIALS SOLID VOLUME DRY DENSITY.
- BACK FILL DIRECTLY BEHIND THE WALLS SHALL BE COMPACTED WITH LIGHT, HAND-HELD COMPACTORS ONLY.



RECIRCULATION TANK - SECTION B
SCALE: 3/4" = 1' - 0"



CONTROL PANEL DETAIL
SCALE: N.T.S. ITEM NO. 720-62.41



STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

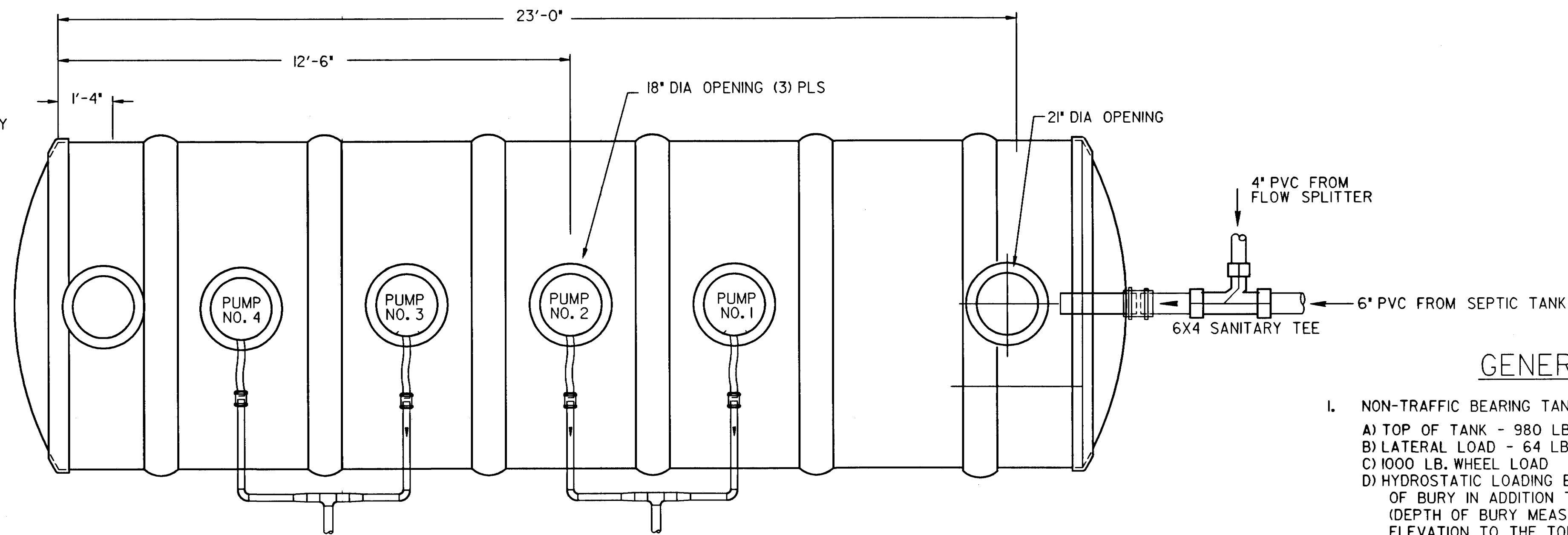
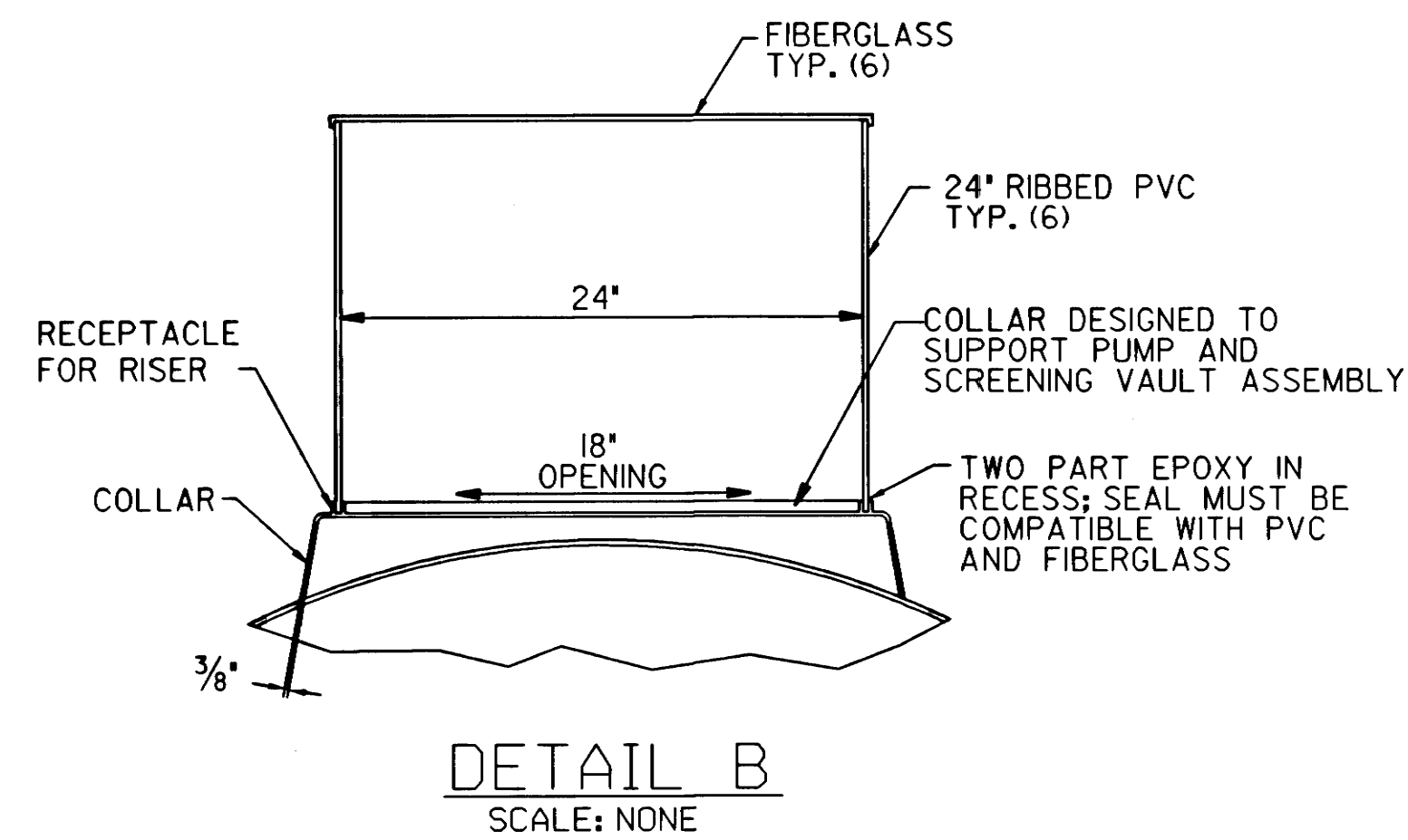
**PROPOSED
WASTEWATER
RECIRCULATION
TANK**

