

LITTLE SHUSWAP INDIAN BAND

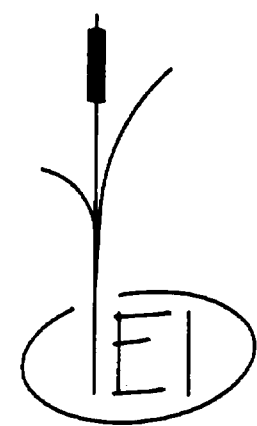
BAND No.689

INDIAN & NORTHERN AFFAIRS CANADA - CAPITAL PROJECT No.1575

NORTH BAY INDIAN RESERVE No.5

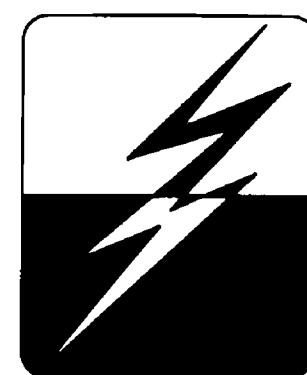
TAPPEN SUBDIVISION & JAMES ROAD

WATER SUPPLY SYSTEM



Innovation Engineering Incorporated
Civil Engineering & Planning

BOX 515,
SORRENTO, BRITISH COLUMBIA, CANADA
VOE 2W0 (250) 675-3246
PROJECT No.: 96007-02-03



GUIDO AND ASSOCIATES
CONSULTING ENGINEERS

OYAMA B.C.
PHONE: (250) 548-4151
FAX: (250) 548-4152
PROJECT 303



LITTLE SHUSWAP INDIAN BAND
BAND No. 689
CAPITAL PROJECT No. 1575
NORTH BAY INDIAN RESERVE No. 5
TAPPEN SUBDIVISION/JAMES ROAD
WATER SUPPLY SYSTEM

DRAWING INDEX

INNOVATION ENGINEERING INCORPORATED

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GUIDO AND ASSOCIATES

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COVER SHEET
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 JULES ROAD WATER SERVICE PLAN & PROFILE
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 SYLVESTER ROAD WATERMAIN PLAN & PROFILE
 WHITE CREEK, SUNNYBRAE-CANOE POINT ROAD
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 RESERVOIR ACCESS ROAD & WATERMAIN 6+000 TO 6+328.466
 RESERVOIR ACCESS ROAD & WATERMAIN 6+328.466 TO 6+624.304
 DETAILS

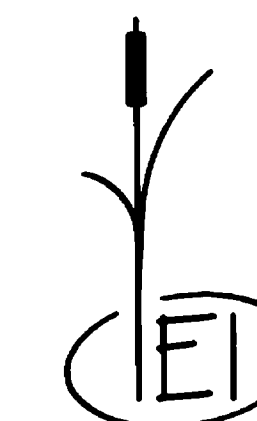
CONTROLS BUILDING

MECHANICAL LAYOUT AND BILL OF MATERIALS
 WELL DETAILS AND BILL OF MATERIALS
 SITE PLAN, BUILDING LAYOUT AND BILL OF MATERIALS
 SINGLE LINE DIAGRAM, BLOCK DIAGRAM AND CONTROL PANEL
 LAYOUT AND BILL OF MATERIALS
 SCADA PACK DIAGRAM AND TERMINAL BLOCK
 MOTOR SCHEMATICS & MISCELLANEOUS DETAILS

WATER TANK

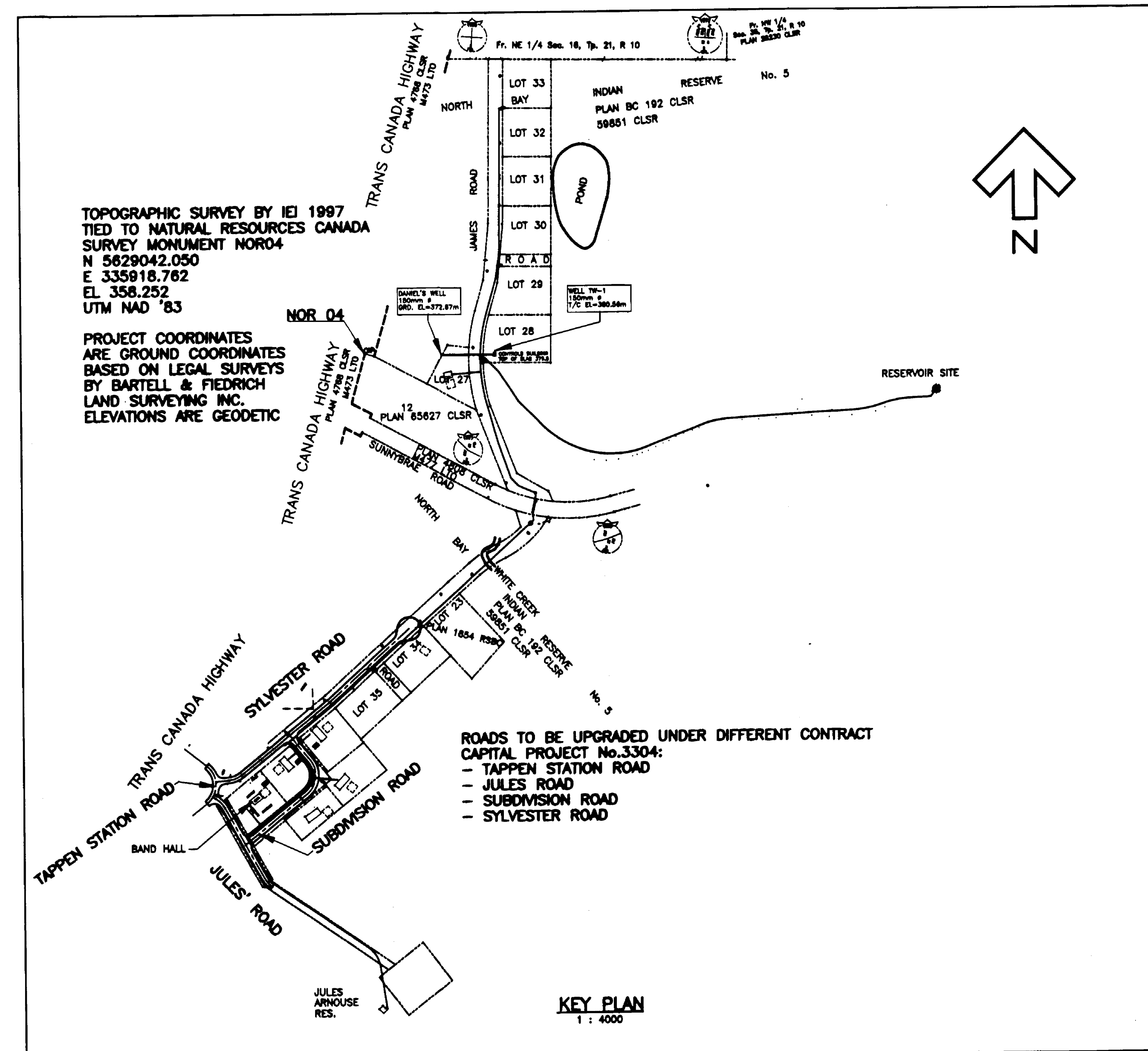
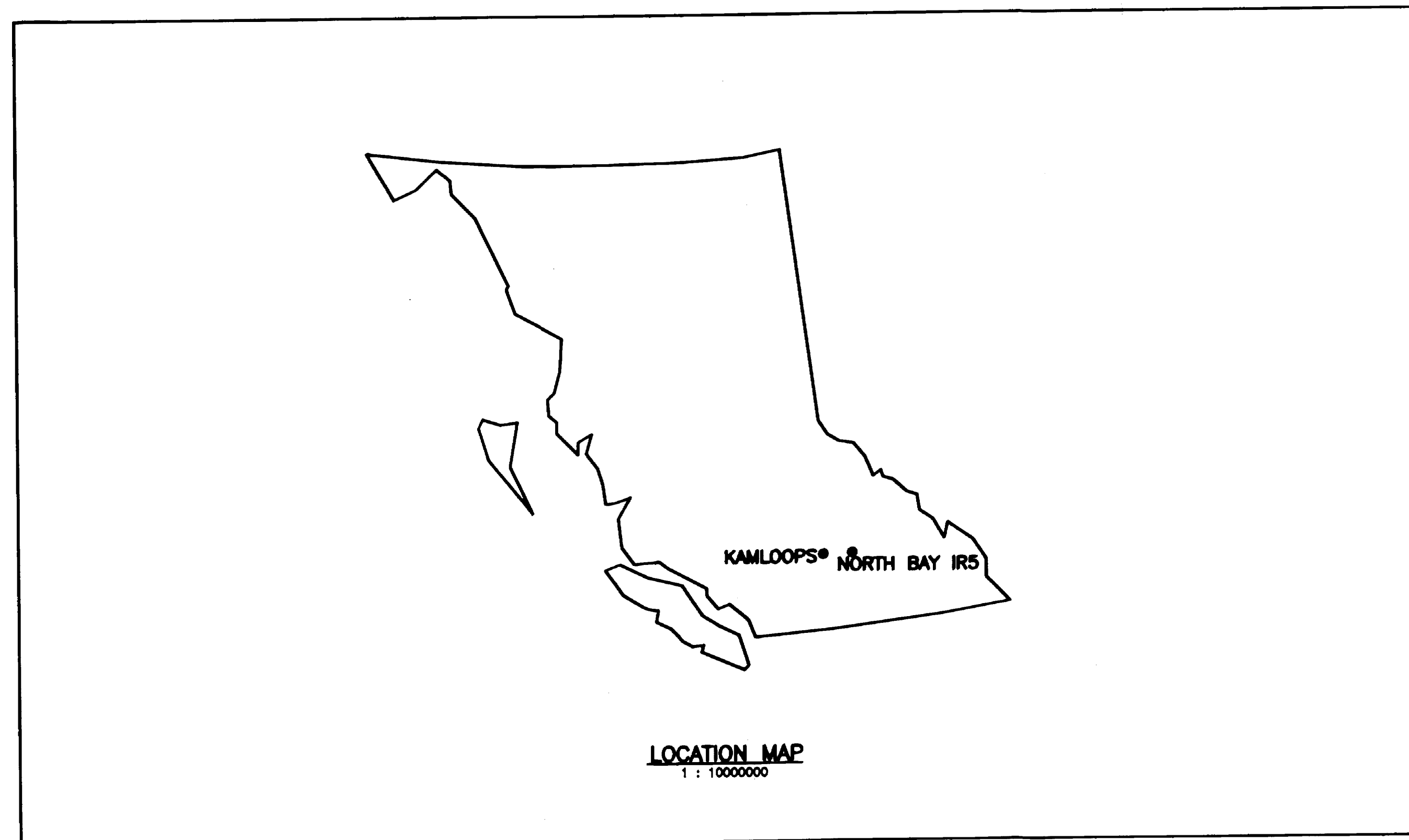
LEGEND

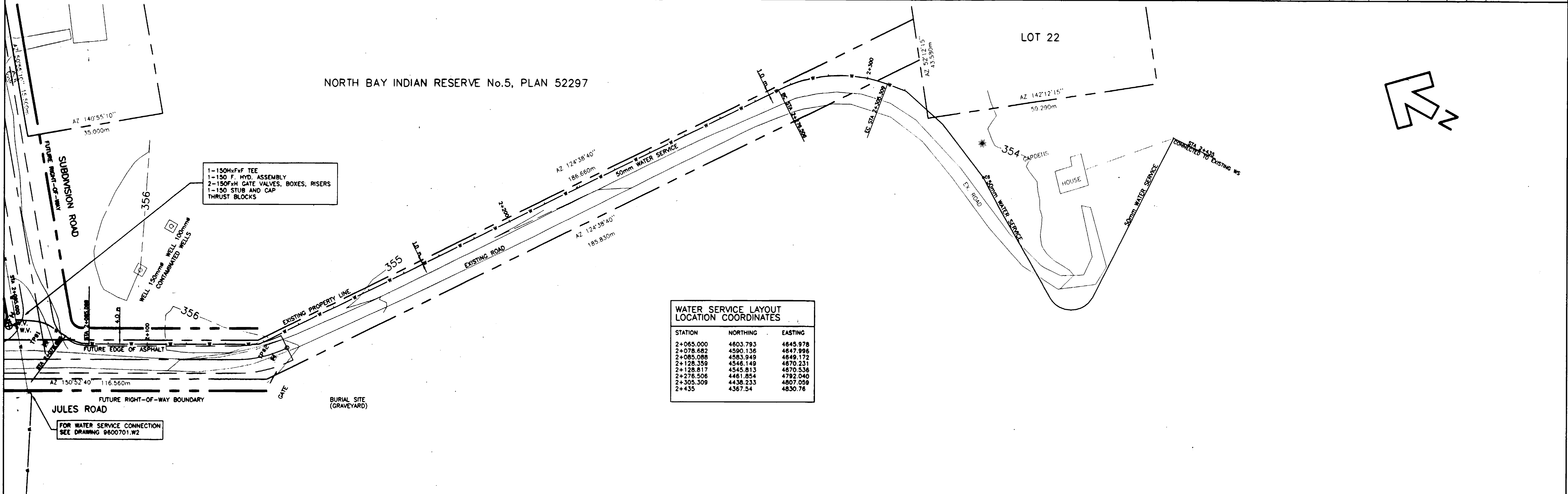
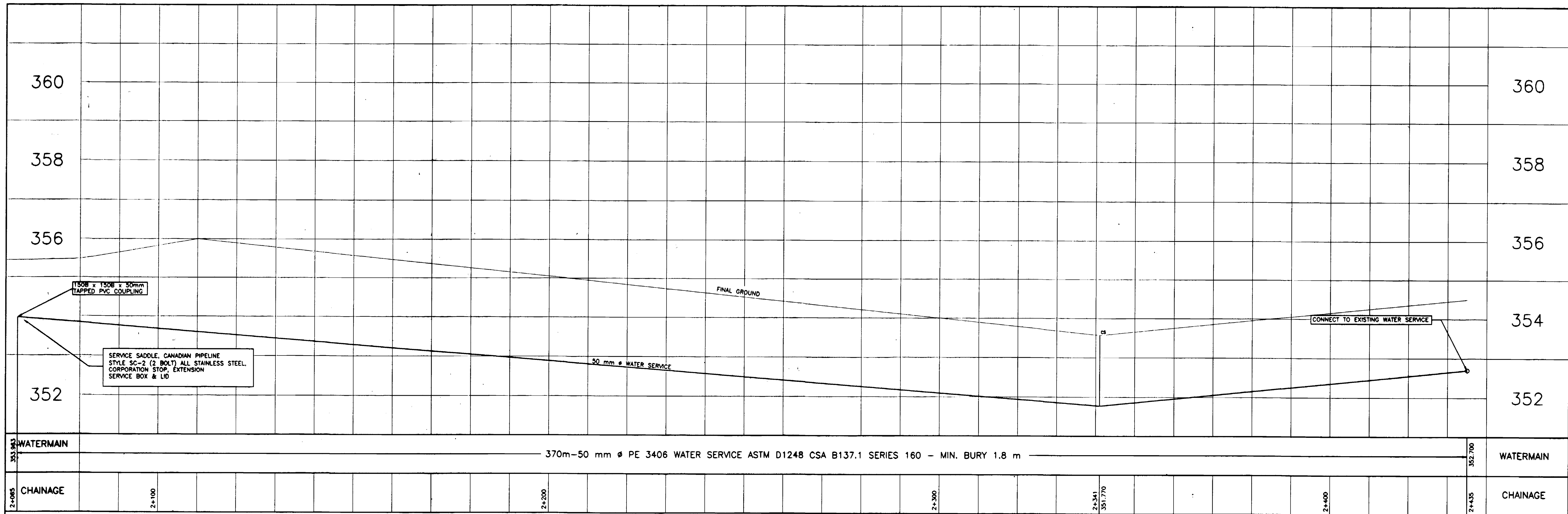
EXISTING	PROPOSED
□ STEEL WELL CASING / TOP	□ STEEL WELL CASING / TOP
● 5/8" IRON PIN	⊕ CURB STOP
● POWER/TELEPHONE POLE	⊕ FIRE HYDRANT ASSEMBLY
● POWER POLE WITH LAMP STANDARD	⊕ W/ GATE VALVE
● CURB STOP	— W — WATER MAIN
	FxH FLANGE BY HUB CAST IRON WATER FITTING
	BxS BELL BY SPIGOT PVC WATER FITTING



Innovation Engineering Incorporated
 Civil Engineering & Planning

BOX 515,
 SORRENTO, BRITISH COLUMBIA, CANADA
 V0E 2W0 (250) 675-3246
 PROJECT No.: 96007-01-03





WATER SERVICE LAYOUT LOCATION COORDINATES

STATION	NORTHING	EASTING
2+065.000	4863.793	4845.978
2+078.682	4590.136	4847.996
2+085.088	4583.849	4848.172
2+128.359	4546.149	4870.231
2+128.817	4545.813	4870.538
2+278.506	4461.854	4782.040
2+305.309	4438.233	4807.059
2+435	4367.54	4830.76

- NOTES:**
- CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WITH ALL UTILITY COMPANIES PRIOR TO DIGGING.
 - ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.
 - CONTRACTOR TO CO-ORDINATE UTILITY RELOCATION WORKS WITH UTILITY COMPANIES AS REQUIRED.
 - ANY DESIGN CHANGES MUST BE APPROVED IN WRITING BY INNOVATION ENGINEERING INC. P. O. BOX 515, SORRENTO, B.C. V0E 2W0, PHONE: 250-678-3246.
 - 1:200 YEAR FLOOD ELEVATION IS 350.20m.

No.	Revision	Date	Initial
R	RECORD DRAWINGS	MAR. '02	WNR
C	ISSUED / TENDER	FEB. '99	WNR
B	INAC REVISIONS	AUG. '98	WNR
A	Detailed Design Submission	JUNE '98	WNR

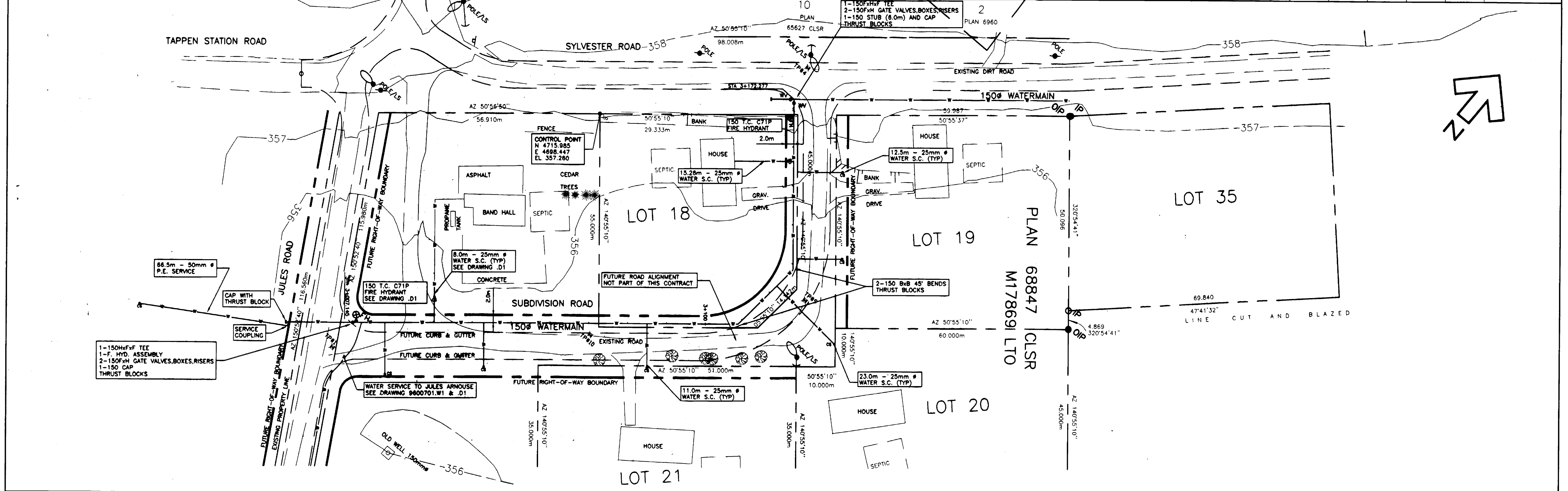
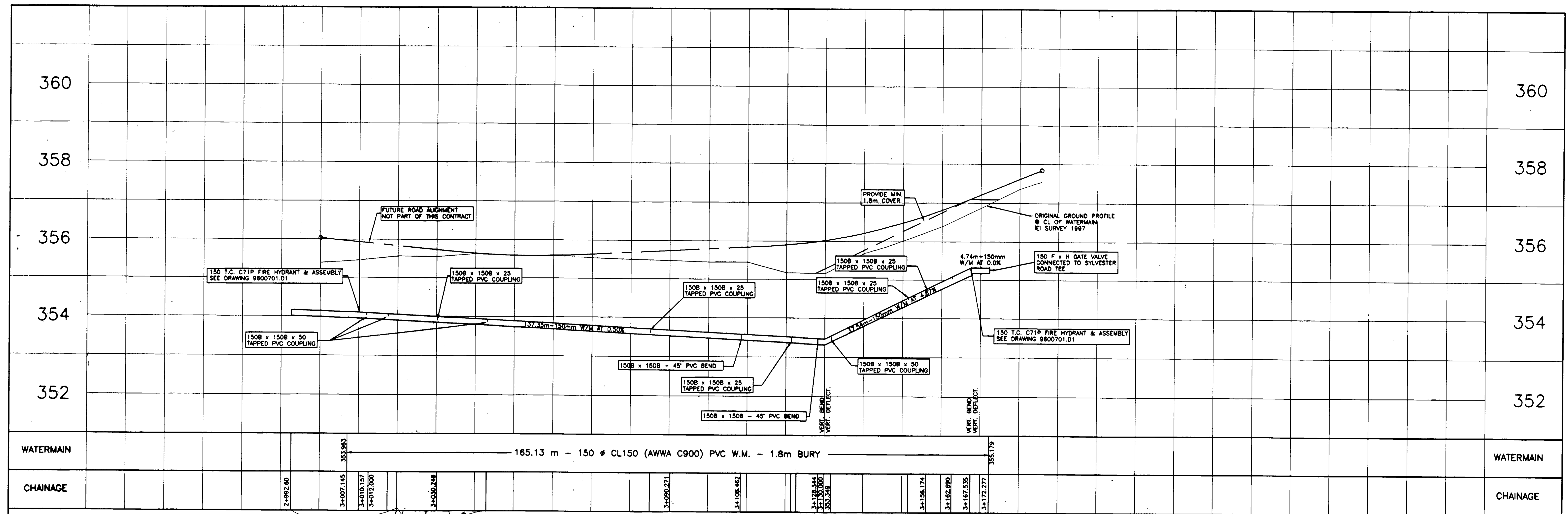
Approved: _____

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
JULES' ROAD WATER SERVICE
 PLAN & PROFILE STA. 2+065.937 TO 2+435

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

Scale: HORZ. 1 : 500
 VERT. 1 : 50

Drawn by: VNR
 Ckd. By: H.A.L.
 Date: JUNE - 1998
 Dwg. No. 9600701.W1
 Rev. R



NOTES:

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- 1:200 YEAR FLOOD ELEVATION IS 350.20m.

No.	Revision	Date	Initial
R	RECORD INFORMATION	MAR. '02	WNR
C	ISSUED/TENDER	FEB. '99	WNR
B	INAC REVISIONS REQUEST	AUG. '98	WNR
A	Detailed Design Submission	JUNE '98	WNR

Approved: _____

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
WATERMAIN
 PLAN & PROFILE - SUBDIVISION ROAD 3+007.145 TO 3+172.277

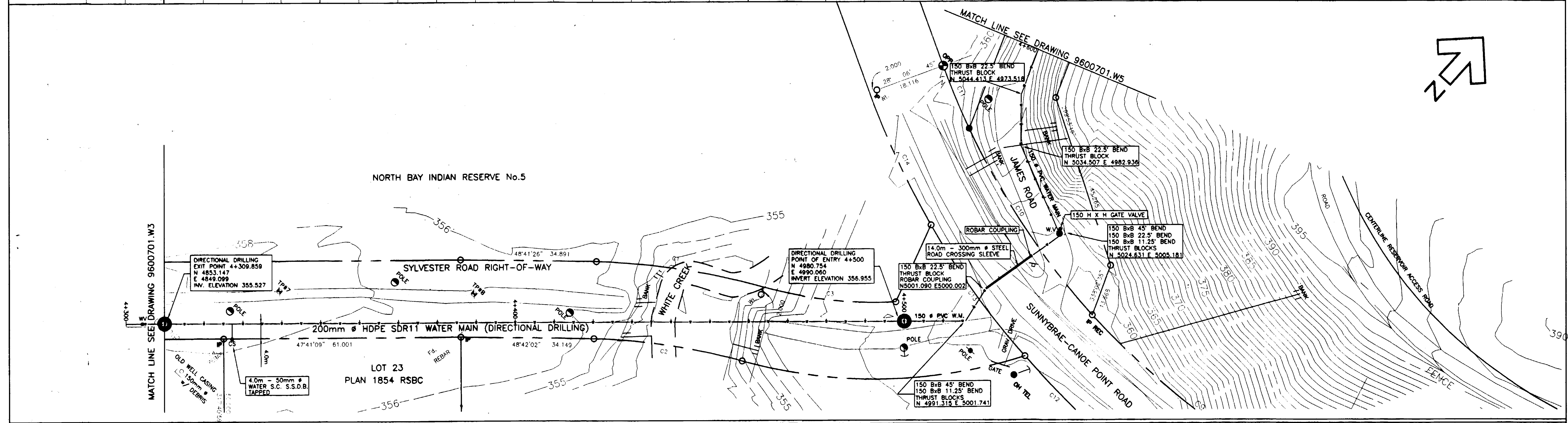
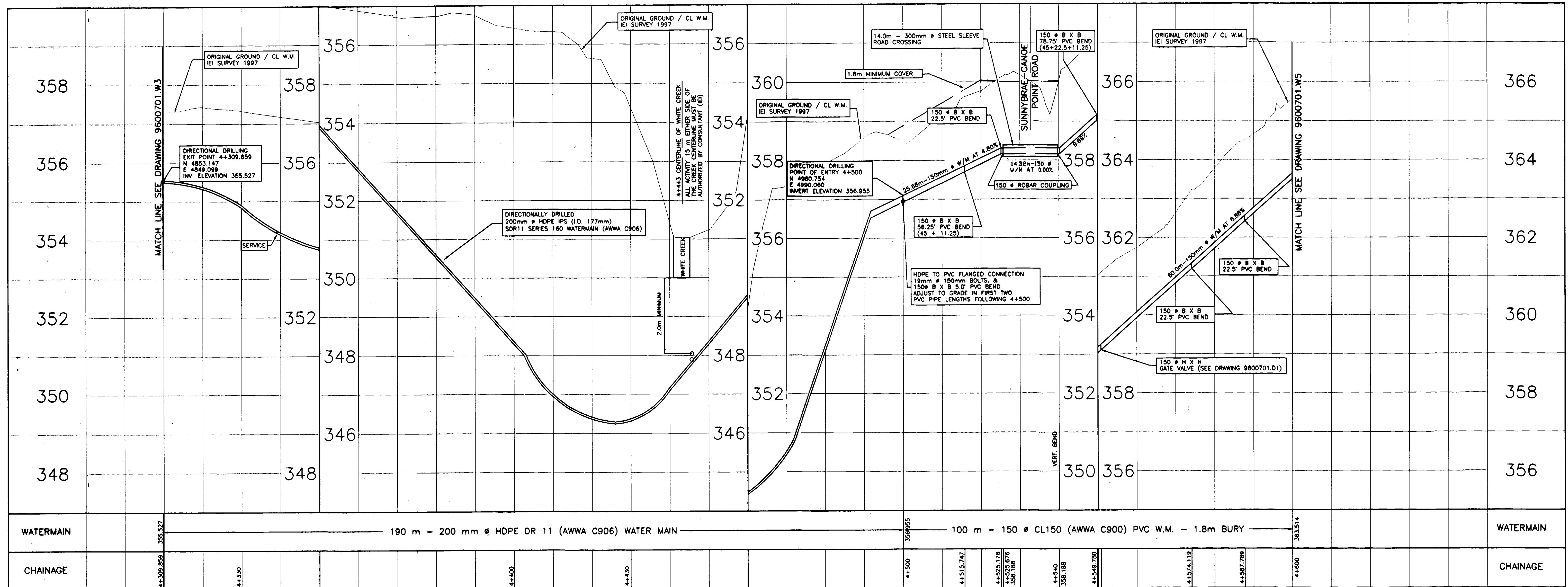
Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

Scale: **HORZ. 1 : 500**
VERT. 1 : 50

Drawn by: **W.N.R.**
 Ckd. By: **M.A.L.**
 Date: **JUNE - 1998**

Dwg No: **9600701.W2**

Rev: _____



NOTES:

- CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WITH ALL UTILITY COMPANIES PRIOR TO DIGGING.
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No.	Revision	Date	Initial
R	RECORD DRAWING	MAR '02	WNR
C	ISSUED/TENDER	FEB '99	WNR
B	INAC REVISIONS	AUG '98	WNR
A	Detailed Design Submission	JUNE '98	WNR

Approved: _____

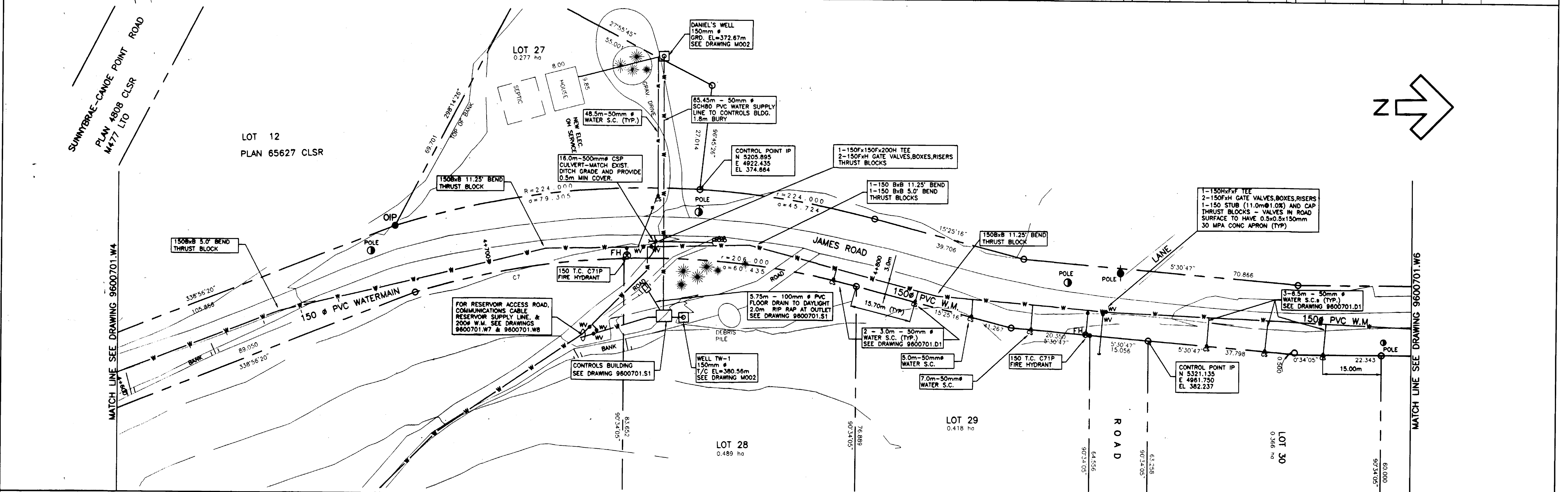
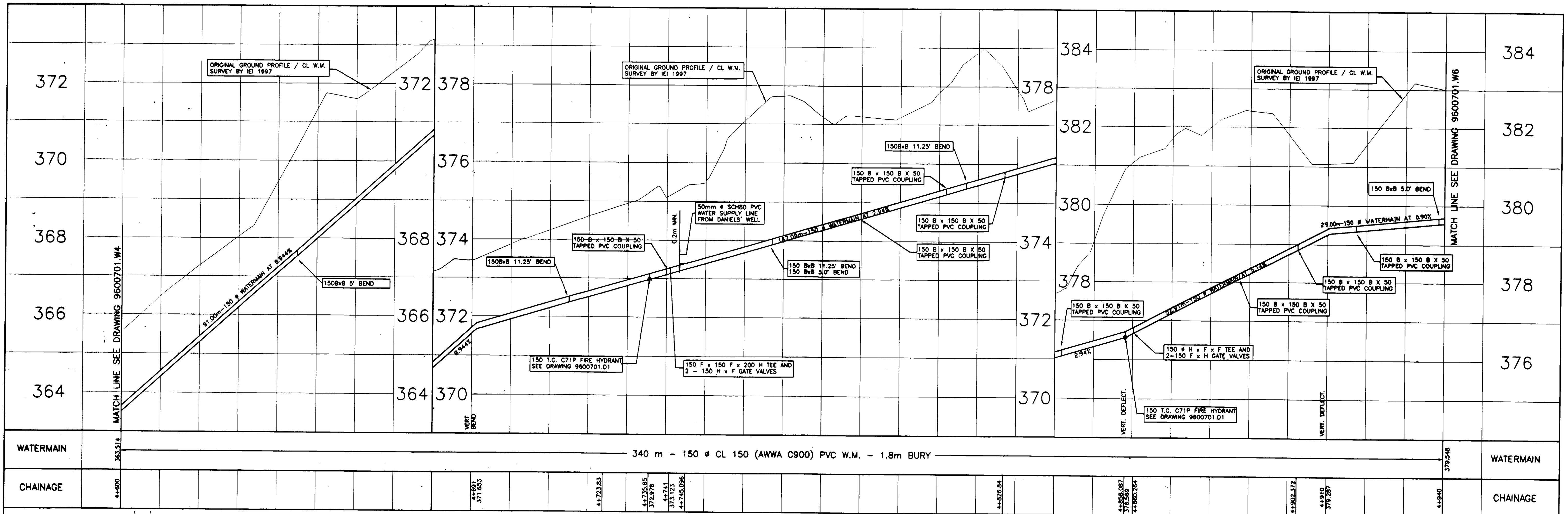
LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
WATERMAIN
 PLAN & PROFILE 4+309.859 TO 4+600

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 Civil Engineering & Planning
 British Columbia, Canada

Scale: HORZ. 1 : 500
 VERT. 1 : 50

Drawn by: W.N.R.
 Ckd. By: H.A.L.
 Date: JUNE - 1998
 Dwg. No.: 9600701.W4

Rev. R



- NOTES:**
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 - 1:200 YEAR FLOOD ELEVATION IS 350.20m.

No.	Revision	Date	Initial

Approved: _____

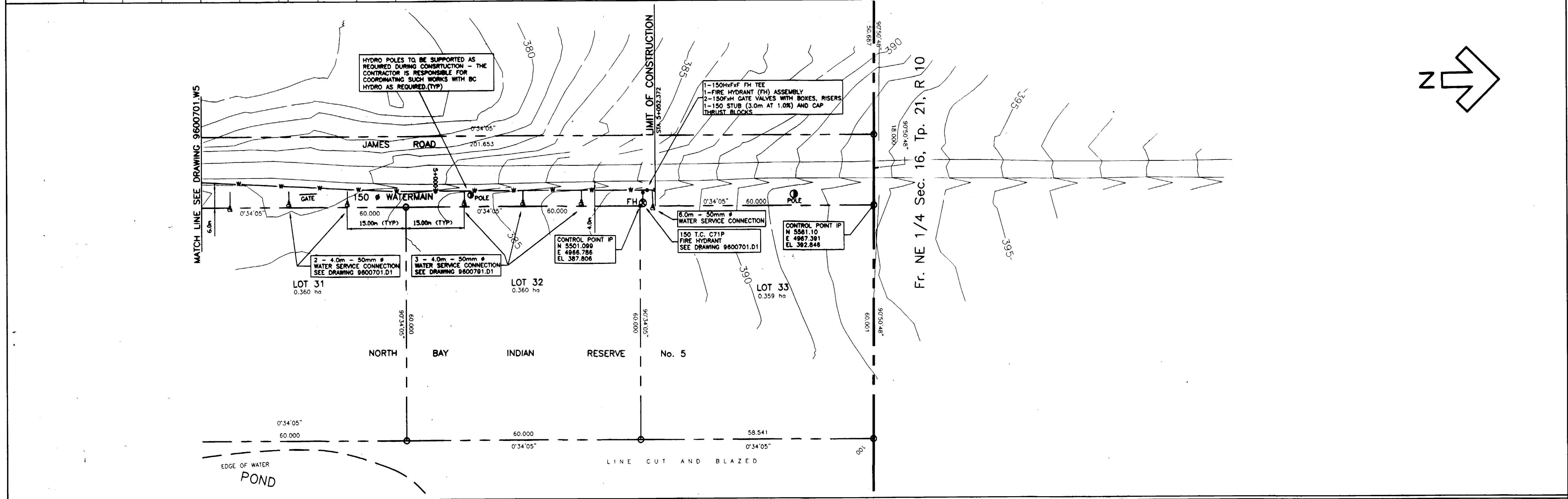
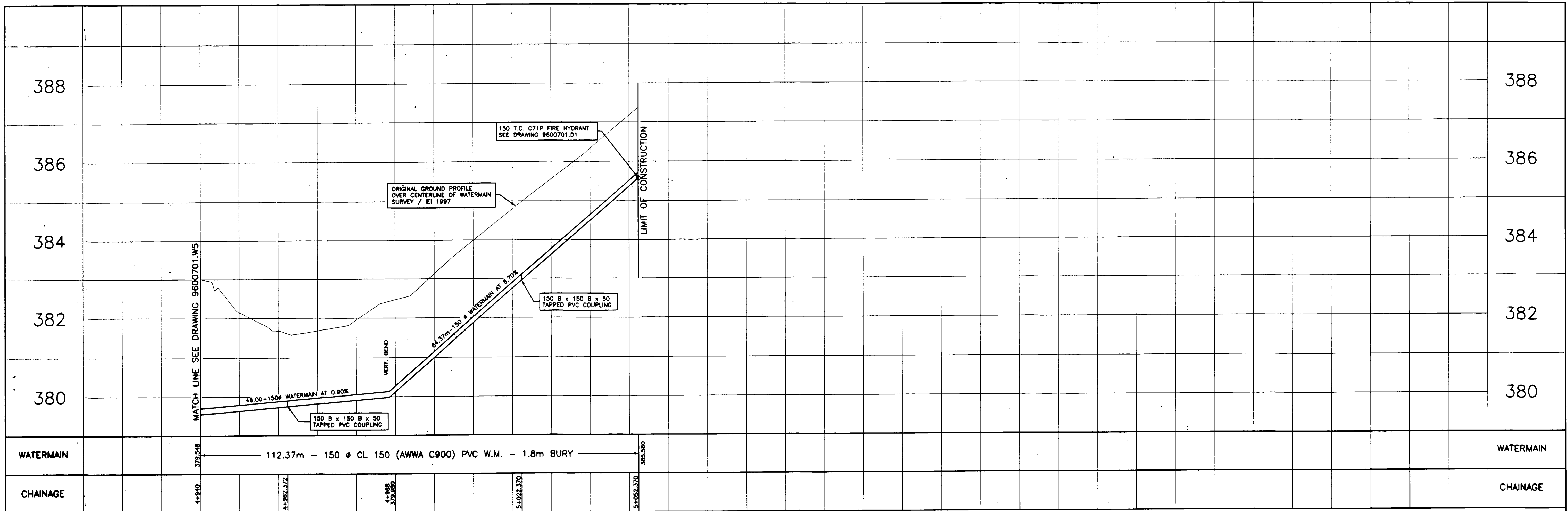
LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
WATERMAIN - JAMES ROAD
 PLAN & PROFILE 4+600 TO 4+940

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

Scale: HORZ. 1 : 500
 VERT. 1 : 50

Drawn by: WNR
 Ckd. By: H.A.L.
 Date: JUNE - 1998

Dwg. No.: **9600701.W5**
 Rev. R



- NOTES:**
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No.	Revision	Date	Initial
R	RECORD DRAWING	MAR. '02	WNR
C	ISSUED/TENDER	FEB. '99	WNR
B	INAC REVISION	SEPT. '98	WNR
A	Detailed Design Submission	JUNE '98	WNR

Approved: _____

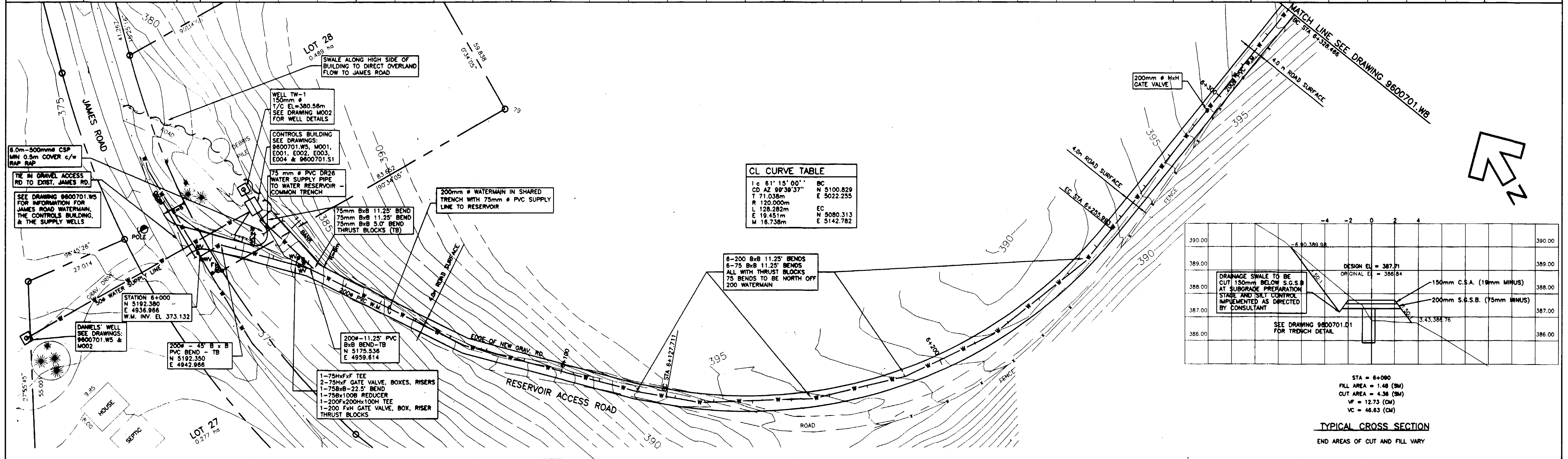
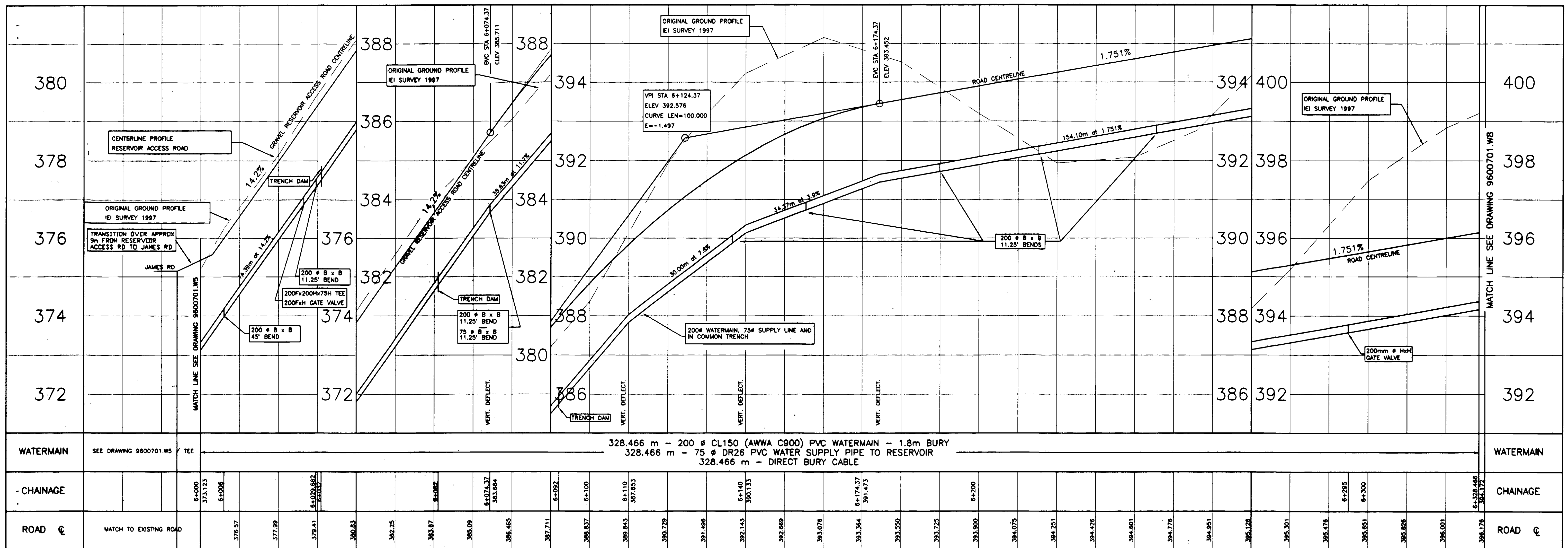
LITTLE SHUSWAP INDIAN BAND
 TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
 WATERMAIN - JAMES ROAD
 PLAN & PROFILE 4+940 TO 5+052.372

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

Scale: HORZ. 1 : 500
 VERT. 1 : 50

Drawn by: VNR
 Ckd. By: HAL.
 Date: JUNE - 1998

Dwg. No.: 9600701.W6
 Rev. R



NOTES:

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- 1:200 YEAR FLOOD ELEVATION IS 350.20m.