1-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

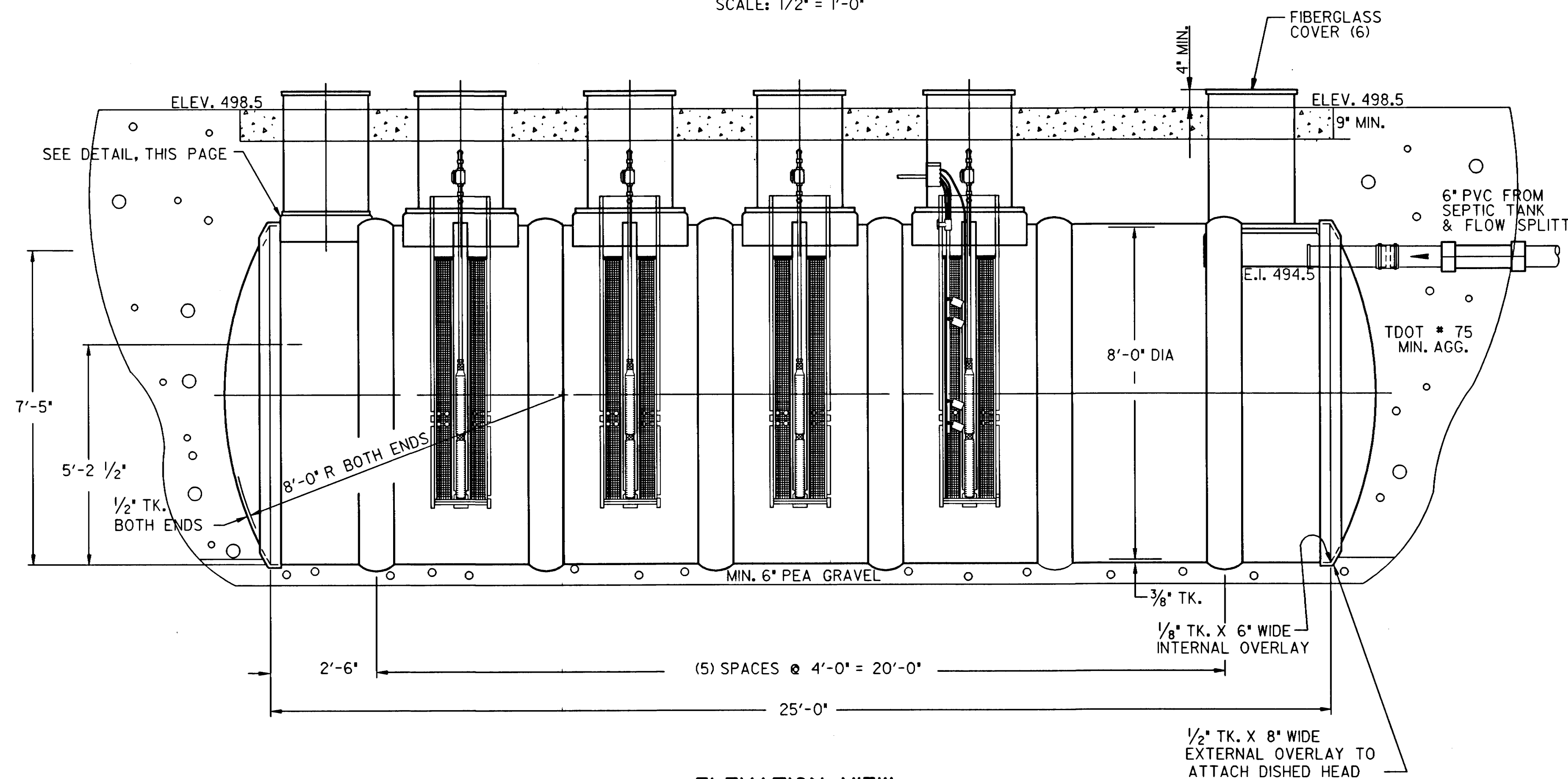
TYPE	YEAR	PROJECT NO.	SHEET NO.
CONSI.	1997	80001-4163-04	7A