R	RECORD DRAWING	MAR '02	WNR
C	ISSUE/D/TENDER	FEB '99	WNR
B	INAC REVISION	AUG '98	WNR
A	Detailed Design Submission	JUNE '98	WNR
No.	Revision	Date	Initial

Approved: _____

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
WATERMAIN & RESERVOIR ACCESS ROAD
 PLAN & PROFILE 6+000 TO 6+328.466

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

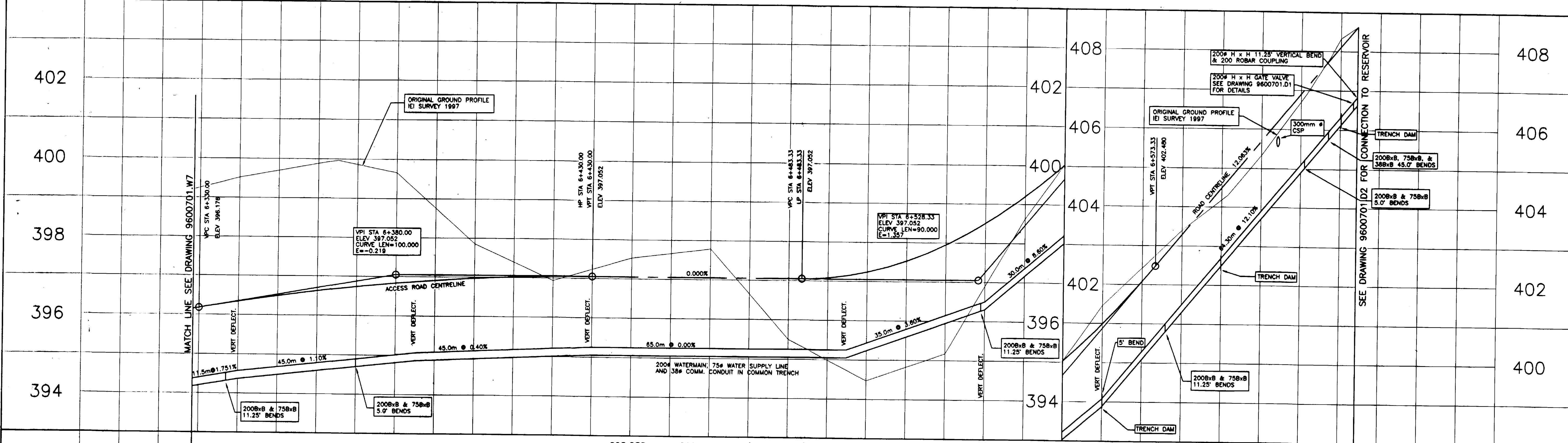
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Drawn by: W.N.R.
 Ckd. By: H.A.L.
 Date: JUNE - 1998

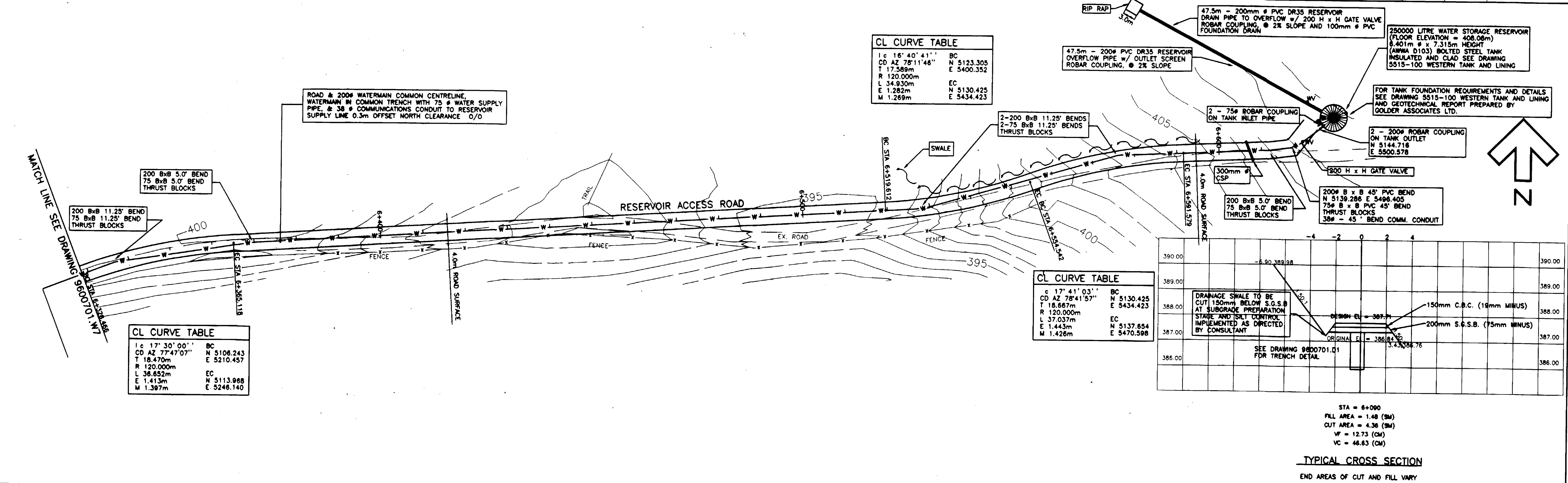
Dwg. No.: 9600701.W7

Rev: _____

CANCEL PRINTS BEARING PREVIOUS LETTER



WATERMAIN	295.838 m - 200 # CL150 (AWWA C900) PVC WATERMAIN - 1.8m BURY		406.868	WATERMAIN
	295.838 m - 75 # DR26 PVC WATER SUPPLY PIPE TO RESERVOIR			
CHAINAGE	6+328.466	6+331.172		
ROAD C	396.176	396.343	396.493	396.623
	396.736	396.833	396.912	396.973
	397.017	397.043	397.052	397.052
	397.052	397.052	397.052	397.052
	397.052	397.052	397.052	397.052
	397.052	397.052	397.052	397.052
	397.238	397.329	397.953	398.511
	398.511	398.530	398.608	398.608
	399.204	400.031	400.991	402.088
	402.088	403.295	404.491	405.687
	406.904	408.110	408.110	408.110
	408.110	408.110	408.110	408.110
ROAD C	6+624.304			



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- 1:200 YEAR FLOOD ELEVATION IS 350.20m.

R	RECORD DRAWING	MAR. '02	WNR
C	ISSUED/TENDER	FEB. '99	WNR
B	INAC REVISION	AUG. '98	WNR
A	Detailed Design Submission	JUNE '98	WNR
No.	Revision	Date	Initial

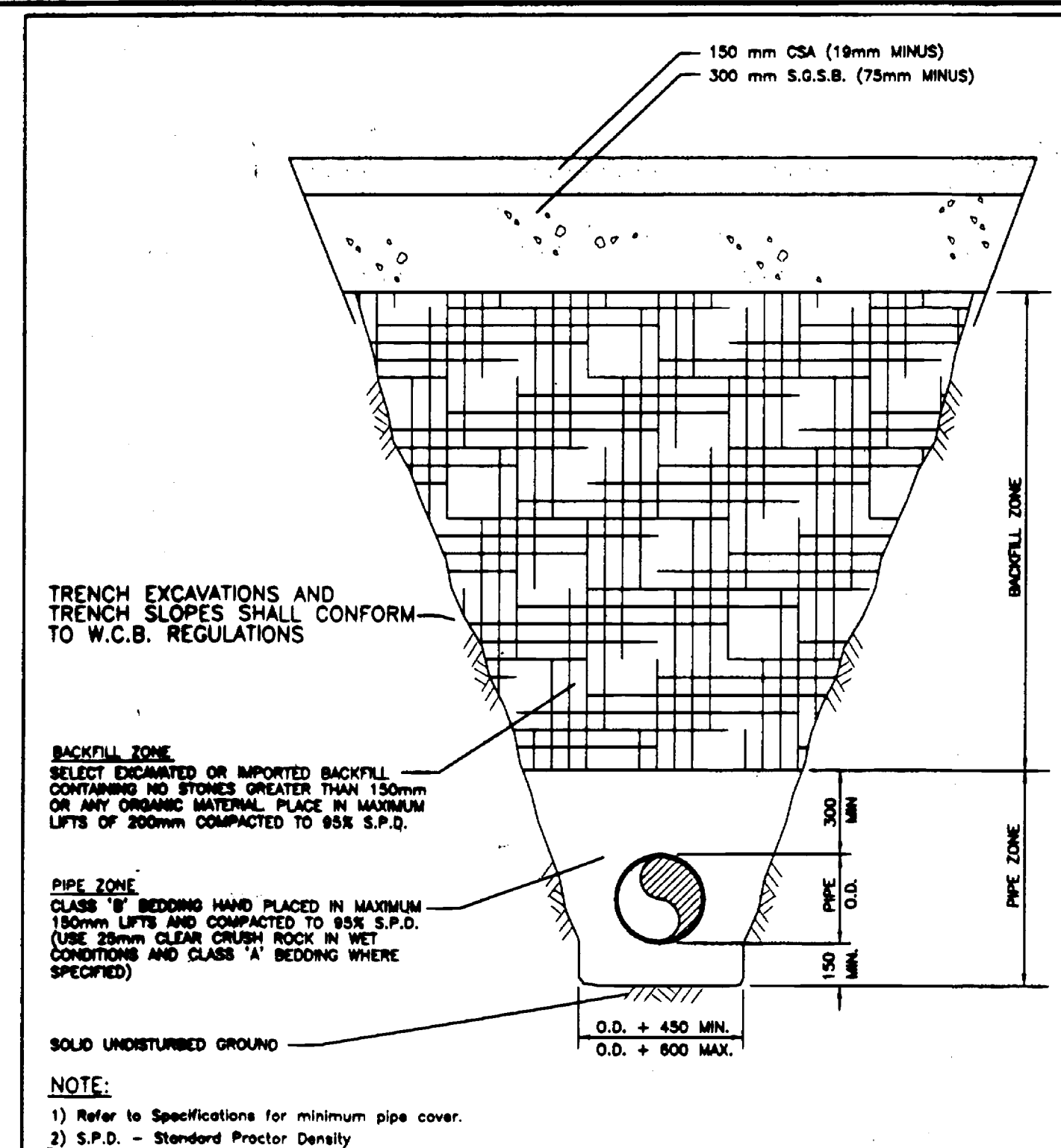
LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
WATERMAIN & RESERVOIR ACCESS ROAD
 PLAN & PROFILE 6+328.466 TO 6+624.304

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

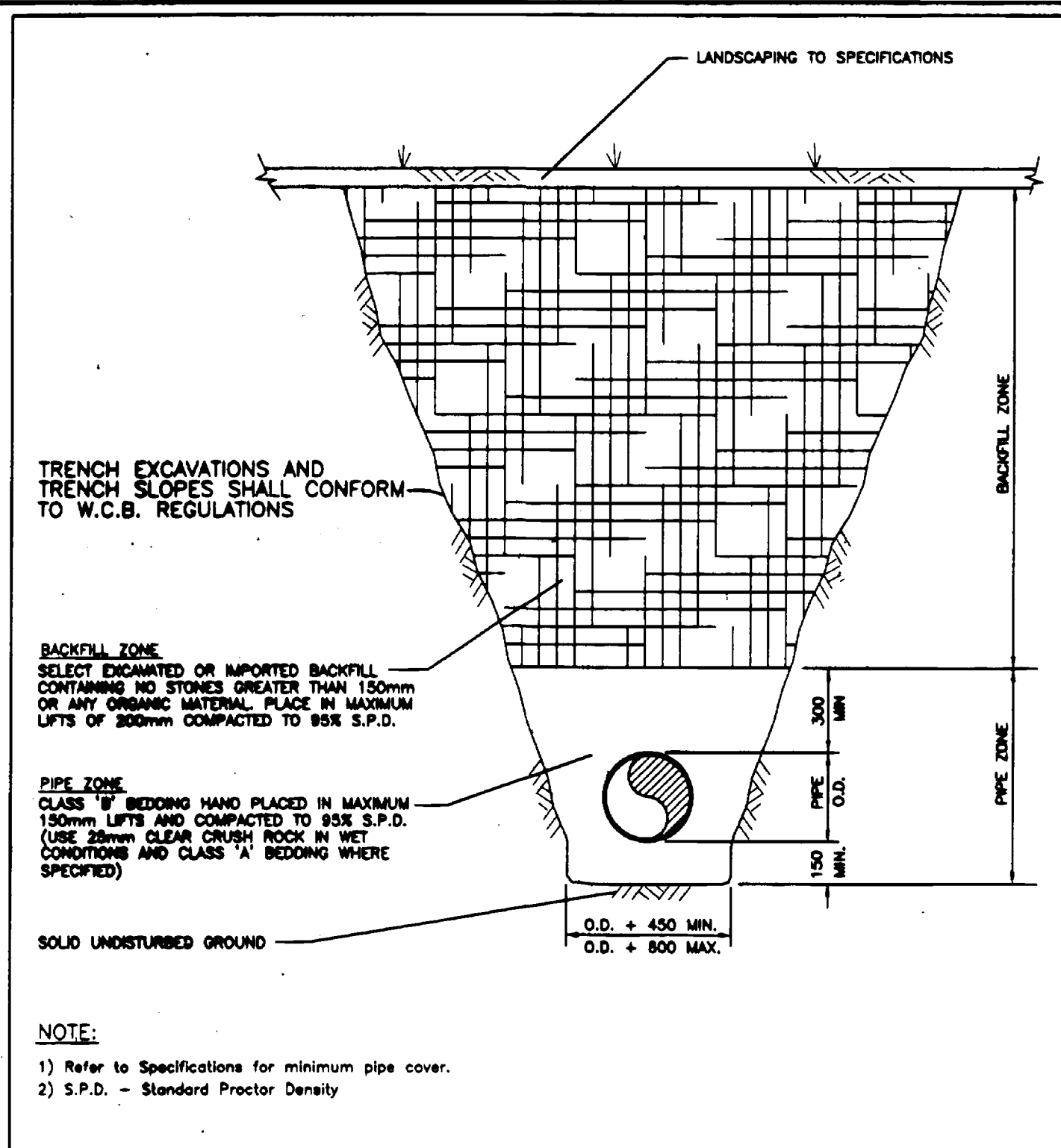
Scale:
 HORZ. 1 : 500
 VERT. 1 : 50

Drawn by: W.N.R.
 Ckd. By: H.A.L.
 Date: JUNE - 1998
 Dwg. No.: 9600701.W8
 Rev. R