K-21
FILE NO. 11495-75

TENNESSEE D.O.T.
DESIGN DIVISION



PLAN VIEW
SCALE: 1/2" = 1'-0"



ELEVATION VIEW
SCALE: 1/2" = 1'-0"

WASTEWATER RECIRCULATION TANK
ALTERNATE ITEM NO. 720-62.81

GENERAL NOTES

- NON-TRAFFIC BEARING TANK CONDITIONS ARE AS FOLLOWS:
A) TOP OF TANK - 980 LBS/SQ. FT.
B) LATERAL LOAD - 64 LBS/CU. FT.
C) 1000 LB. WHEEL LOAD
D) HYDROSTATIC LOADING EQUAL TO THE MAXIMUM DEPTH OF BURY IN ADDITION THE SOIL LOADING.
(DEPTH OF BURY MEASURED FROM THE GROUND ELEVATION TO THE TOP OF THE TANK).
- COMPACTION TO 90% STANDARD PROCTOR DENSITY 6" ENVELOPE OF SELECT BACKFILL REQUIRED FOR HS-20 LOADING ASTM-698 BELOW SPRING-LINE WHILE TANK IS FILLED WITH WATER. (PEA GRAVEL STRONGLY RECOMMENDED).
- TANK CONSTRUCTION SHALL CONFORM TO IAMPO STANDARD IGC 1-87 AND ASTM 3299 WHERE APPLICABLE.
- TANK STRUCTURAL REINFORCEMENT IS FILAMENT WOUND. HEADS ARE CONTACT MOLDED.
- INTERIOR CORROSION BARRIER REINFORCEMENT WITH "C" VEIL, THICKNESS 100 MILS.
- SURFACE COAT = PARAFFINATED RESIN WITH ULTRAVIOLET INHIBITORS.
- SLAB SHALL BE DESIGNED TO DRAIN TO GRADE. NO WATER SHALL STAND ON THE SLAB.
- TANK MANUFACTURER SUBMIT DESIGN BY REGISTERED STRUCTURAL ENGINEER WITH DOCUMENTED EXPERIENCE IN UNDERGROUND FIBERGLASS TANK INSTALLATIONS. DESIGN SHALL INCLUDE SLAB ON GRADE AND BACKFILL REQUIREMENTS.
- APPROVED MANUFACTURER: FIBERGLASS STRUCTURE INC., 5808 SUMMITVIEW, SUITE F, YAKIMA, WA 98908, (509)965-8437

Samuel G. Golder
4/2/97

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT

PROPOSED
FIBERGLASS
RECIRCULATION
TANK ALTERNATIVE
1-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

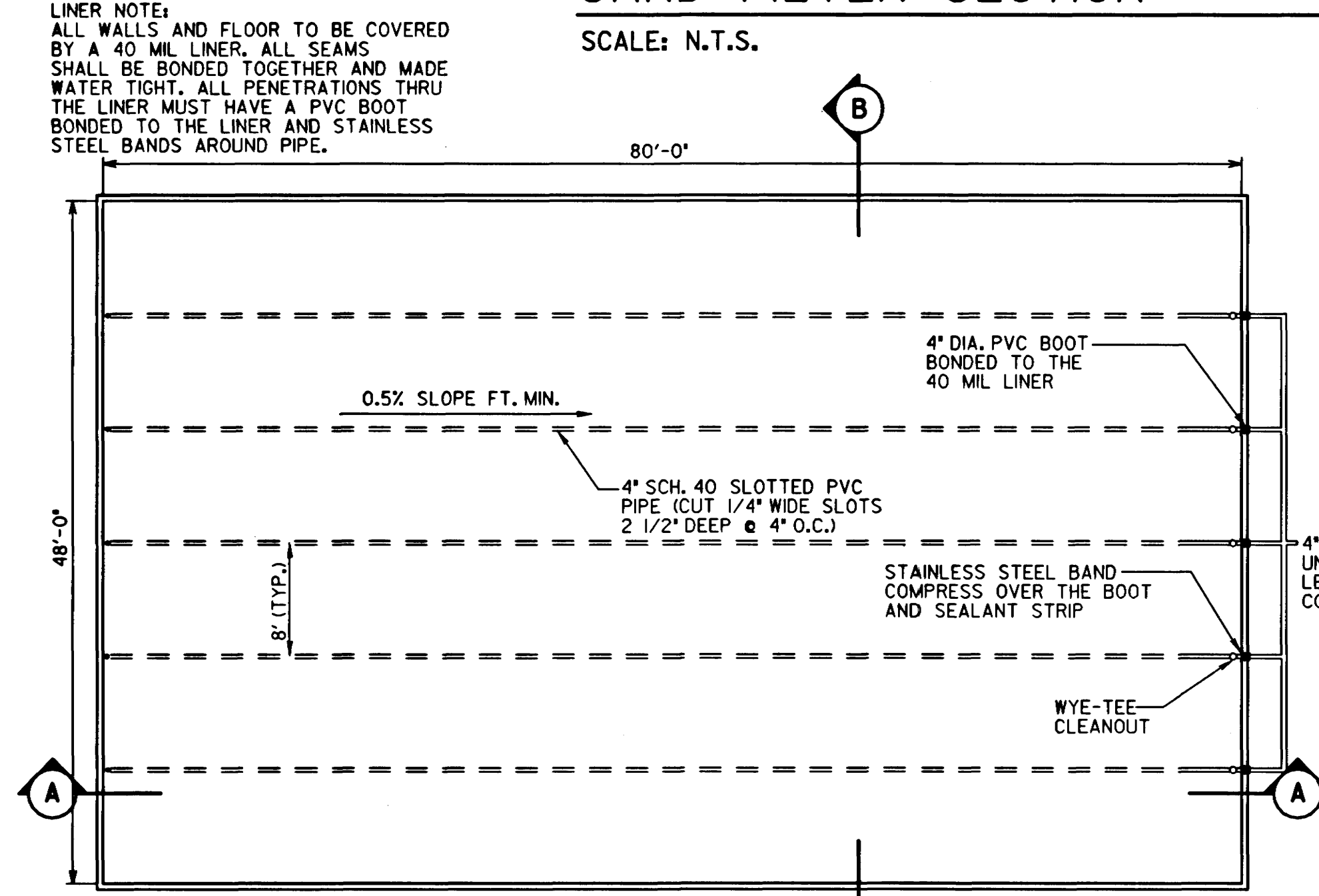
BVSC:PLT:TIME
BVSC:FILE:NAME

STANDARD TREATED RAILROAD TIES MAY BE USED IF IN GOOD SHAPE (TYP.)
40 MIL LINER SEE LINER NOTE
2" DIA. SCH. 40 PVC DISTRIBUTION LATERALS (TYP.)
4" SCH. 40 SOLID PVC
2" DIA. PVC FORCE MAIN
INSTALL CLEANOUT W/THREADED CAP @ END OF EACH DRAIN & DIST. LINE
2" DIA. SCH. 40 PVC DISTRIBUTION LATERALS W/ 1/8" DIA. ORIFICES SPACED @ 2.5' O.C. EACH WITH SHORT CYLINDER ORIFICE SHIELDS
1/8" DRAIN HOLE IN BOTTOM OF PIPE (TYP.)
STANDARD TREATED RAILROAD TIES
6'-9" (1" MIN. AGG.)
24"-27" (FILTER SAND)
6" (1/4"-1/2" MIN. AGG.)
6" (1"-1 1/2" MIN. AGG.)
15'-18" (3" MIN. AGG.)
2'-5" SAND LEVELING LAYER
4" CLASS 200 SLOTTED PVC DRAIN PIPE
UTILIZE LONG SWEEP PVC ELECTRICAL CONDUIT FOR ELBOW
4" SCH. 40 SLOTTED PVC DRAIN PLACED 2" MIN. ABOVE LINER
4" X 4" LONG SWEEP WYE TEE
CONCRETE BLOCK WALLS
CONT. CONC. 12" X 24" FTG 2-#5 T&B #3 TIES @ 36" (TYP.)
COMPACTED EARTH

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	8

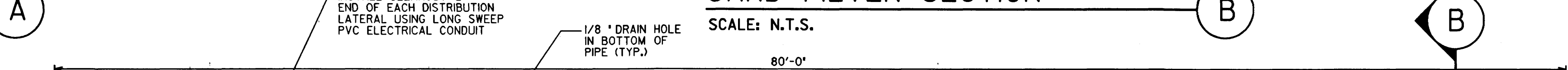
SAND FILTER SECTION

SCALE: N.T.S.