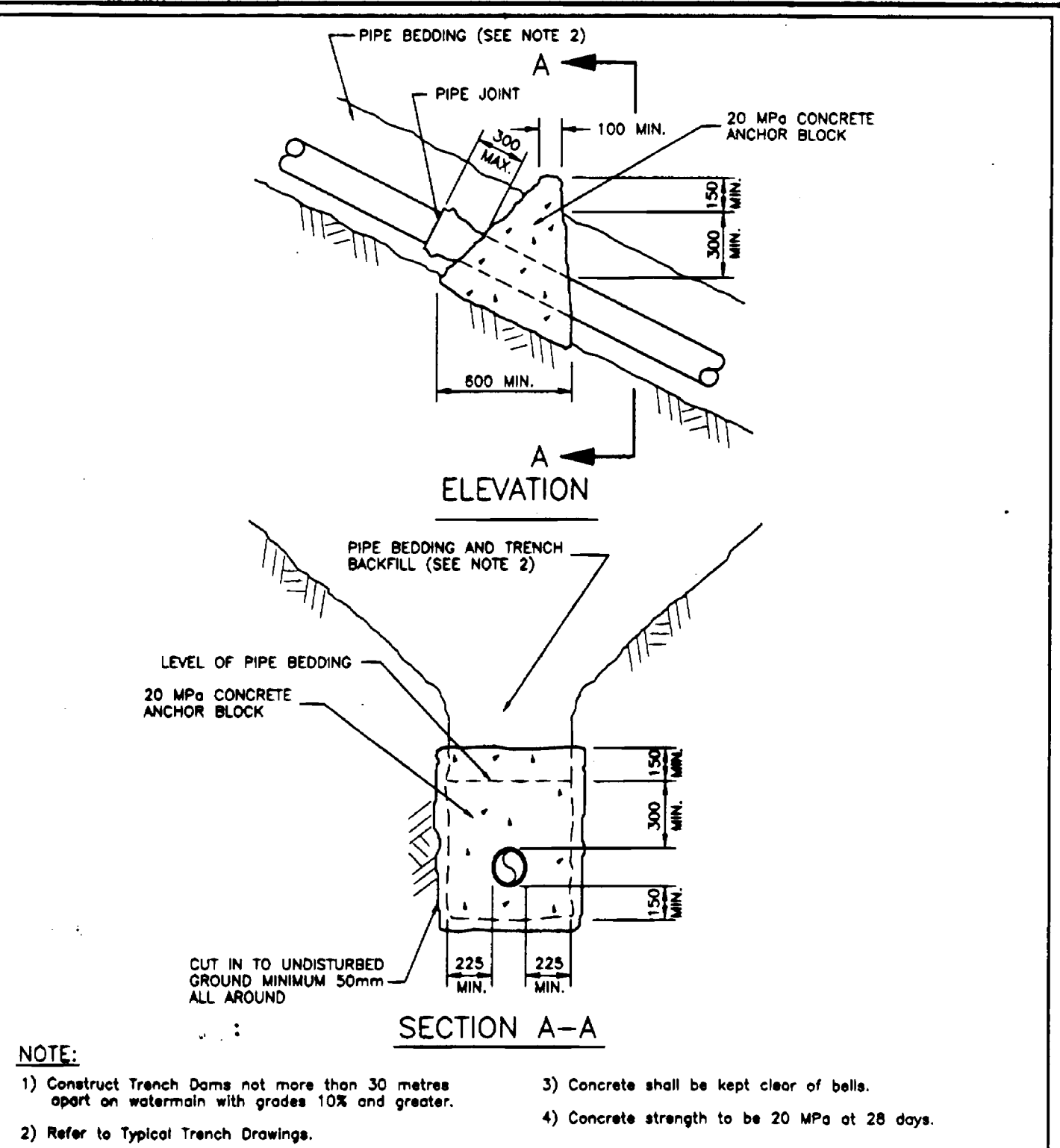
9600701.W8



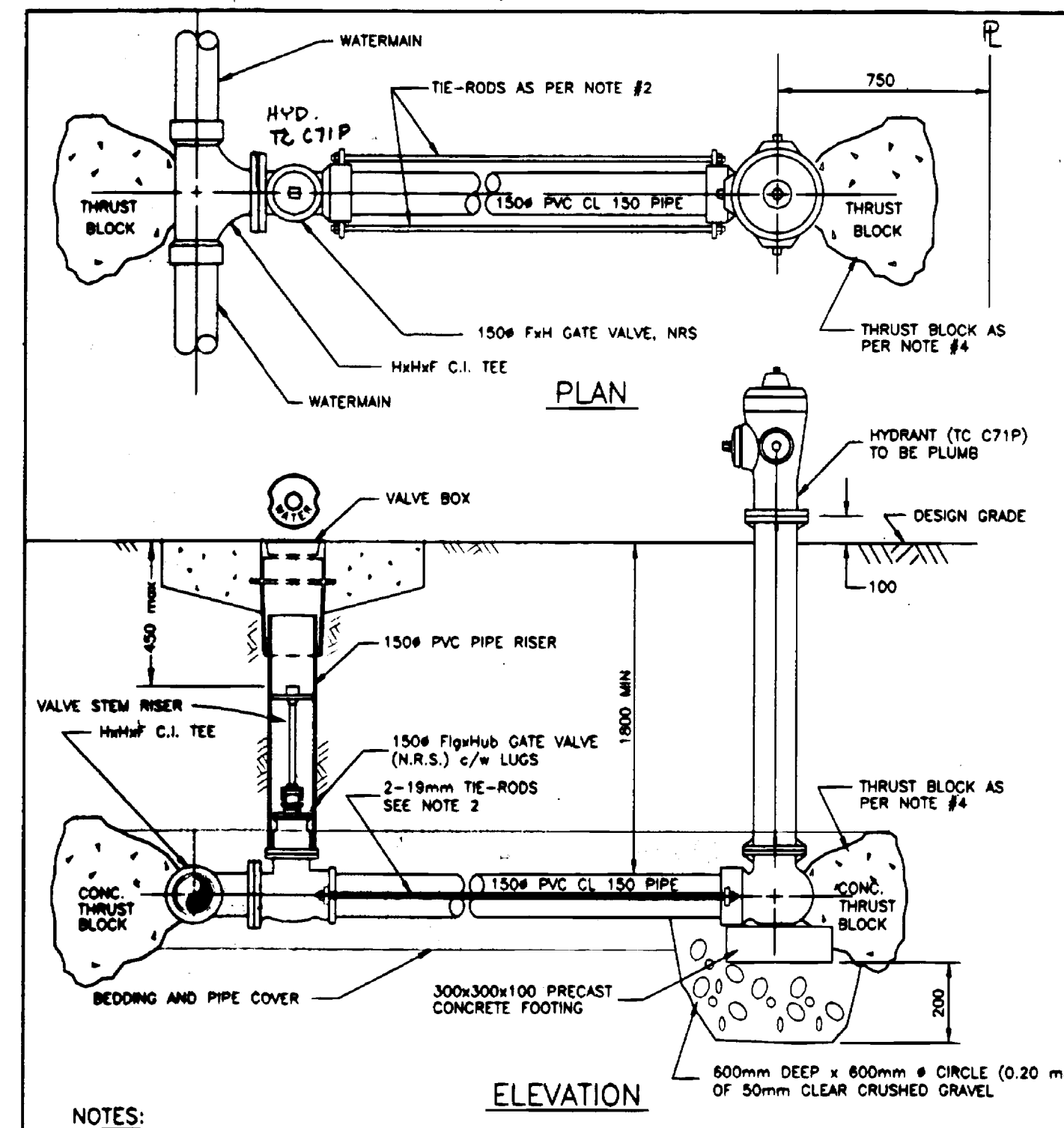
Typical Trench in Gravel Roadway
NTS



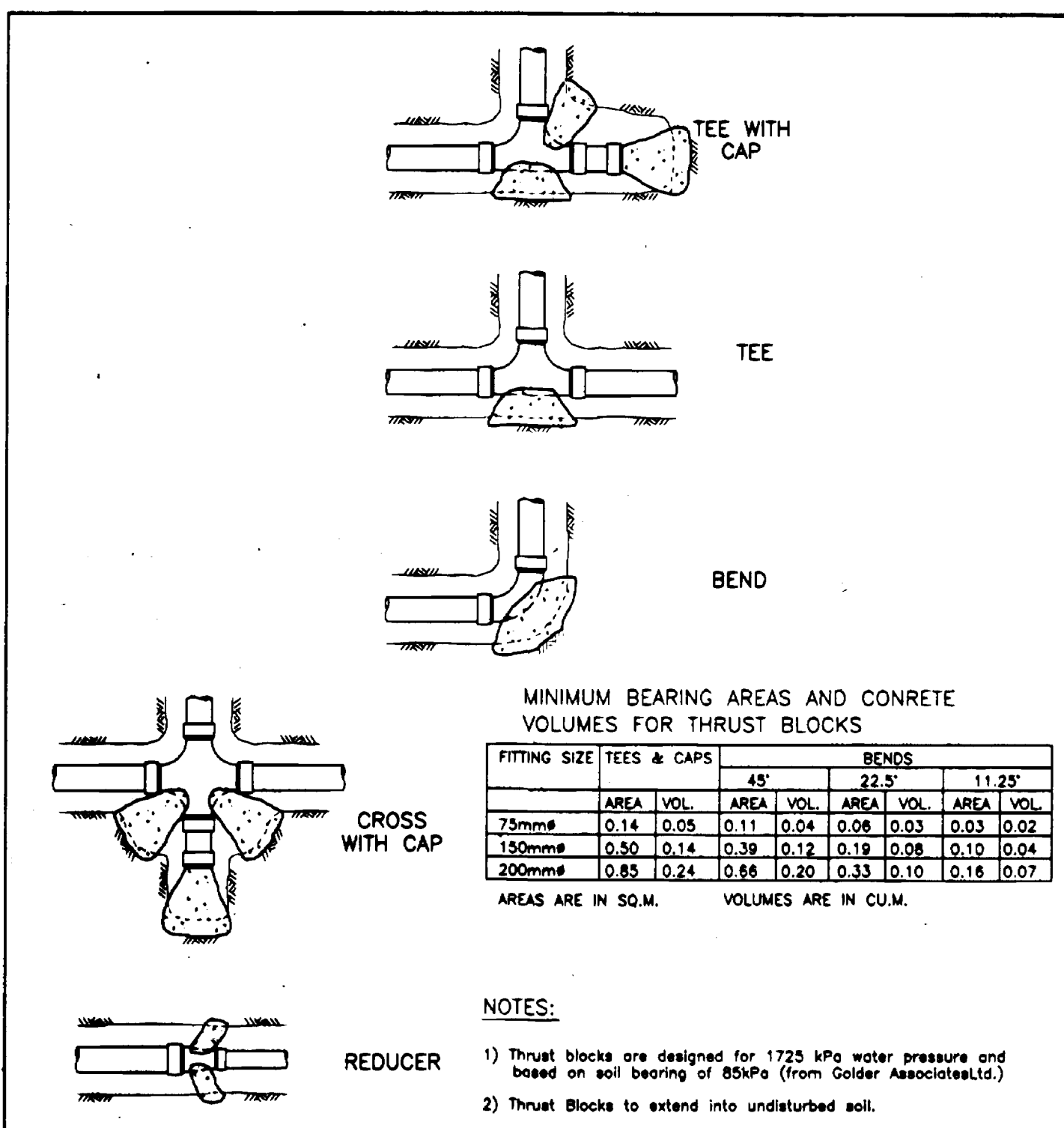
Typical Trench in Boulevard
NTS



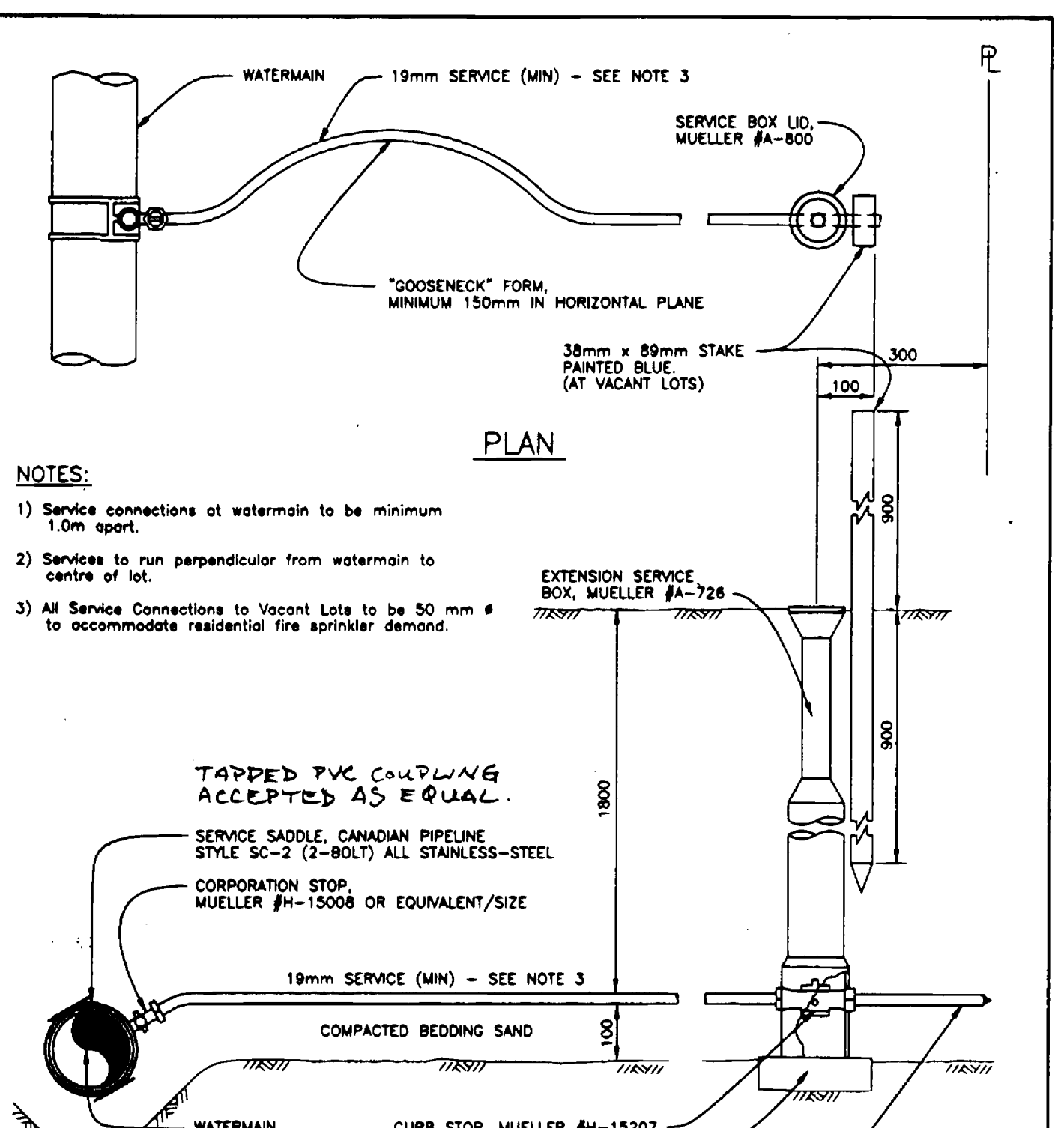
Anchor Blocks



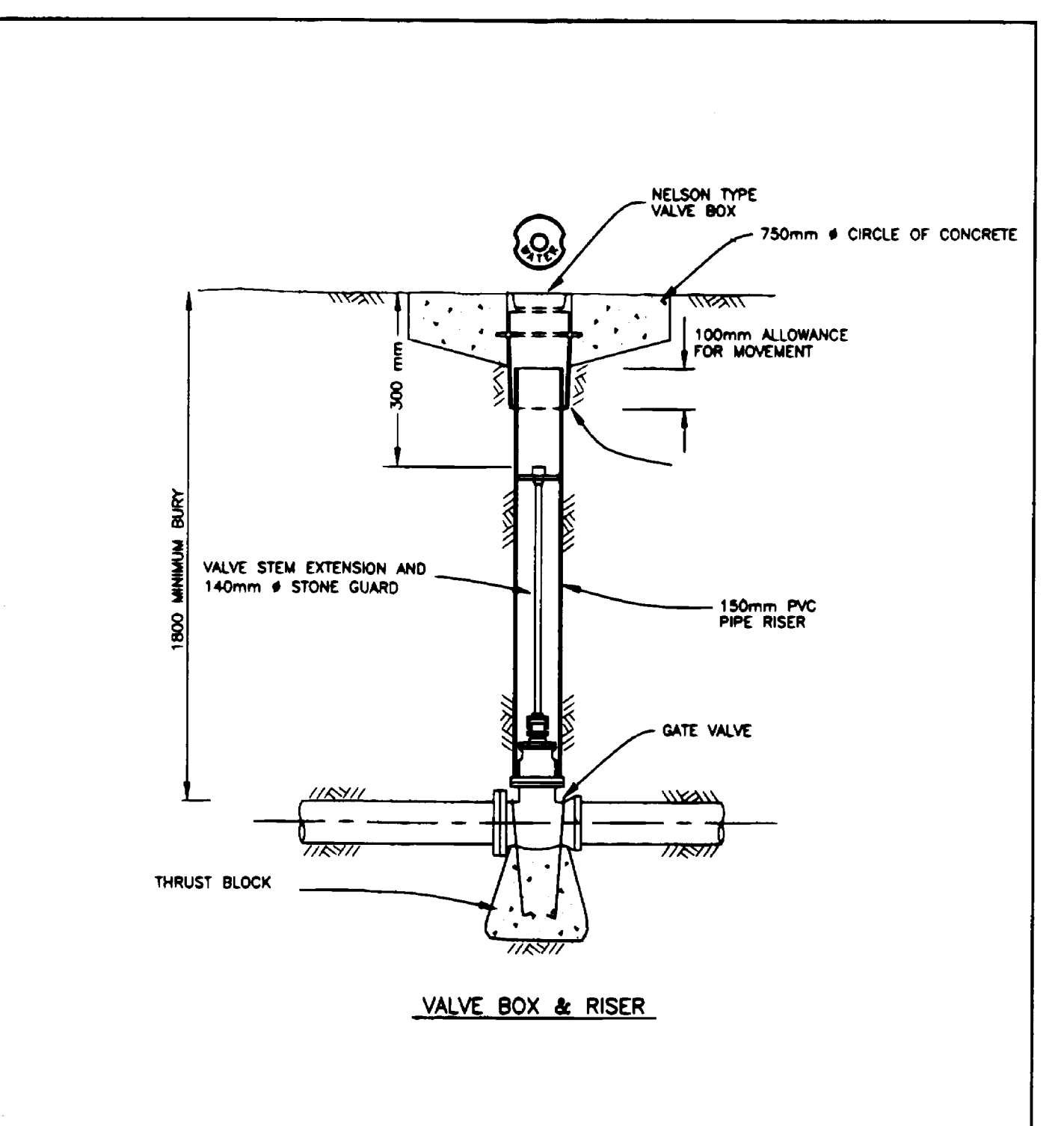
Hydrant Connection Detail
T.C. C71P



Thrust Block Details
NTS



Typical Water Service Connection



Valve Box Assembly Detail

- NOTES:**
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Approved:

No.	Revision	Date	Initial
R	RECORD DRAWINGS	OCT '00	WNR
B	ISSUED / TENDER	FEB '99	WNR
B	INAC REVISION	AUG '98	WNR
A	Detailed Design Submission	JUNE '98	WNR

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
NORTH BAY INDIAN RESERVE No.5, PLAN 52297
DETAILS

Innovation Engineering Incorporated
Civil Engineering & Planning
British Columbia, Canada

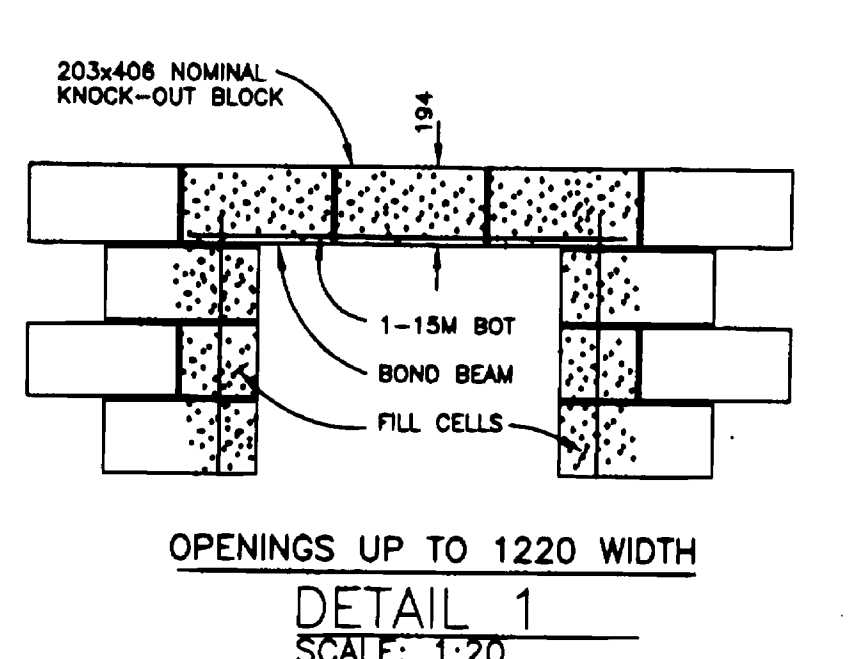
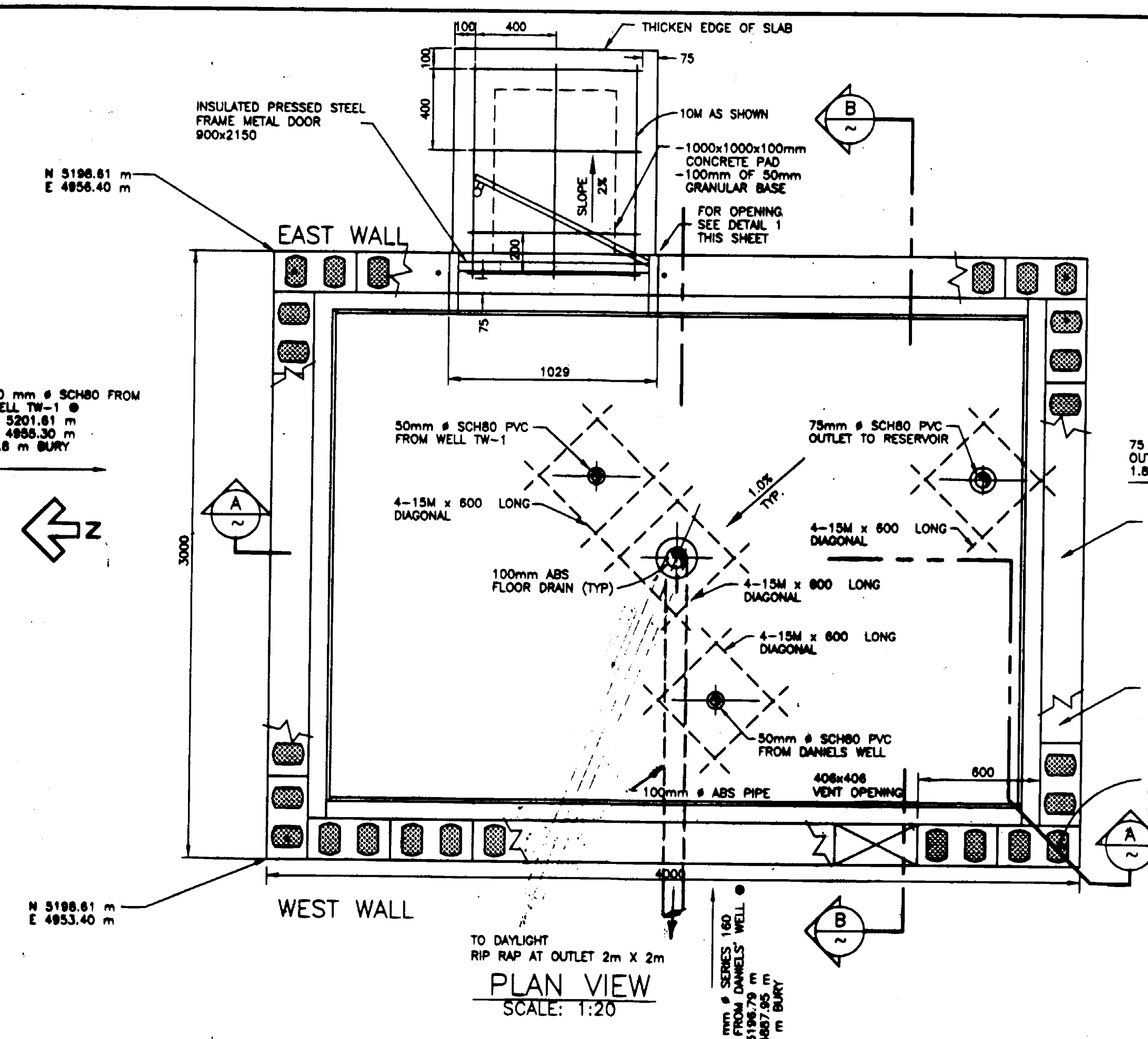
Scale:
HORZ. N.T.S.
VERT. N.T.S.

Drawn by: W.N.R.
Ckd. By: H.A.L.
Date: JUNE - 1998

Dwg. No.: **9600701.D1**

Rev. 1

CANCEL PRINTS BEARING PREVIOUS LETTER

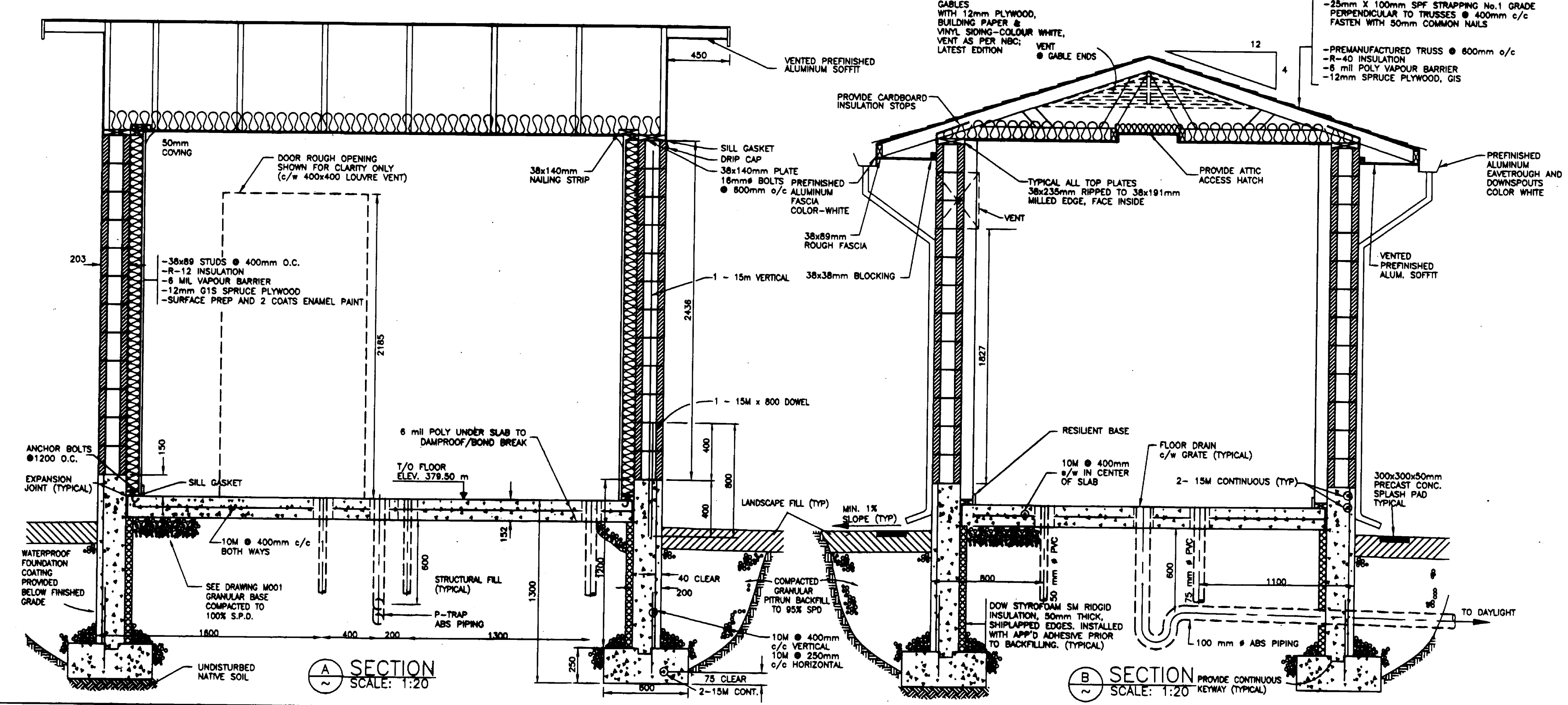


- STRUCTURAL NOTES**
- THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS BEFORE COMMENCING WITH THE WORK. ANY DISCREPANCIES NOT REPORTED TO THE ENGINEER FOR CLARIFICATION WILL BECOME THE RESPONSIBILITY OF THE CONTRACTOR.
 - ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CSA CAN3-A23.1-M (LATEST EDITION) AND SHALL BE THE FOLLOWING TYPES:

	MIN. 28 DAY COMP. STRENGTH	MAX. SLUMP	MAX. SIZE AGGREGATE
A. FOOTINGS	20 MPa	80mm	20mm
B. SLAB ON GRADE	20 MPa	80mm	20mm
C. FOUNDATION WALLS	20 MPa	80mm	20mm
 - THE MAIN FLOOR SLAB STEEL TROWELLED AND THEN GIVEN A FINE HAIR BRUSH FINAL FINISH.
 - CONCRETE COVER TO REINFORCING AS FOLLOWS (UNLESS NOTED OTHERWISE):