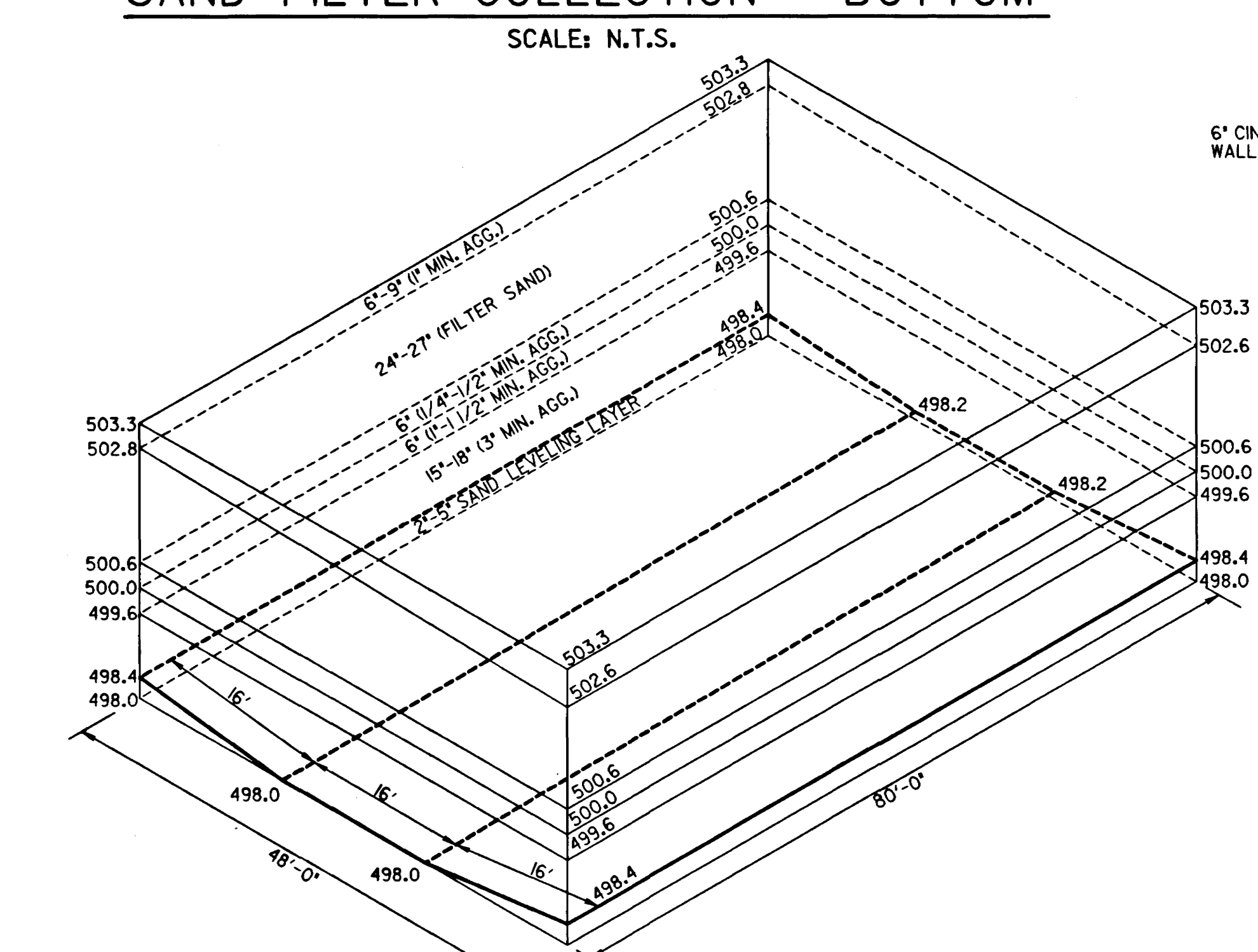
SAND FILTER SECTION

SCALE: N.T.S.



SAND FILTER COLLECTION - BOTTOM

SCALE: N.T.S.



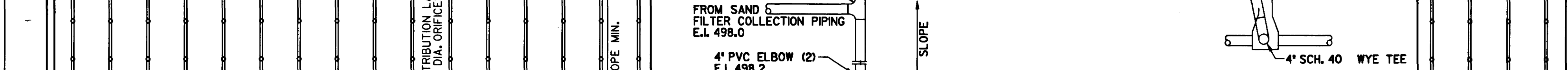
SAND FILTER COLLECTION - ELEVATIONS

SCALE: N.T.S.



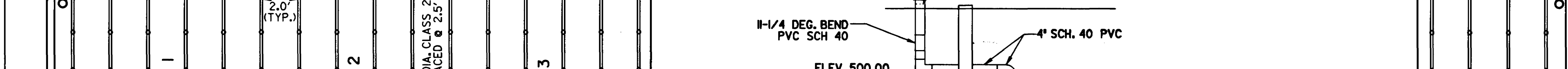
PLAN

SCALE: N.T.S.



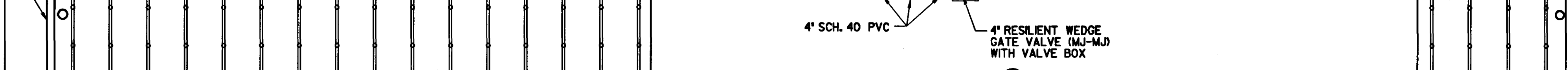
SECTION D

SCALE: N.T.S.



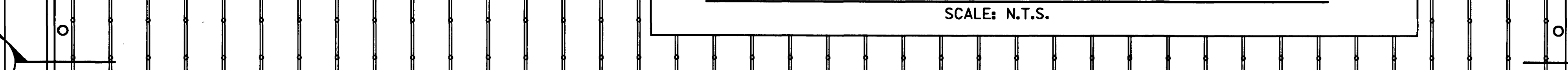
SECTION C

SCALE: N.T.S.



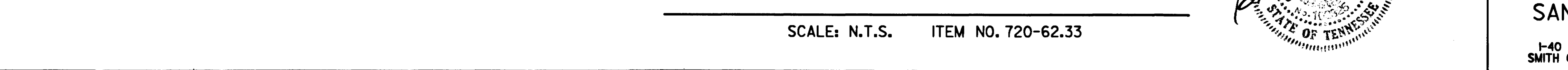
UNDERDRAIN LEVEL CONTROL ASSEMBLY

SCALE: N.T.S.



SAND FILTER DISTRIBUTION - TOP

SCALE: N.T.S. ITEM NO. 720-62.33

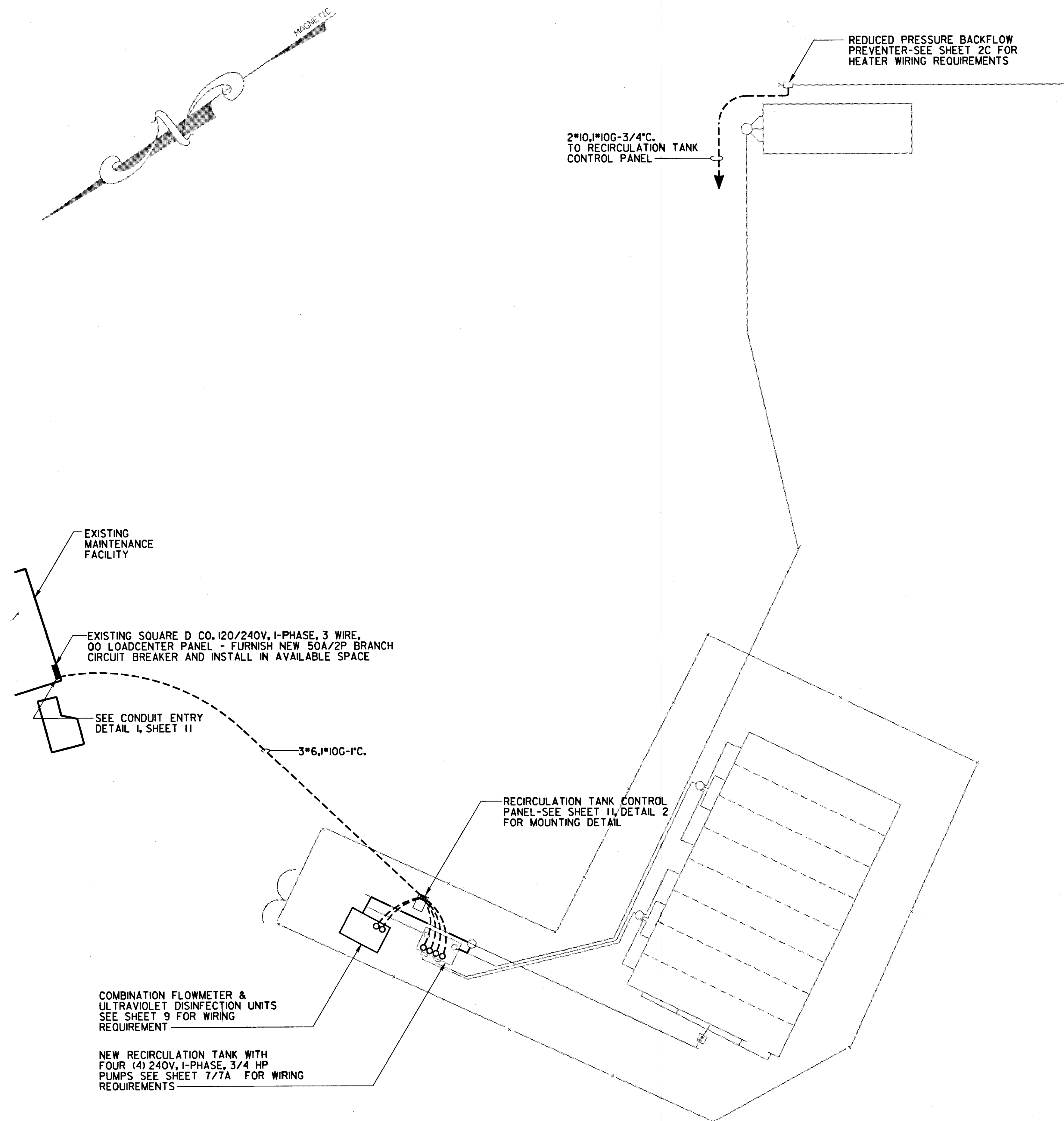


STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT
PROPOSED WASTEWATER RECIRCULATING SAND FILTER
I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	10