A. FOOTINGS	75mm
B. WALLS	40mm
C. SLAB ON GRADE	CENTER OF SLAB
 - REINFORCING STEEL 10M AND LARGER SHALL BE DEFORMED TO THE REQUIREMENTS OF CSA AND SHALL BE OF NEW BULLET STOCK CONFORMING TO CSA G30.12M (YIELD POINT - 300 MPa MINIMUM).
 - ALL REINFORCING BARS TIED SECURELY TO PREVENT DISPLACEMENT.
 - CONSULTING ENGINEER IS TO BE NOTIFIED IN ADVANCE OF POURING CONCRETE TO INSPECT REINFORCING.
 - ENGINEER TO ARRANGE FOR THE TAKING AND TESTING OF CONCRETE CYLINDERS BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH CSA CAN3-A23.1-M77.
 - ALL CONCRETE SHALL BE PROPORTIONED ACCORDING TO CSA CAN3-A23.1-M77, ITEM 14.8.1, ALTERNATIVE #1.
 - WALL REINFORCING INCLUDING DOWELS LAP 24 BAR DIAMETERS WITH BENT BARS AT CORNERS OF SAME SIZE AND SPACING AS HORIZONTAL REINFORCING. ENDS OF WALLS HAVE 2-15M VERTS. (MINIMUM), UNLESS OTHERWISE NOTED.
 - OPENINGS IN WALLS AND SLABS HAVE TWO 15M EXTRA BARS FROM EACH SIDE EXTENDING 800mm PAST CORNERS PLUS ONE 15M x 1500mm DIAGONAL EACH CORNER, UNLESS OTHERWISE NOTED.
 - HOLLOW CONCRETE MASONRY UNITS OF SIZES SHOWN AND CONFORM TO CSA A183.1-M1977 SPECIFICATION FOR NORMAL WEIGHT CONCRETE MASONRY UNITS. REINFORCE AT 400mm O.C. VERTICALLY WITH 3.75mm GALVANIZED PARALLEL STEEL TWIN WIRES WITH CROSS WIRES AT 400mm O.C., PLUS VERTICAL BARS AS SHOWN. MORTAR CONFORMS TO M30 TYPE S. FILL BOND BEAMS, LINTELS AND CELLS THAT CONTAIN REINFORCEMENT WITH GROUT. GROUT WELL RODED TO COMPLETELY FILL CELLS. COMPRESSIVE STRENGTH OF INDIVIDUAL UNITS SHALL BE 15 MPa, BASED ON NET AREA.
 - ROOF TRUSSES ARE OF DEPTH, PROFILE AND SPACING SHOWN. COMPLETE WITH BRIDGING, BRACING, TOP CHORD EXTENSIONS AND BEARING DETAILS. ALL TRUSSES CONFORM TO CSA 088 FOR DESIGN AND FABRICATION AND MUST BE CAPABLE OF SAFELY SUPPORTING A UNIFORMLY DISTRIBUTED TOTAL LOAD OF 2.20 kPa. LIVE LOAD (1.53 kPa) DEFLECTION SHALL NOT EXCEED 1/300th OF THE SPAN. SHOP DRAWINGS FURNISHED BY THE MANUFACTURER BEARING THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE PROVINCE OF BRITISH COLUMBIA WHO IS RESPONSIBLE FOR THE DESIGN. CONTRACTOR SHALL PROVIDE ERECTION BRACING TO PREVENT LATERAL BUCKLING OF THE TOP CHORD UNTIL ROOF SHEATHING IS IN PLACE.
 - ALL FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 100 kPa UNDER TOTAL LOAD AND ARE TO BE FOUNDED ON UNDISTURBED NATIVE SOIL OR COMPACTED IMPORTED CRUSH.
 - FOOTINGS CENTERED UNDER WALLS.
 - DESIGN LIVE LOADS:

ROOF SNOW	0.80 x 3.11 = 2.49 kPa
MAIN FLOOR	7.20 kPa



- NOTES:**
- CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING UTILITIES WITH ALL UTILITY COMPANIES PRIOR TO DIGGING.
 - ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.
 - CONTRACTOR TO CO-ORDINATE UTILITY RELATION WORKS WITH UTILITY COMPANIES AS REQUIRED.
 - ANY DESIGN CHANGES MUST BE APPROVED IN WRITING BY INNOVATION ENGINEERING INC. P.O. BOX 515, SORRENTO, B.C. V0E 2M0. PHONE: 250-475-3248.
 - 1:200 YEAR FLOOD ELEVATION IS 350.20m.
 - ALL CONSTRUCTION TO BE IN ACCORDANCE WITH NATIONAL BUILDING CODE.

No.	Revision	Date	Initial
R	RECORD	NOV '01	
T	TENDER	FEB 99	
B	INAC REVISION	AUG '98	WNR
A	Detailed Design Submission	JUNE '98	WNR

Approved: _____

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
CONTROLS BUILDING

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

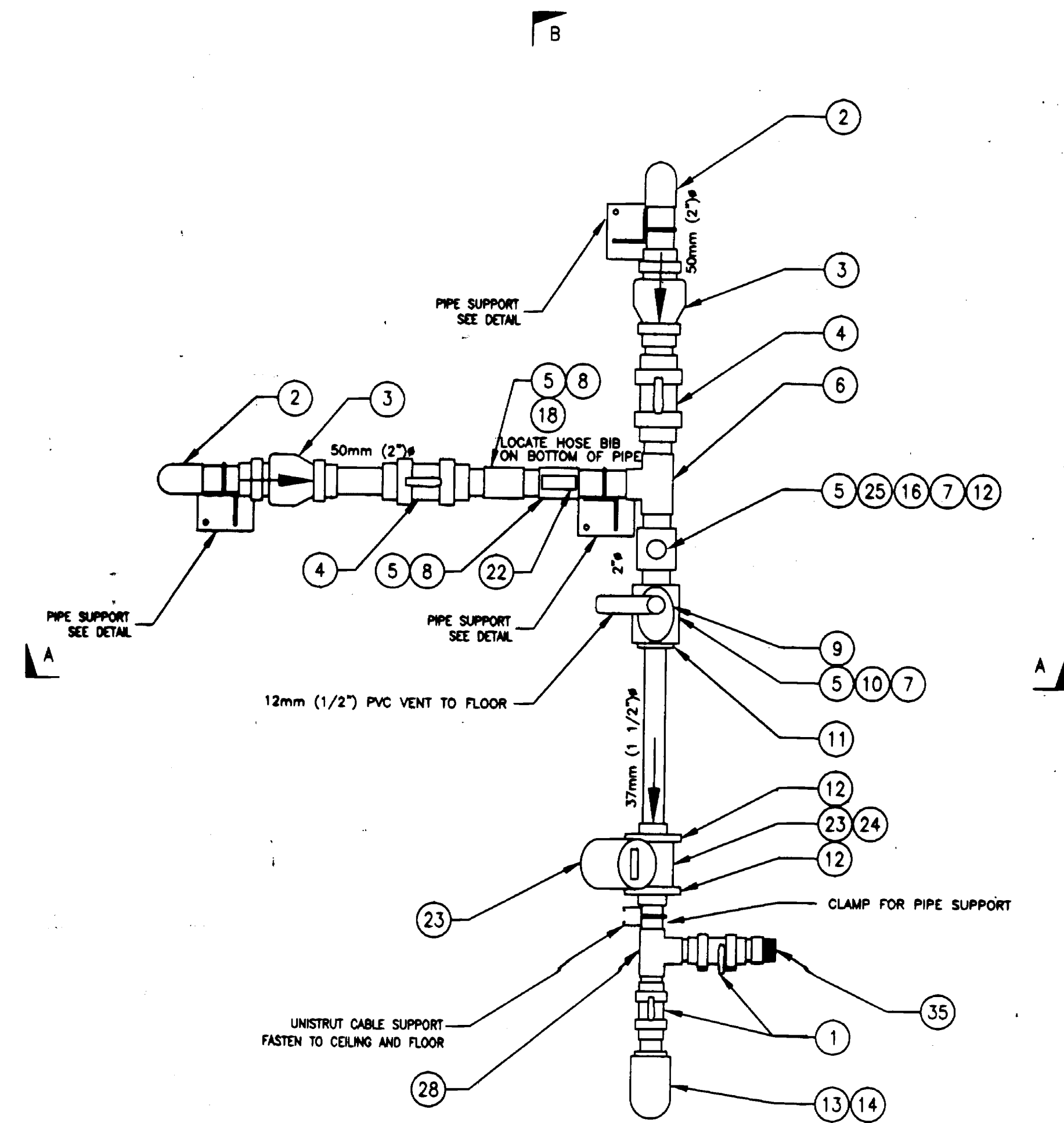
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 VERT. 1 : X

Drawn by: W.N.R.
 Ckd. By: H.A.L.
 Date: JUNE - 1998

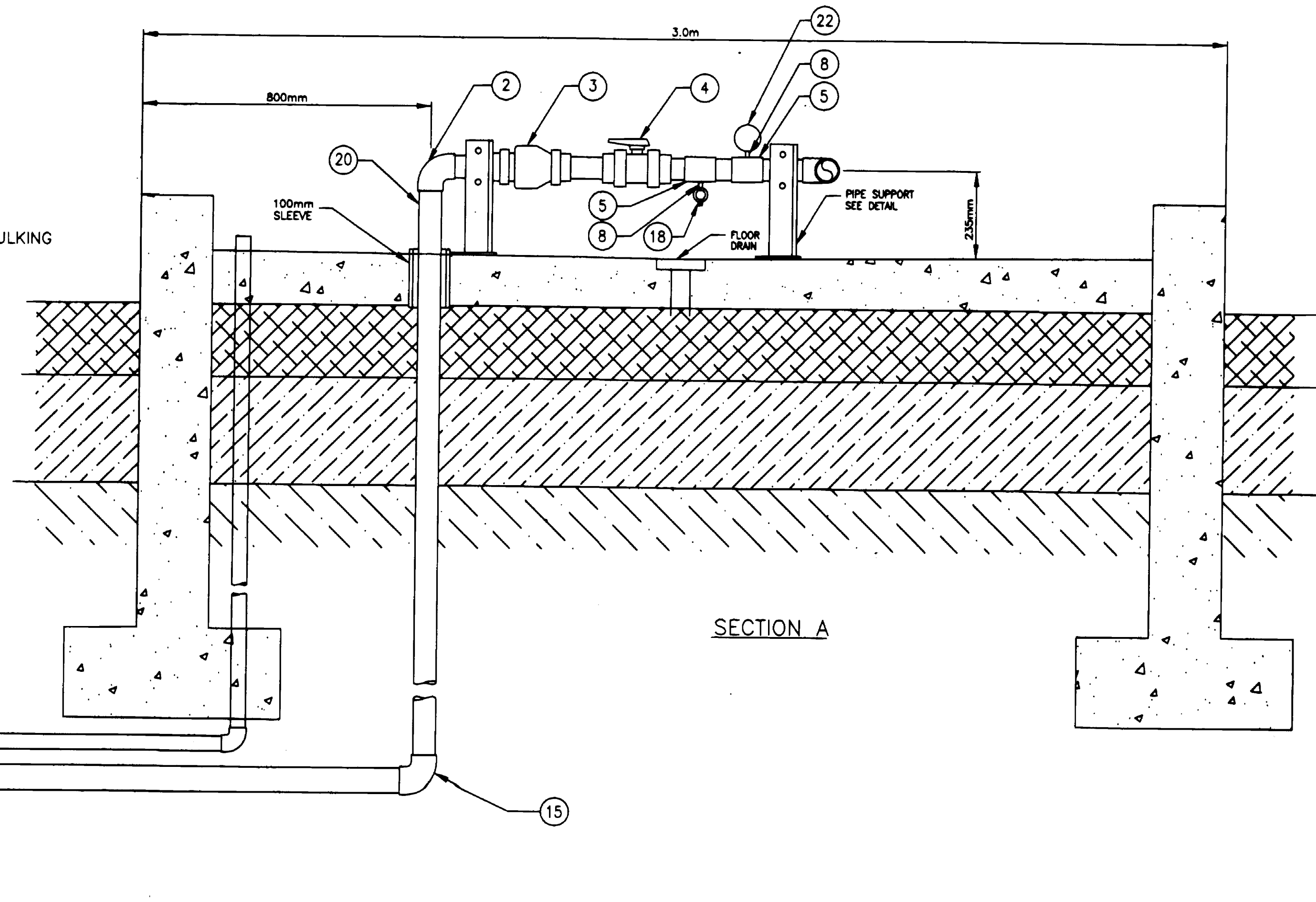
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Rev: R

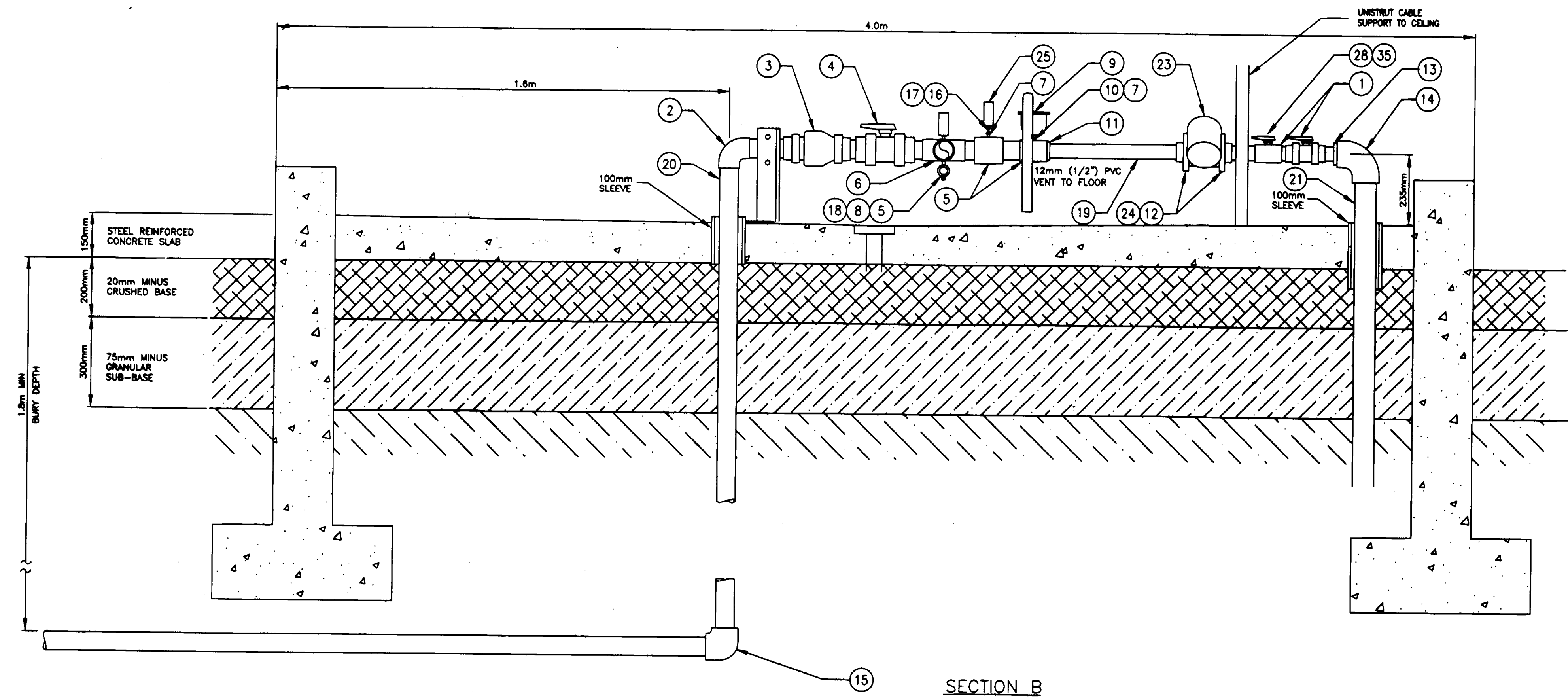
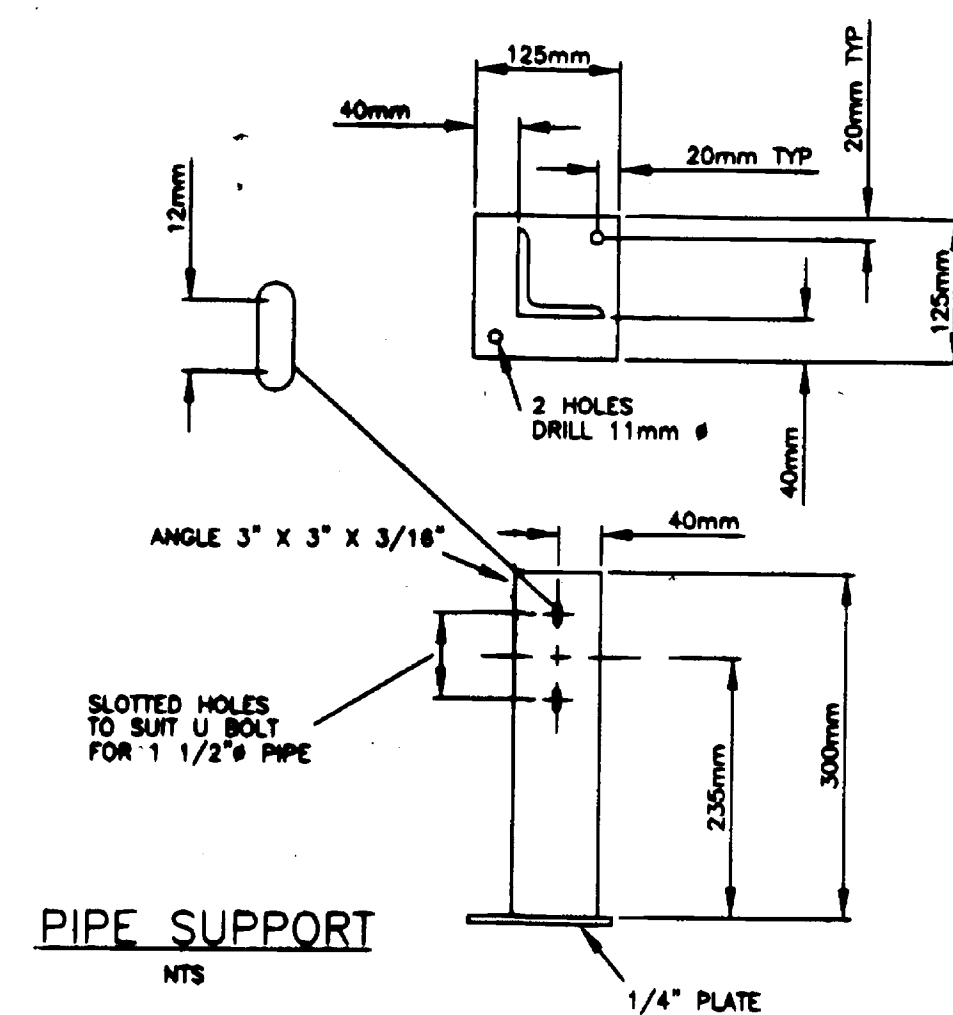
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NOTE: ALL SLEEVE PASSAGES TO BE SEALED WITH CAULKING



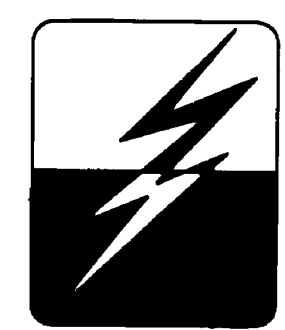
PLAN



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No.	Revision	Date	Initial
D	AS CONSTRUCTED	JAN 2000	KG
C	ISSUED FOR TENDER	FEB 1999	KG
B	INAC REVISIONS	AUG 1998	KG
A	DESIGN SUBMISSION	JUNE 1998	KG

Approved: *[Signature]*
PROFESSIONAL ENGINEER
 PROVINCE OF BRITISH COLUMBIA
 KEN GUIDO
 JAN 24 100



GUIDO AND ASSOCIATES CONSULTING ENGINEERS
 OYAMA B.C.
 PHONE: (250) 548-4151
 FAX: (250) 548-4152
 PROJECT 310

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
MECHANICAL LAYOUT AND BILL OF MATERIALS

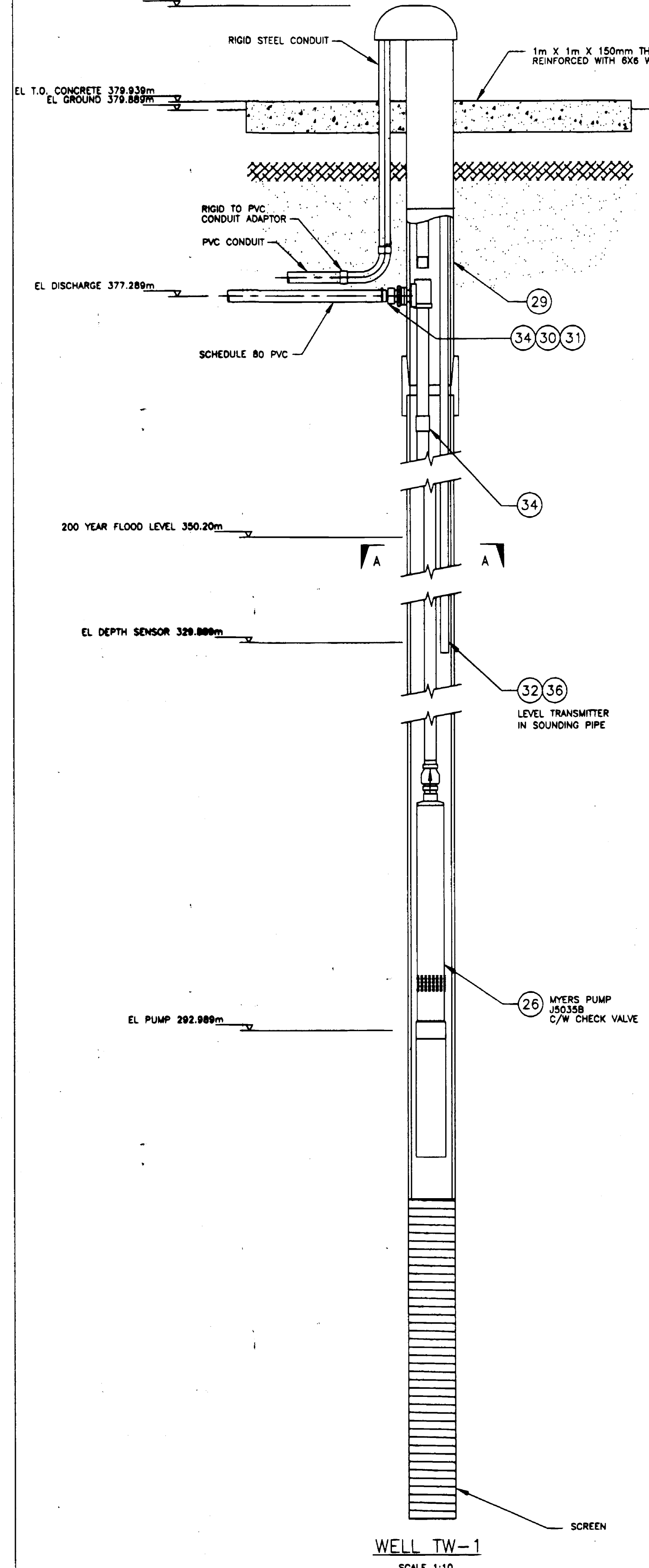
Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

Scale: 1 : 10
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 Ckd. By: KG
 Date: 9 DEC 97
 Dwg. No.: M001
 Rev. D

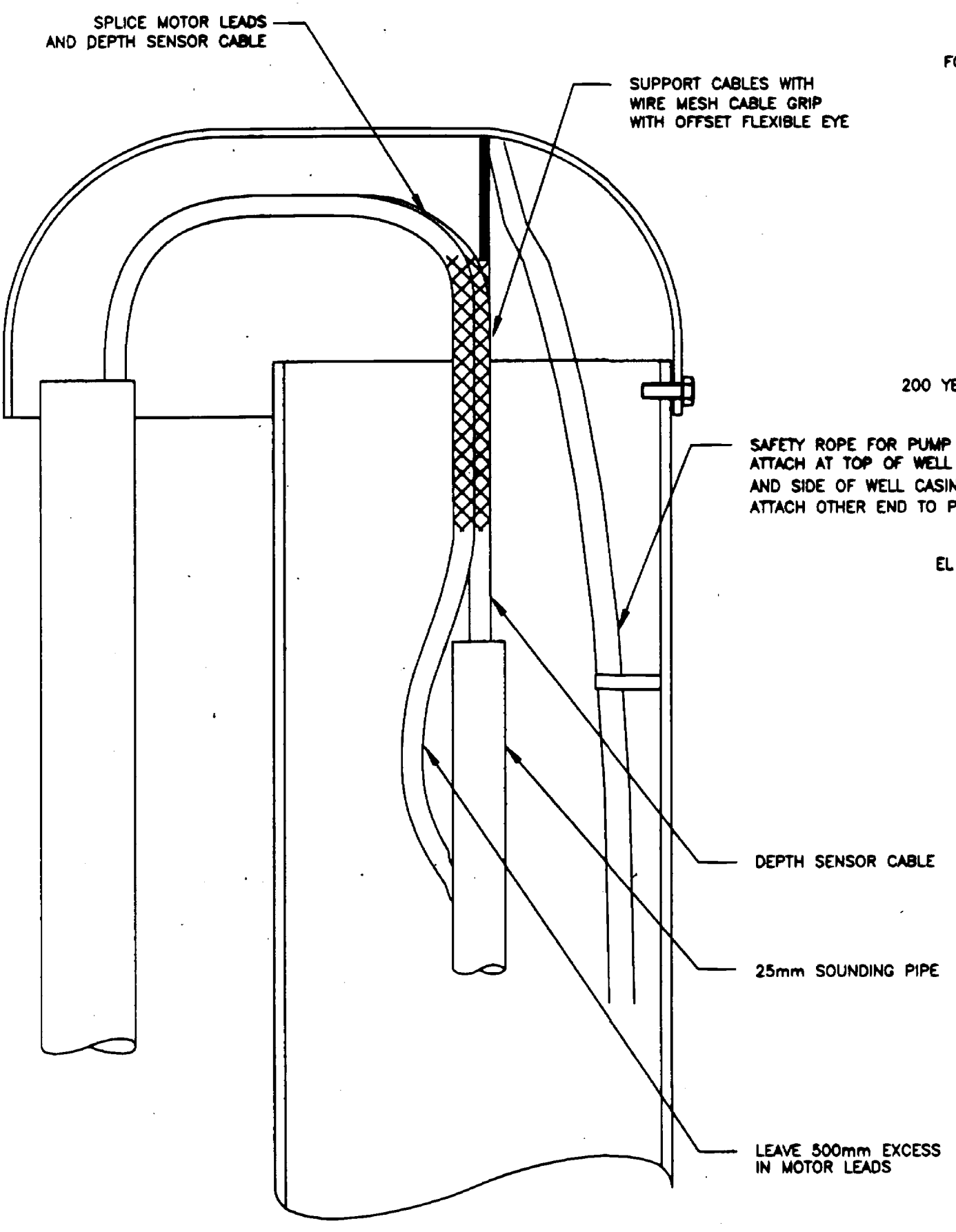
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EL T. O. CAP 373.272m

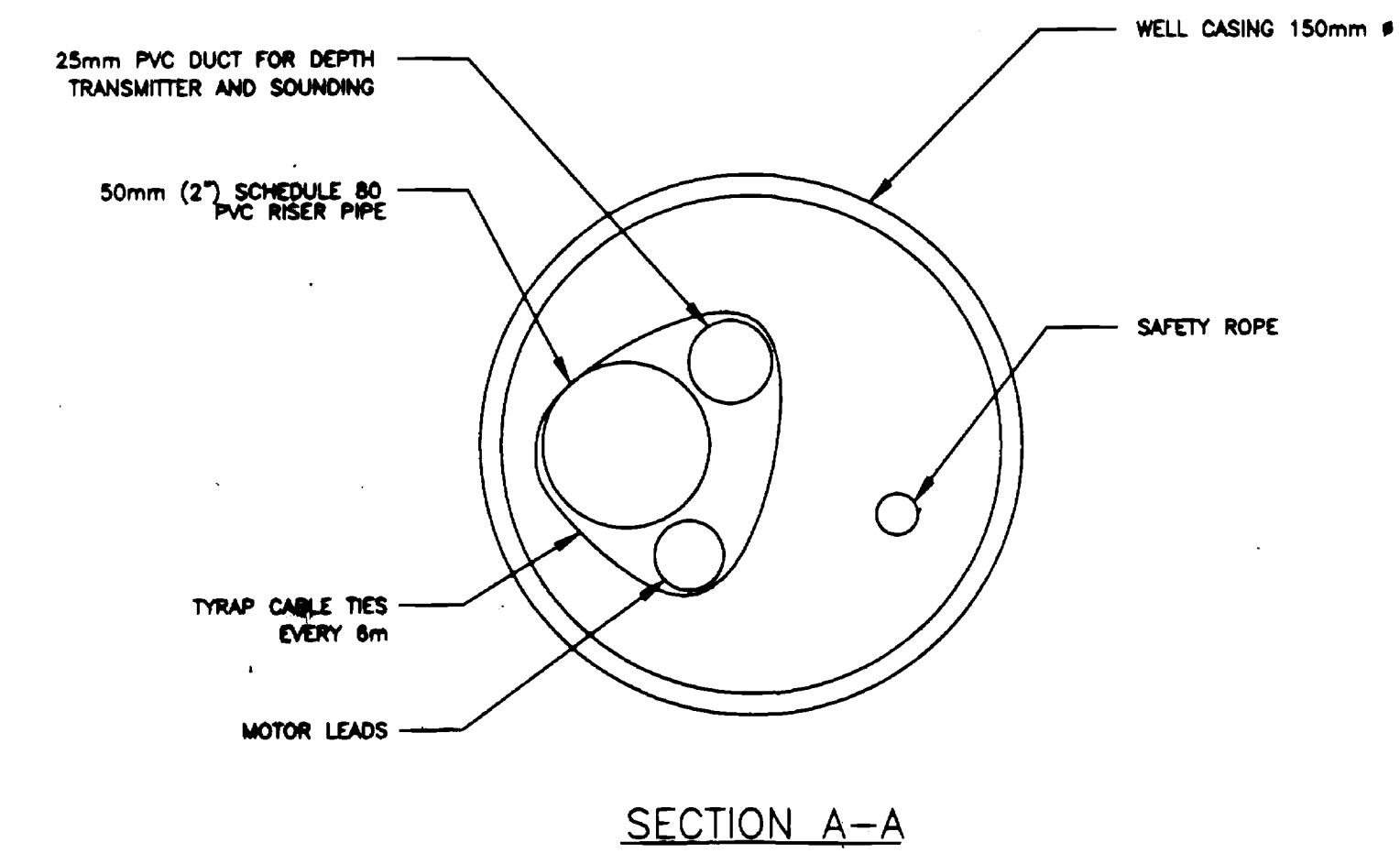
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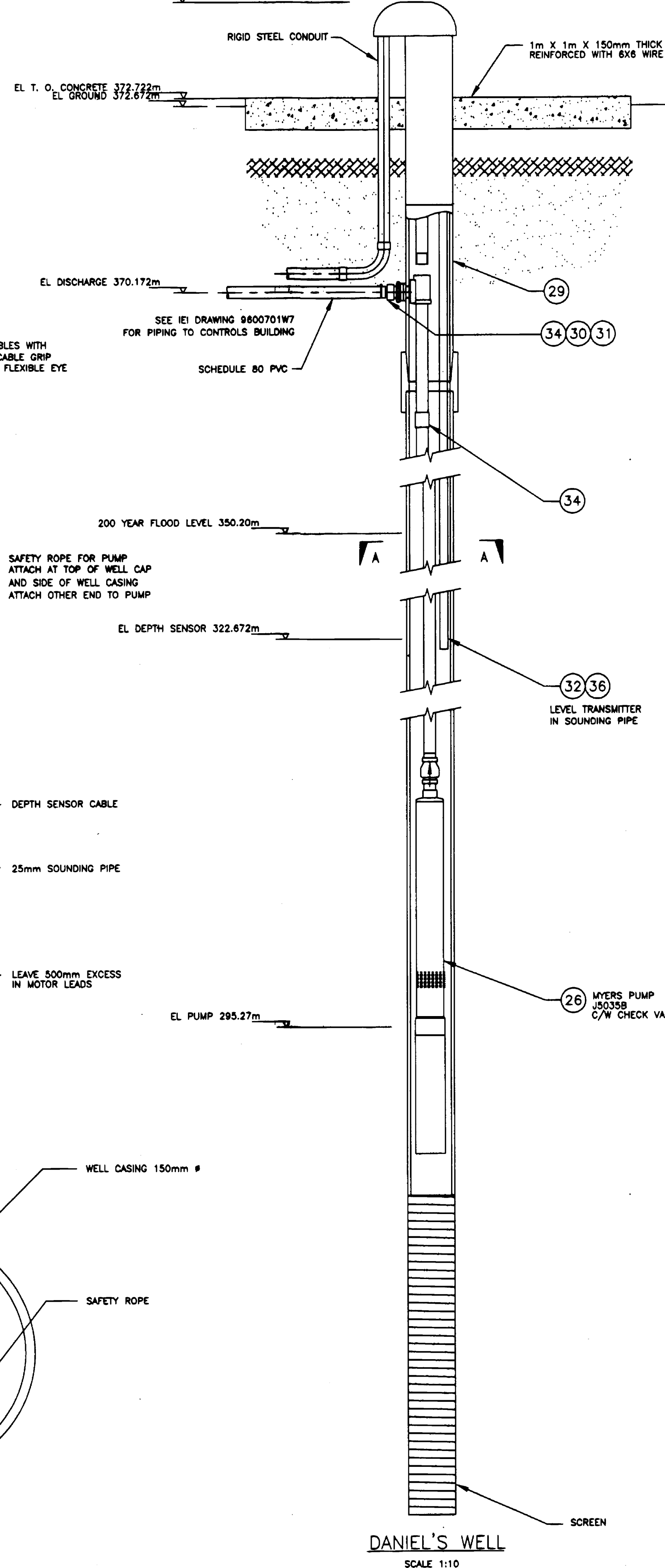
WELL TW-1
SCALE 1:10



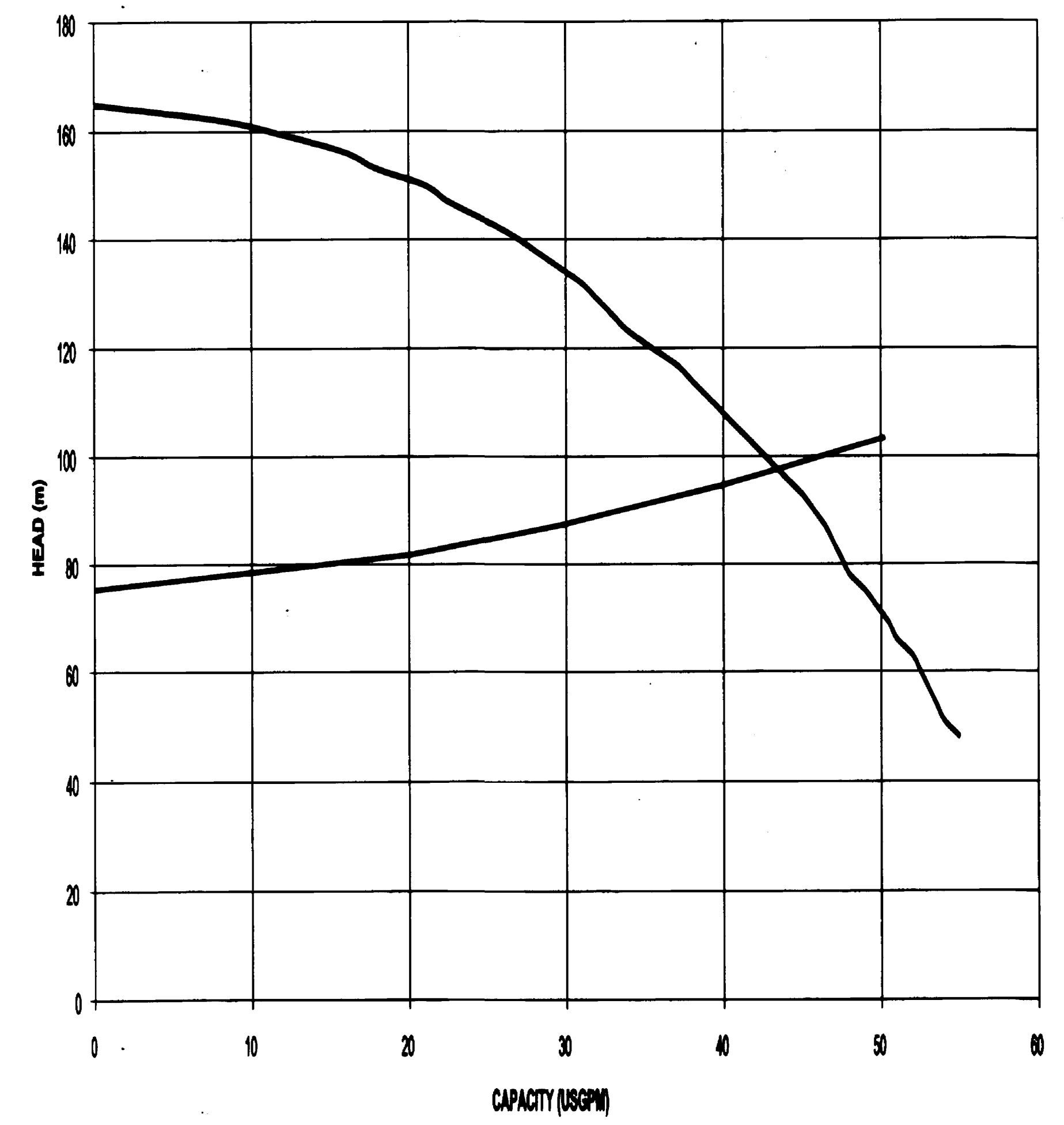
WELL HEAD DETAIL
SCALE 1:2



SECTION A-A



DANIEL'S WELL
SCALE 1:10



BILL OF MATERIALS			
ITEM	QUANTITY	DESCRIPTION	CAT #
1	2	TRUE UNION BALL VALVE 37mm (1 1/2") #	SERIES 1360
2	2	ELL, 50mm (2") 90° SOC X SOC SCHEDULE 40	408-020
3	2	TRUE UNION SPRING CHECK VALVE 50mm (2") FLO CONTROL INC	SERIES 1700
4	2	SINGLE ENTRY BALL VALVE PVC 50mm (2")	
5	4	REDUCING TEE, 50mm X 50mm X 18mm (2" X 2" X 3/4") SOC X SOC X SOC	401-248
6	1	TEE, 50mm (2") SOC X SOC X SOC	401-020
7	3	18mm X 12mm (3/4" X 1/2") REDUCER BUSHING, SOC X FIPT	438-101
8	1	18mm X 8mm (3/4" X 1/4") REDUCER BUSHING, SPIG X FIPT	438-098
9	1	12mm (1/2") AIR RELEASE VALVE, VAL MATC AS BY INTERNATIONAL PLASTICS	1/2"-15A
10	1	NIPPLE 12mm (1/2") MPT	
11	1	50mm X 37mm (2" X 1 1/2") REDUCER BUSHING, SPIG X SOC	437-251
12	2	37mm (1 1/2") FLANGE	851-018
13	1	75mm X 37mm (3" X 1 1/2") REDUCER BUSHING, SPIG X SOC	437-337
14	1	ELL, 75mm (3") 90° SOC X SOC	408-030
15	2	ELL, 50mm (2") 90° SOC X SOC SCHEDULE 80	808-020
16	1	12mm (1/2") PVC BALL VALVE SOC X SOC	SERIES 1300
17	1	12mm X 8mm (1/2" X 1/4") REDUCER BUSHING SOC X FIPT	
18	1	12mm (1/2") BRASS HOSE BIB	
19	AS REQ'D	PVC SCHEDULE 40 PIPE 37mm (1 1/2") #	
20	AS REQ'D	PVC SCHEDULE 40 PIPE 50mm (2") #	
21	AS REQ'D	PVC SCHEDULE 40 PIPE 75mm (3") #	
22	1	PRESSURE GAUGE 0-100 PSI 100mm (4"), AMETEK FROM BRIAN CONTROLS	540L
23	1	SPARLING 37mm (1 1/2") WAFER MAG METER AS AVAILABLE FROM BRIAN CONTROLS 250 542 1756	FM 8250
24	2	STAINLESS STEEL GROUNDING RINGS	AC 815-001
25	1	PRESSURE TRANSMITTERS 0-100 PSI AS AVAILABLE FROM SRP CONTROLS 250 563 4752	PT-400
26	2	WELL PUMP, MYERS, 40 USGPM @ 1050 kPa (BASED ON DETAILED CALCULATION BY IE) C/W 50mm (2") CHECK VALVE	J5035B
27	2	WELL PUMP CONTROL BOX, FRANKLIN SHP STANDARD	282 1139 003
28	1	TEE, 37mm (1 1/2") SOC X SOC X SOC	401-015
29	2	MASS-MIDWEST JX1 PITLESS UNIT, CASING SIZE 150mm (6"), DISCHARGE SIZE 50mm (2"), BURY DEPTHS 3.1m & 3.288m	
30	2	31mm (1 1/4") NPT TO 37mm (1 1/2") POLYETHYLENE PIPE ADAPTOR	
31	2	STAINLESS STEEL HOSE CLAMP	
32	2	WELL DEPTH TRANSDUCER, DRUCK PTX 1230 75 psi C/W 55m OF VENTED CABLE	
33	240m	50mm (2") THREADED SCHEDULE 80 PVC	
34	42	SCHEDULE 80 PVC COUPLINGS	
35	1	MALE ADAPTOR 37mm (1 1/2")	438-015
36	AS REQ'D	PVC SCHEDULE 40 PIPE 25mm (1") #	

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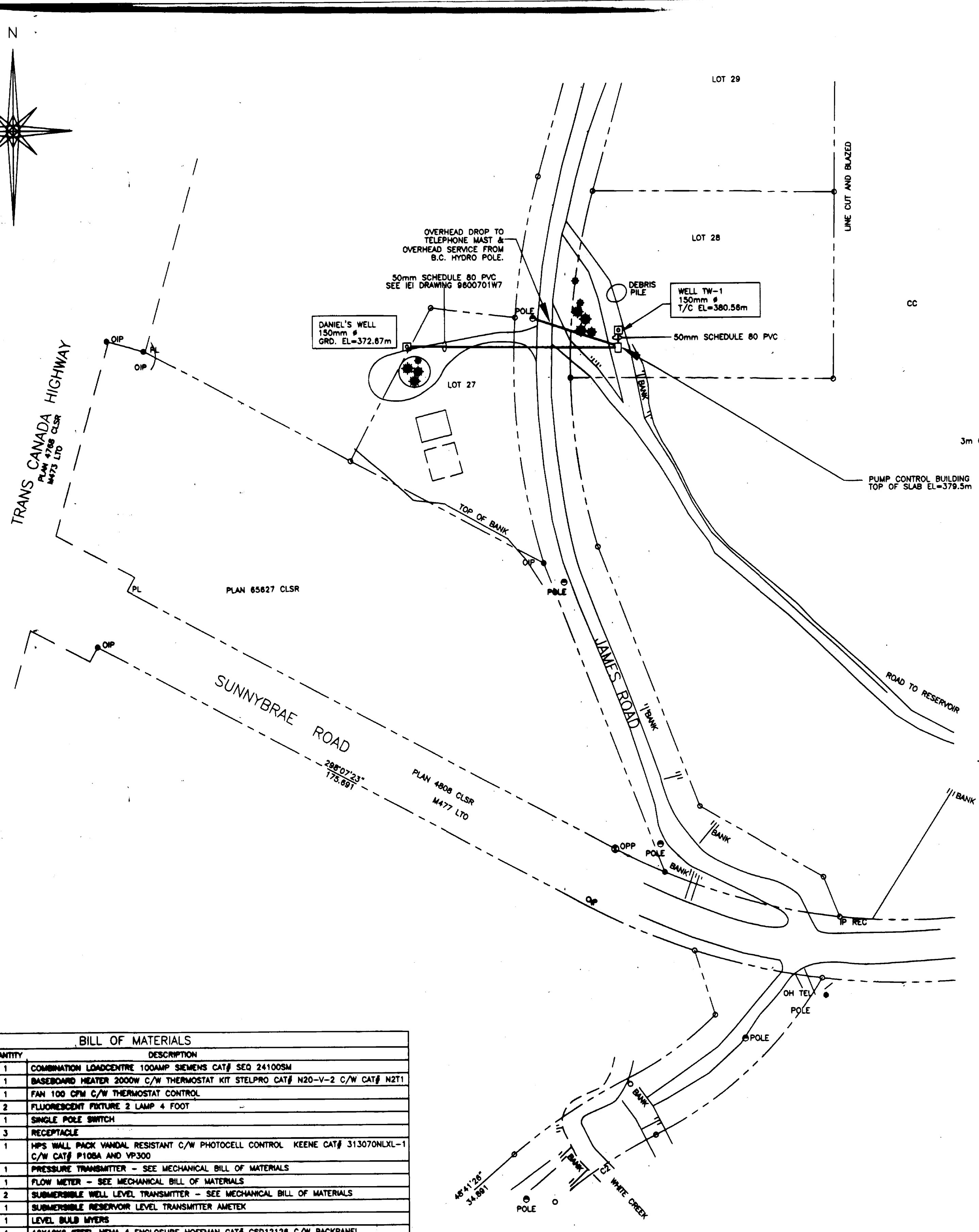
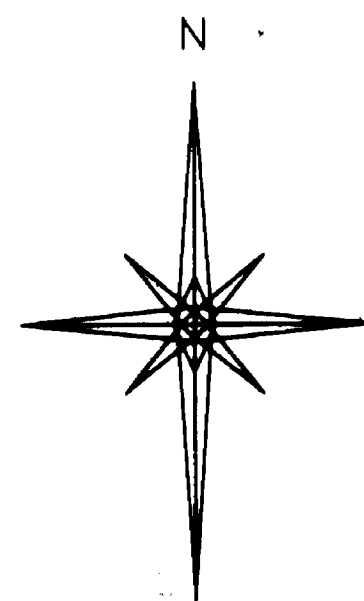
No.	Revision	Date	Initial
D	AS CONSTRUCTED	JAN 2000	KG
C	ISSUED FOR TENDER	FEB 1999	KG
B	INAC REVISIONS	AUG 1998	KG
A	DESIGN SUBMISSION	JUNE 1998	KG