TENNESSEE D.O.T.
DESIGN DIVISION

FILE NO. 11496-63
K-21



GRAPHIC SCALE

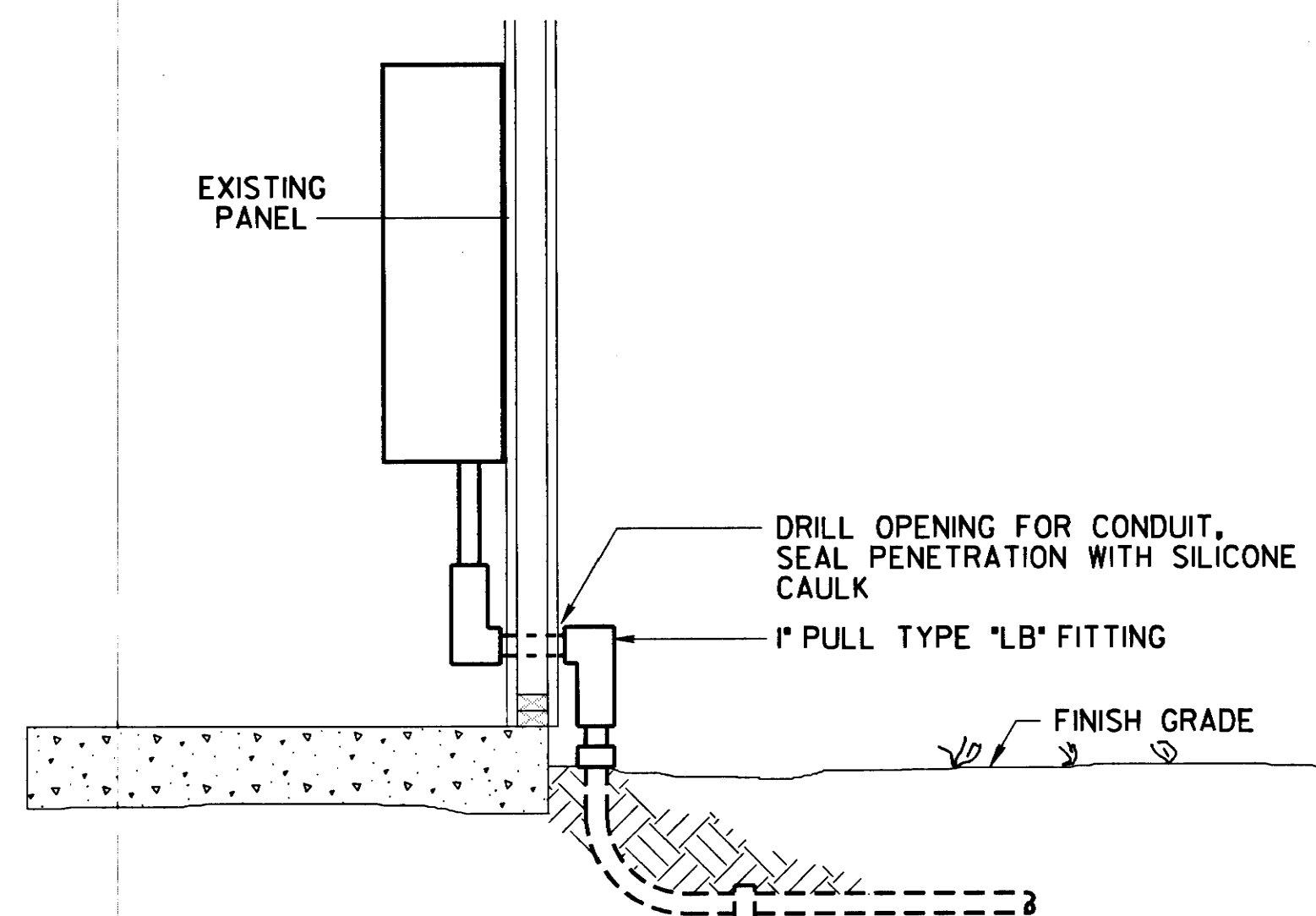


**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT**

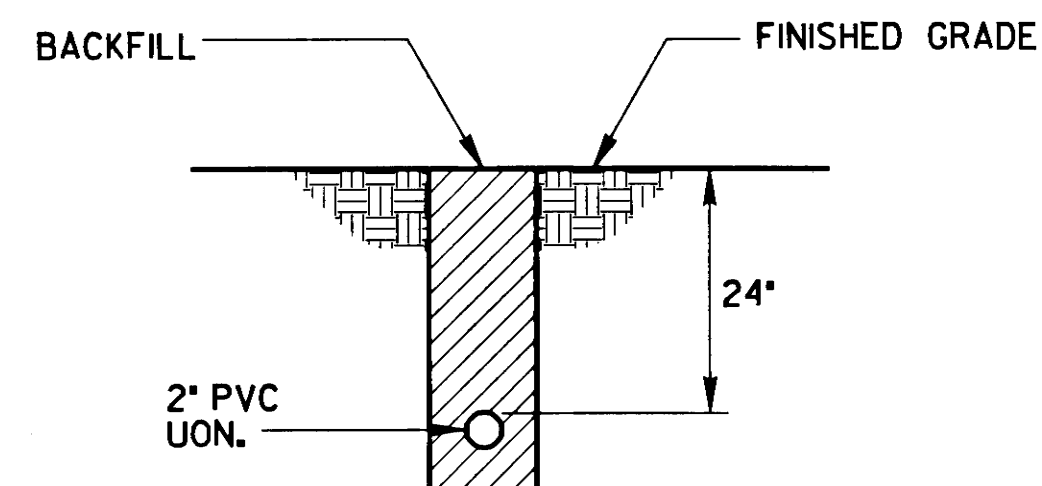
PROPOSED ELECTRICAL SITE PLAN

1-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	1997	80001-4163-04	11



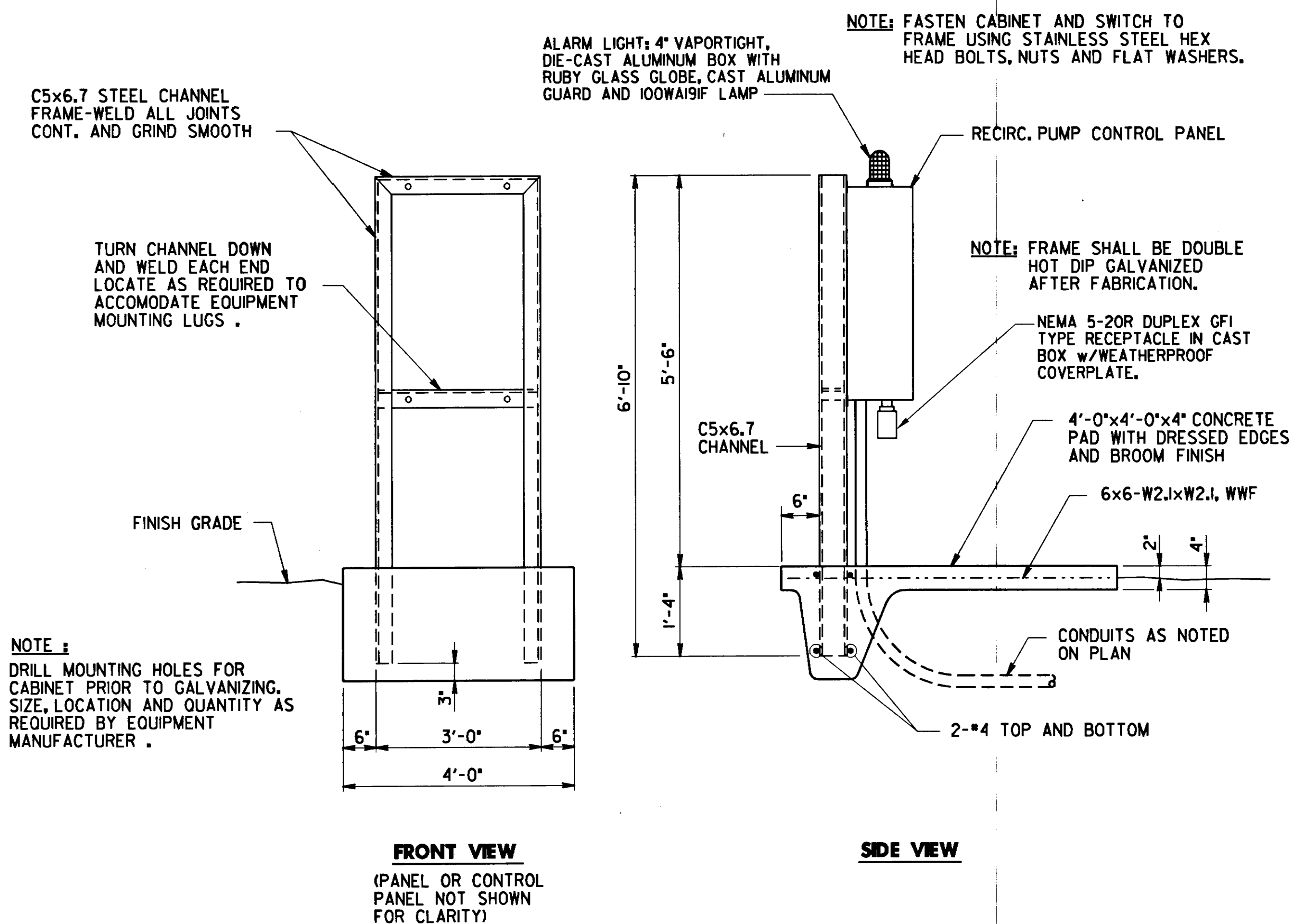
1 **DETAIL** - CONDUIT ENTRY
11 NTS



3 **DETAIL - UNDERGROUND CONDUIT INSTALLATION**
11 NTS

NOTES:

1. ALL TRENCHES SHALL MEET OSHA STANDARDS.
2. TRENCH DEPTHS & WIDTHS GIVEN ARE THE MINIMUM WORKING REQUIREMENTS.
3. ALL EXCAVATED AND OTHER MATERIALS SHALL BE PLACED AT LEAST 2' FROM EDGE OF THE TRENCH.
4. ALL SELECTED BACKFILL SHALL BE FREE FROM STONES, ROCK, OR OTHER MATERIAL WHICH MIGHT DAMAGE THE CONDUIT SYSTEM. SELECTED BACKFILL SHALL CONTAIN NO SOLID MATERIAL LARGER THAN 2" IN DIAM. IF NATIVE SOILS ARE NOT SUITABLE. *67 CRUSHED GRAVEL SHALL USED.
5. A MINIMUM OF 12" VERTICAL & HORIZONTAL CLEARANCE IS REQUIRED BETWEEN CONDUIT AND PIPING OF OTHER UTILITIES UNLESS THE SAID UTILITY HAS A GREATER CLEARANCE REQUIREMENT.
6. CONDUIT CROSSING UNDER DRAINAGE DITCHES OR SMALL CREEKS SHALL HAVE 4" CONCRETE ENCASEMENT. THE LENGTH OF THE ENCASEMENT, SHALL BE FIELD DETERMINED BY THE A/E.
7. ALL BACKFILL UNDER PAVED AREAS SHALL BE *67 CRUSHED GRAVEL.



2 **DETAIL - RECIRCULATION PUMP CONTROL PANEL MOUNTING DETAIL**
11 SCALE: NONE

ELECTRICAL SPECIFICATIONS:

- A. ALL WORK SHALL CONFORM TO THE LATEST ADOPTED NATIONAL ELECTRICAL CODE (NEC), STATE AND LOCAL CODES AND AUTHORITIES HAVING JURISDICTIONS.
- B. CONTRACTORS SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID.
- C. FIELD VERIFY THE LOCATION OF ALL EXISTING VEGETATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ALL TREES AND SHRUBBERY DAMAGED OR KILLED DUE TO CARELESSNESS OR NEW CONSTRUCTION.
- D. BEGINNING OF DEMOLITION MEANS CONTRACTOR ACCEPTS EXISTING CONDITIONS.
- E. ALL SALVAGEABLE MATERIALS RESULTING FROM ELECTRICAL DEMOLITION SHALL REMAIN THE PROPERTY OF THE OWNER. THE CONTRACTOR SHALL REMOVE FROM THE PROJECT SITE AND LEGALLY DISPOSE OF ALL MATERIALS AND EQUIPMENT THAT THE OWNER DOES NOT WISH TO RETAIN. ALL COSTS TO BE INCLUDED IN PRICE OF ITEMS BID ON.
- F. REST AREA SHALL REMAIN IN OPERATION DURING CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE SUITABLE BARRIERS FOR ALL OPEN EXCAVATION AND TAKE PRECAUTIONS TO PROTECT THE PUBLIC AND REST AREA PERSONNEL FROM INJURY DUE TO DEMOLITION AND NEW CONSTRUCTION.
- G. UNDERGROUND CONDUITS SHALL HAVE A MINIMUM COVER OF 24" TO FINISH GRADE.
- H. PROVIDE MAGNETICALLY DETECTABLE ELECTRICAL WARNING TAPE FOR ALL NEW UNDERGROUND WIRING WITH THE EXCEPTION OF ROADWAY OR WALKWAY CROSSINGS. TAPE SHALL BE RED IN COLOR AND PRINTED CONTINUOUSLY WITH THE WORDING "CAUTION ELECTRIC" OR SIMILAR.



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF PLANNING & DEVELOPMENT**

ELECTRICAL DETAILS

I-40 WELCOME CENTER
SMITH COUNTY, TENNESSEE