Approved:

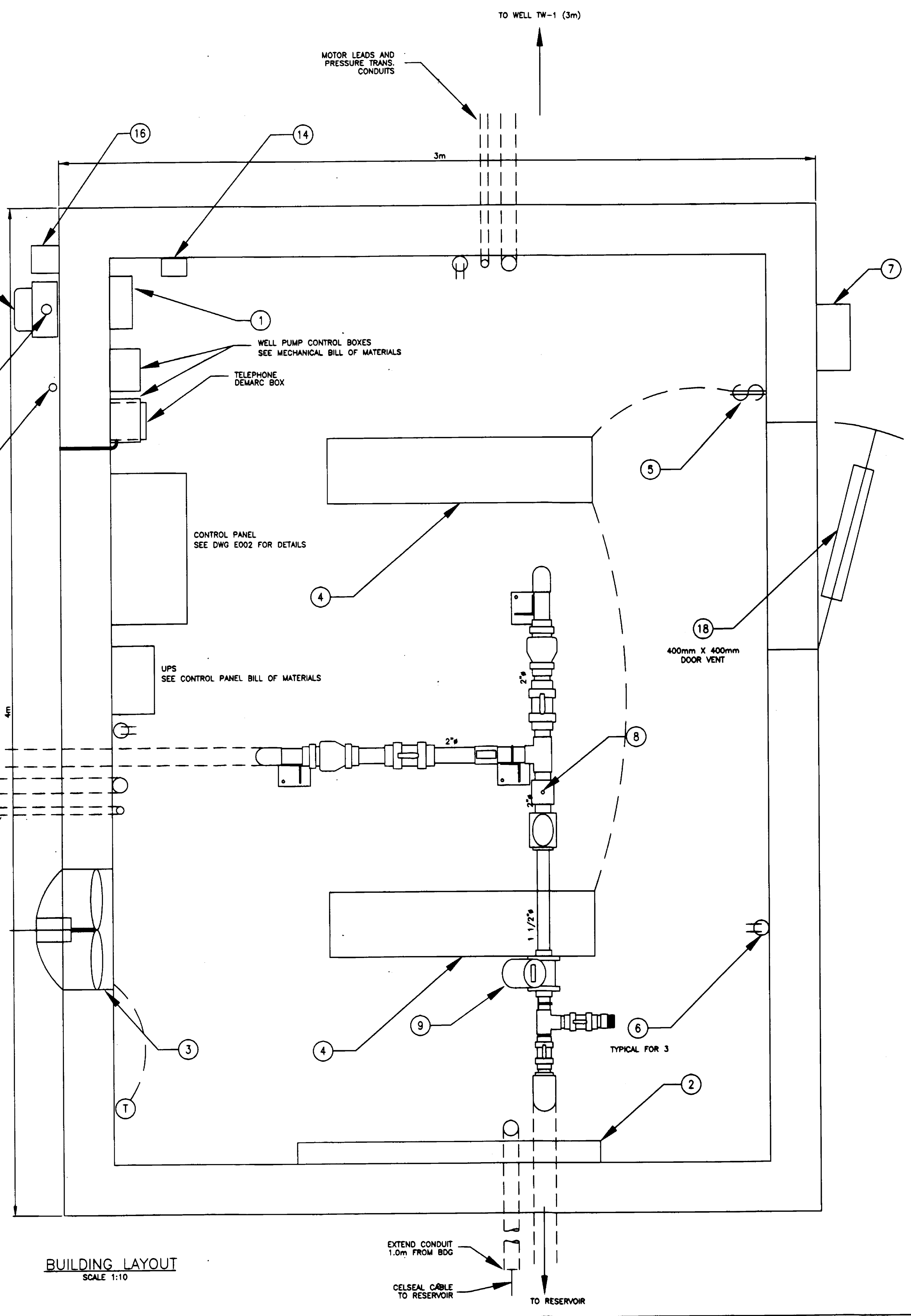
GUIDO AND ASSOCIATES
CONSULTING ENGINEERS
OYAMA B.C.
PHONE: (250) 548-4151
FAX: (250) 548-4152
PROJECT 310

LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
NORTH BAY INDIAN RESERVE No.5, PLAN 52297
WELL DETAILS AND BILL OF MATERIALS

Innovation Engineering Incorporated
Civil Engineering & Planning
British Columbia, Canada
Scale: N T S
Drawn by: LB
Ckd. By: KG
Date: 9 DEC 97
Dwg. No.: M002
Rev. D



SITE PLAN
SCALE 1:250

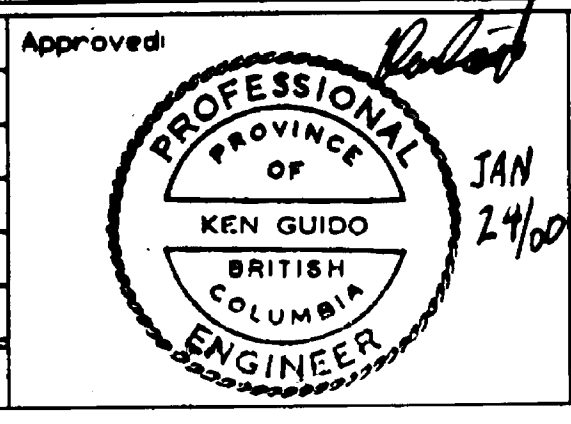


BUILDING LAYOUT
SCALE 1:10

ITEM	QUANTITY	DESCRIPTION
1	1	COMBINATION LOADCENTRE 100AMP SIEMENS CAT# SEQ 24100SM
2	1	BASEBOARD HEATER 2000W C/W THERMOSTAT KIT STELPRO CAT# N20-V-2 C/W CAT# N2T1
3	1	FAN 100 CFM C/W THERMOSTAT CONTROL
4	2	FLUORESCENT FIXTURE 2 LAMP 4 FOOT
5	1	SINGLE POLE SWITCH
6	3	RECEPTACLE
7	1	HPS WALL PACK VANDAL RESISTANT C/W PHOTOCELL CONTROL KEENE CAT# 313070NLXL-1 C/W CAT# P105A AND VP300
8	1	PRESSURE TRANSMITTER - SEE MECHANICAL BILL OF MATERIALS
9	1	FLOW METER - SEE MECHANICAL BILL OF MATERIALS
10	2	SUBMERSIBLE WELL LEVEL TRANSMITTER - SEE MECHANICAL BILL OF MATERIALS
11	1	SUBMERSIBLE RESERVOIR LEVEL TRANSMITTER AMETEK
12	1	LEVEL BULB MYERS
13	1	12X12X8 STEEL MEMA 4 ENCLOSURE HOFFMAN CAT# CSD12128 C/W BACKPANEL CAT# P1212, PADLOCK HANDLE C-WHPTO, AND TERMINAL BLOCKS AS REQ'D
14	1	LIGHTNING ARRESTOR
15	1	TEMPERATURE TRANSMITTER GREYSTONE TE-500
16	1	ALARM STROBE EDWARDS CAT# 51CR NS
17	1	METER BASE 100AMP 120/240V 1#
18	1	400mm X 400mm DOOR VENT HAILOR 618GD ALUMINUM COLOUR
19	AS REQ'D	50 mm PVC CONDUIT
20	AS REQ'D	25 mm PVC CONDUIT

NOTES:
1) ALL WORK MUST CONFORM TO THE C. E. C. AS ADOPTED BY THE PROVINCE OF B. C. CSA 22.1 - 1994

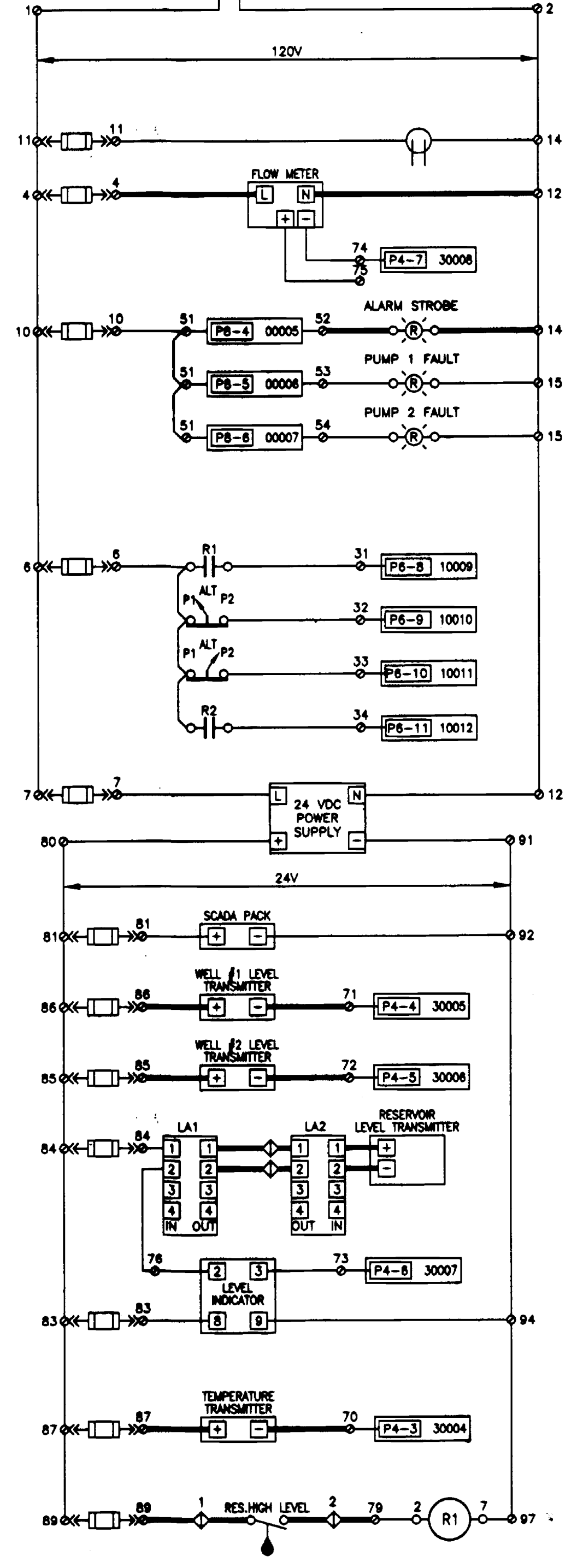
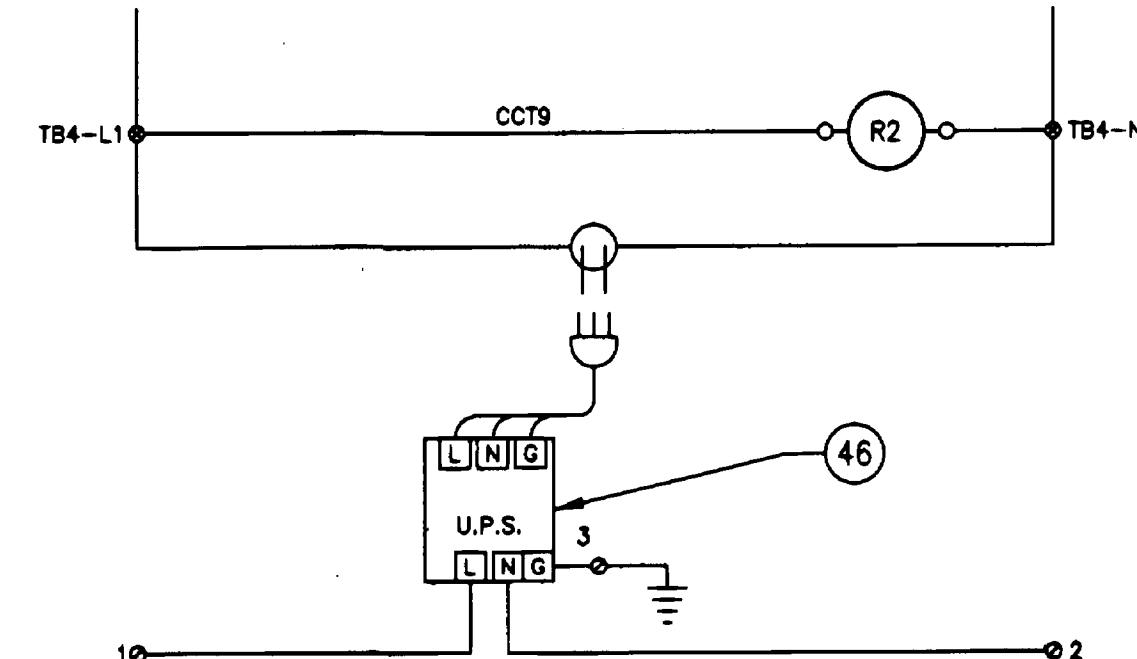
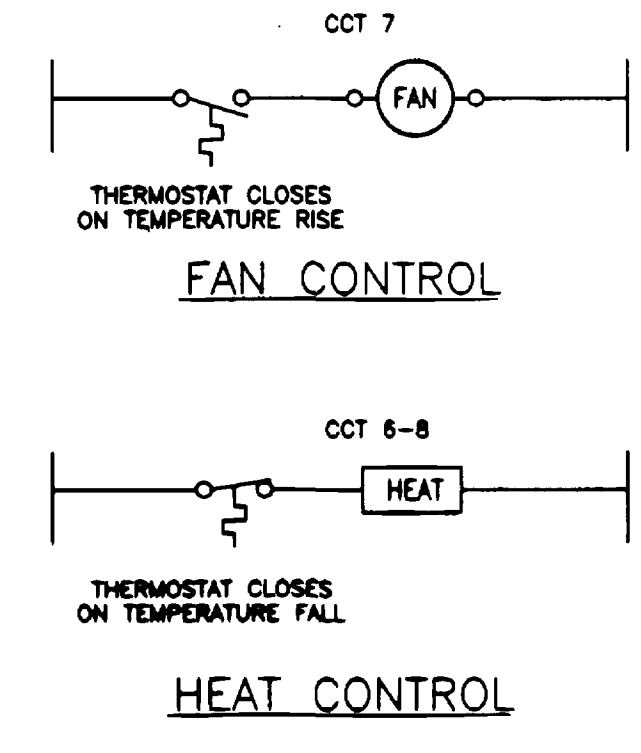
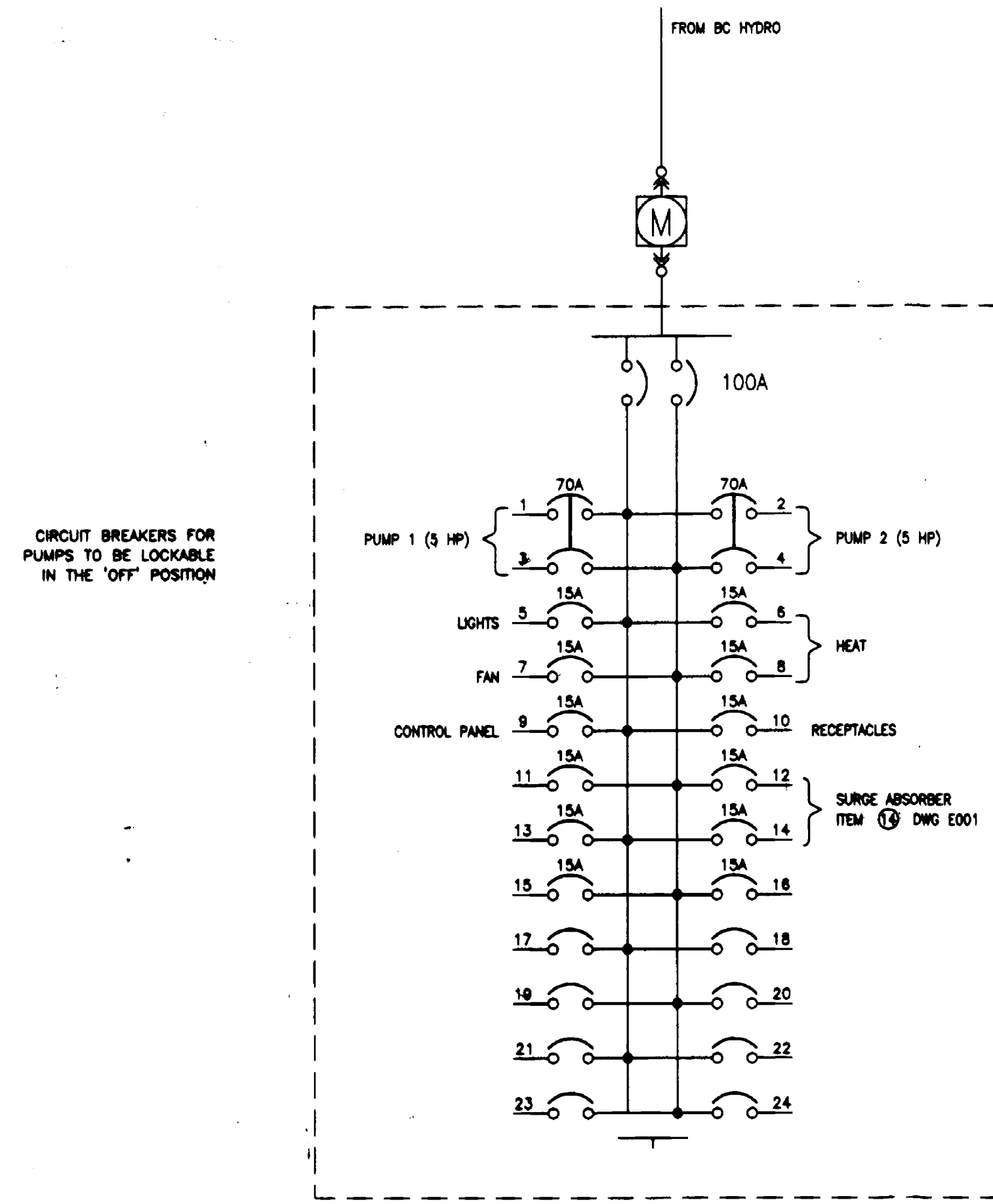
No.	Revision	Date	Initial
D	AS CONSTRUCTED	JAN 2000	KG
C	ISSUED FOR TENDER	FEB 1999	KG
B	INAC REVISIONS	AUG 1998	KG
A	DESIGN SUBMISSION	JUNE 1998	KG



GUIDO AND ASSOCIATES
CONSULTING ENGINEERS
OYAMA B.C.
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PROJECT 310

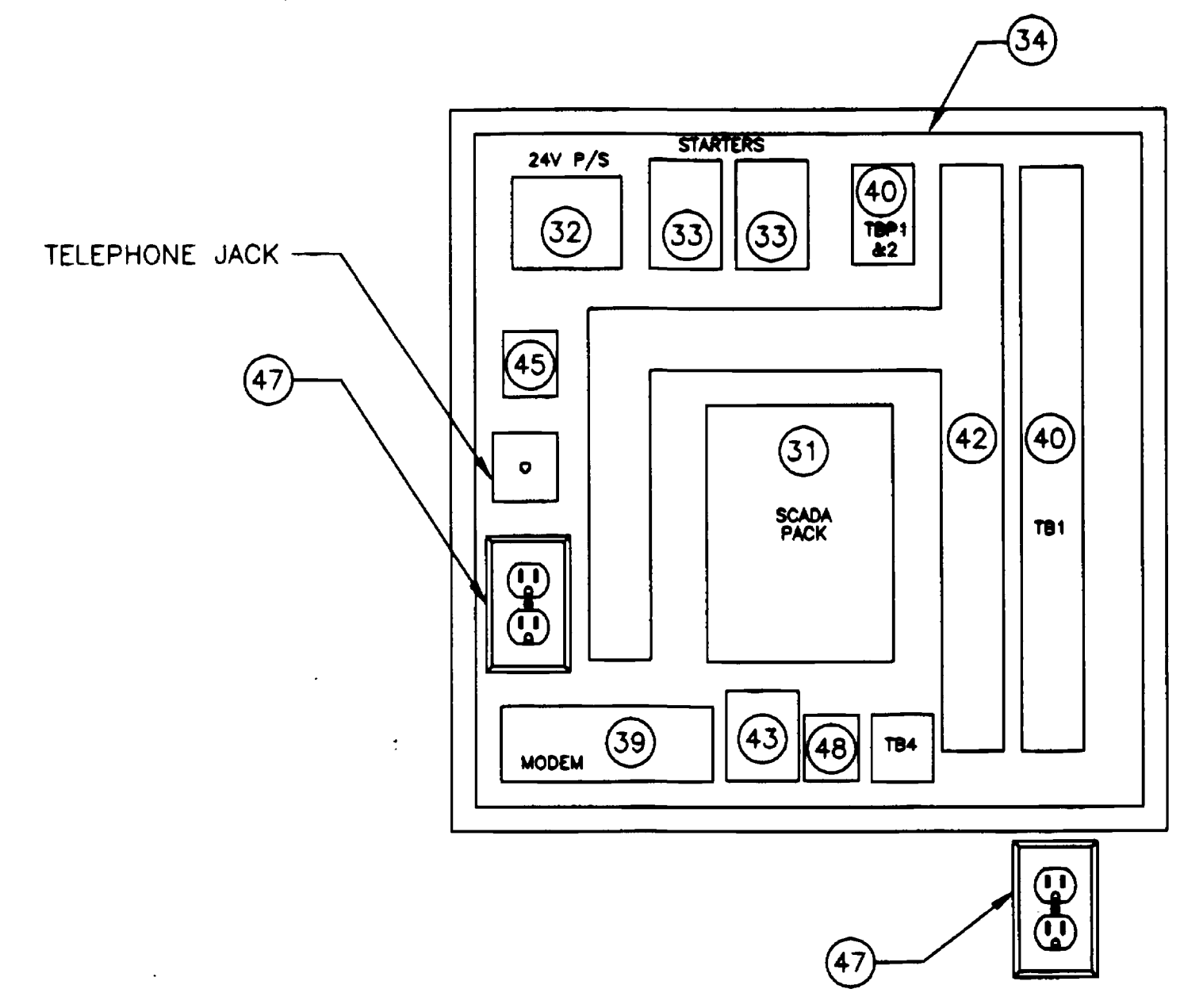
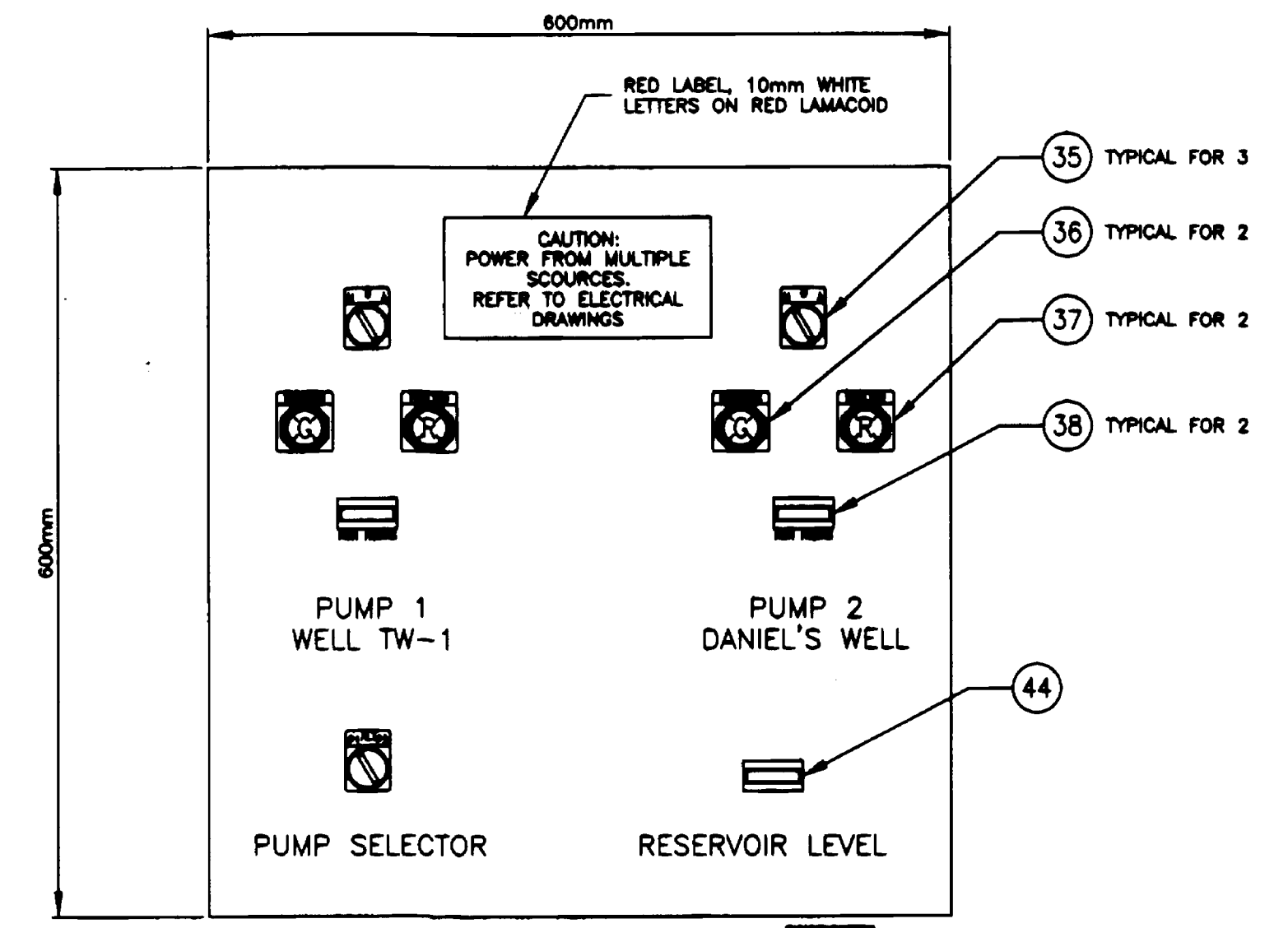
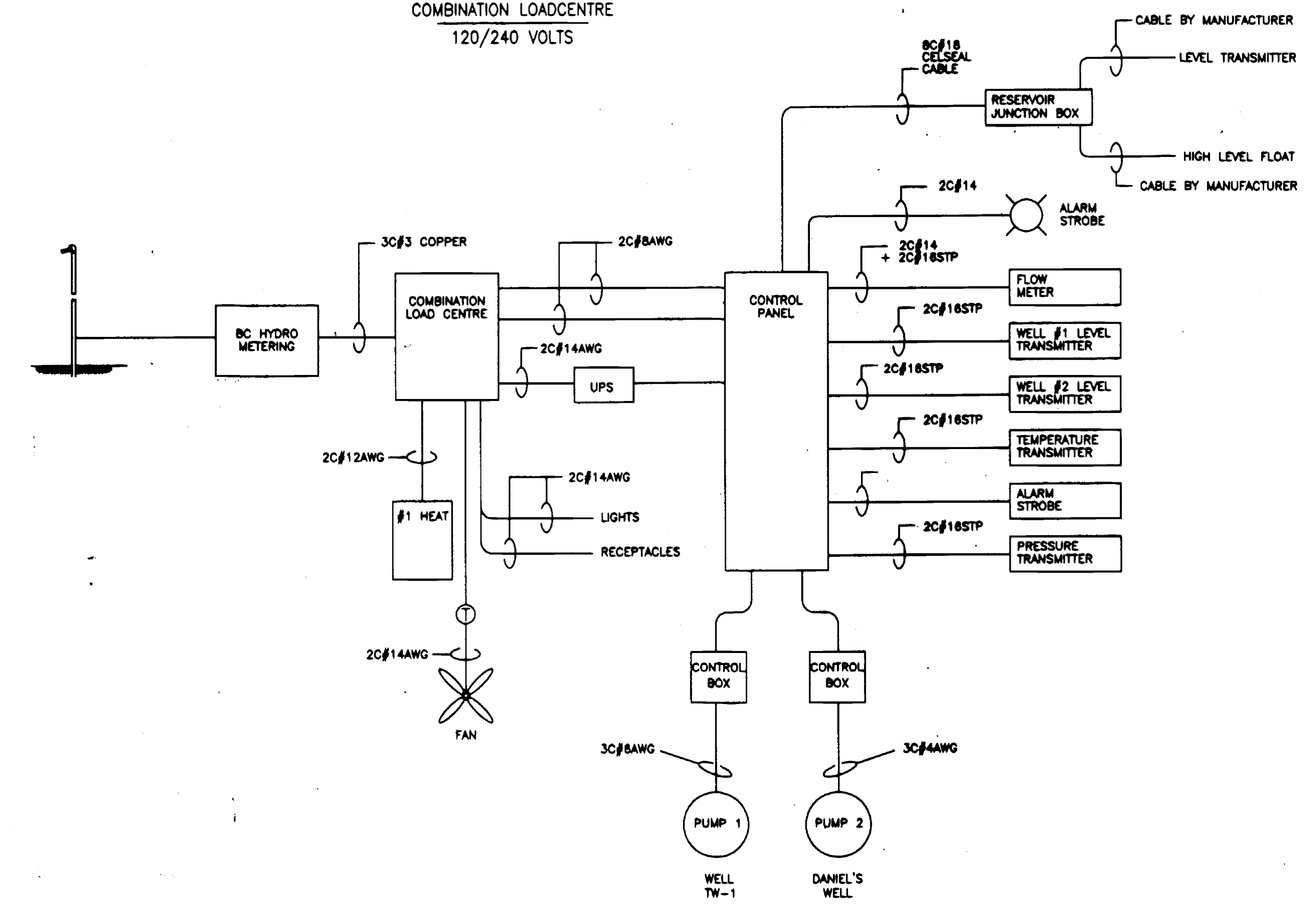
LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
NORTH BAY INDIAN RESERVE No.5, PLAN 52297
SITE PLAN AND BUILDING LAYOUT

Innovation Engineering Incorporated
Civil Engineering & Planning
British Columbia, Canada
Scale: AS NOTED
Drawn By: LB
Ckd. By: KG
Date: 9 DEC 97
Dwg. No.: E001
Rev: D



CONTROL PANEL BILL OF MATERIALS		
ITEM	QUANTITY	DESCRIPTION
31	1	TELESAFE SCADAPACK MODEL P1-100-01-1-0 AVAL FROM BRIAN CONTROLS (250)542-1756
32	1	24 VOLT POWER SUPPLY
33	2	SIZE 2 MAGNETIC MOTOR STARTER FVNR C/W O/L SIEMENS CAT# E1AA48K_700
34	1	CONTROL PANEL 800x800x300 HOFFMAN CONCEPT CAT# C-SD242412 C/W PANEL CAT# C-P2424
35	3	3 POSITION SWITCH - 2 HOA, 1 P1-ALT-P2 IDEC CAT# ASW320
36	2	GREEN INDICATOR LIGHT IDEC CAT# APW299D-0120
37	2	RED INDICATOR LIGHT IDEC CAT# APW299D-R-120
38	2	ELAPSED TIME METER OMRON CAT# H7ET-FBV
39	1	DIAL UP MODEM US ROBOTICS
40	AS REQ'D	TERMINAL BLOCK
41		
42	AS REQ'D	WIREWAY
43	2	LIGHTNING ARRESTOR DITEK CAT# OTK-2LVLP AVAL FROM SYCOM POWER DISTRIBUTION 1-800-451-9701
44	1	LEVEL INDICATOR OMRON CAT# K3TJ-A118G
45	1	RELAY 24V COIL OMRON CAT# MK2P-I-DC24
46	1	UPS 400VA
47	2	RECEPTACLE
48	1	RELAY 120V COIL OMRON CAT# MK2P-I-AC120

COMBINATION LOADCENTRE
120/240 VOLTS

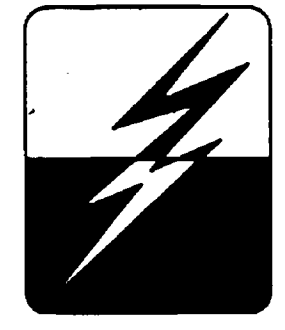


CONTROL PANEL LAYOUT
SCALE 1 : 5

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B	ISSUED FOR TENDER	FEB 1999	KG
A	DESIGN SUBMISSION	JUNE 1998	KG

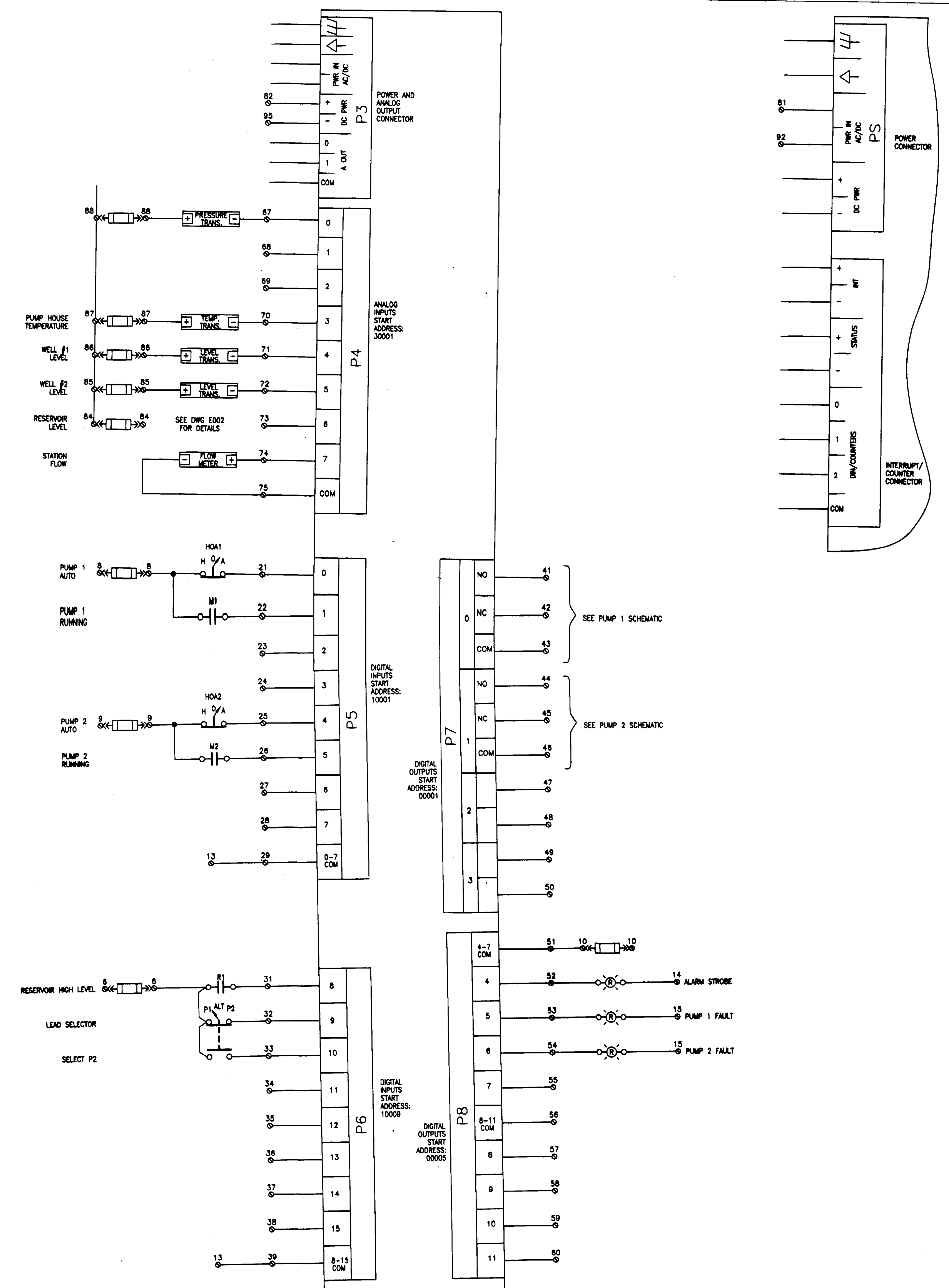
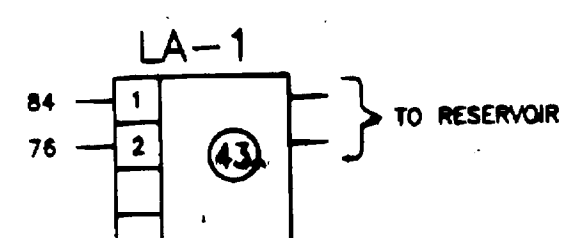
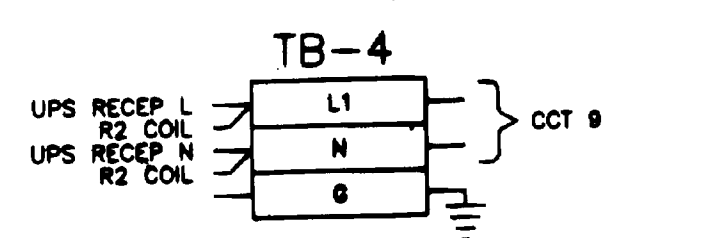
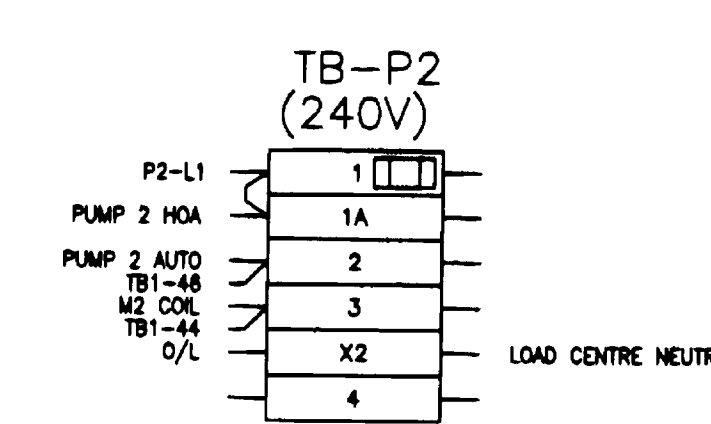
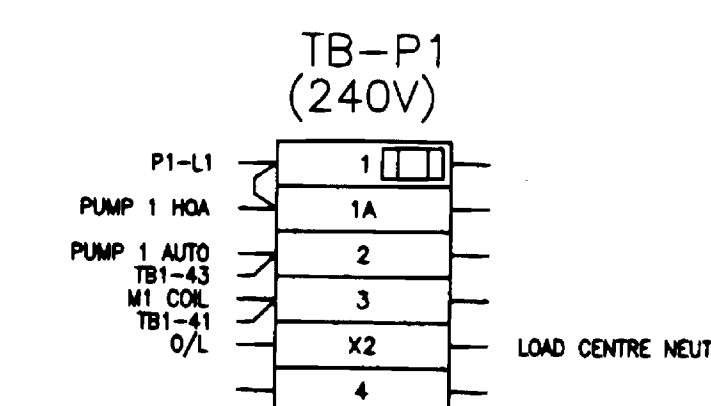
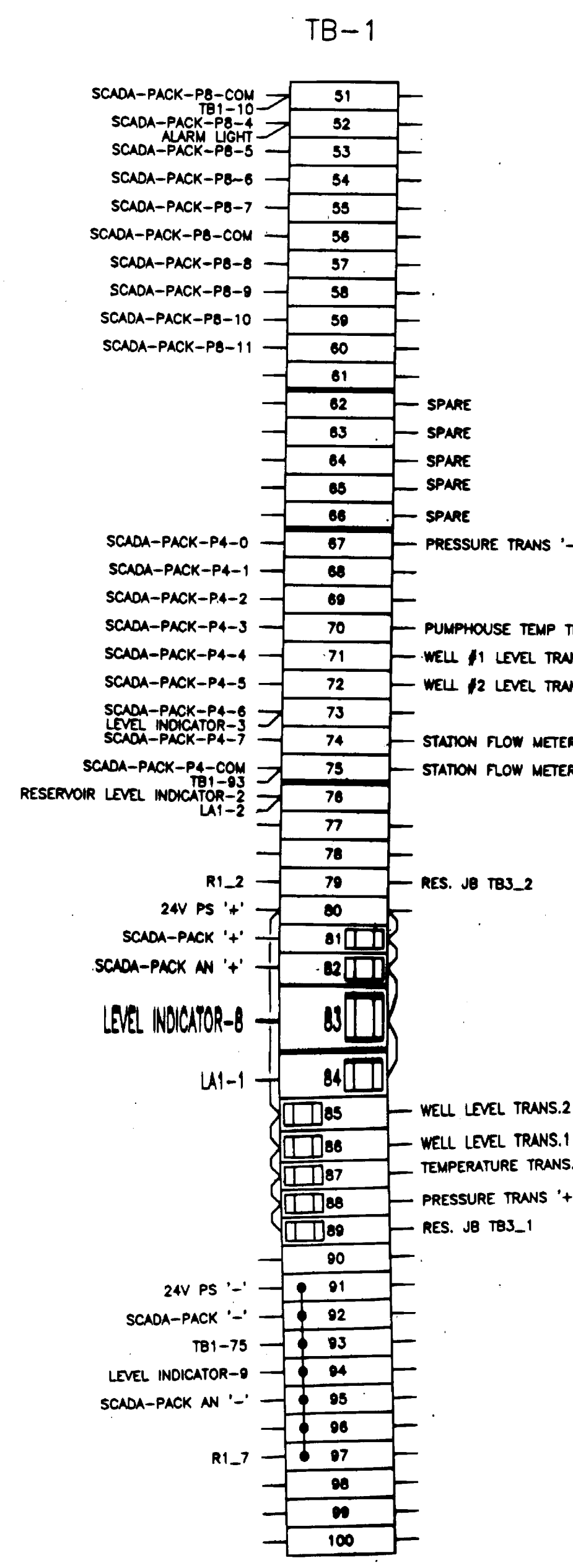
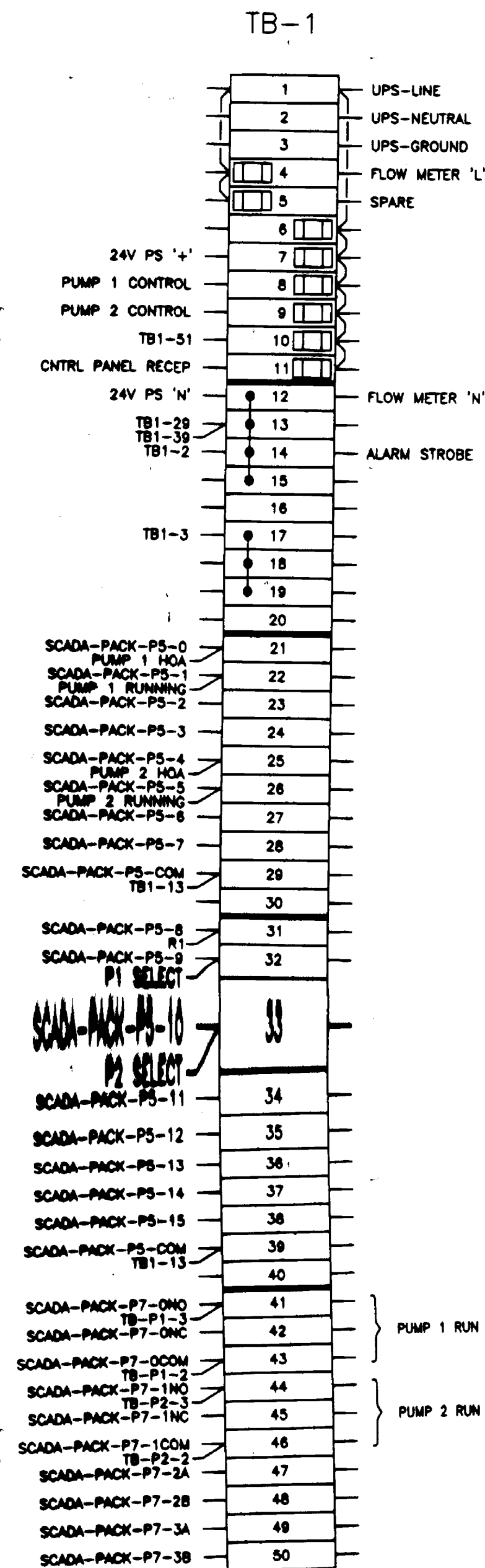
Approved: *[Signature]*
PROFESSIONAL ENGINEER
KEN GUIDO
BRITISH COLUMBIA



GUIDO AND ASSOCIATES
CONSULTING ENGINEERS
OYAMA B.C.
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PROJECT 310

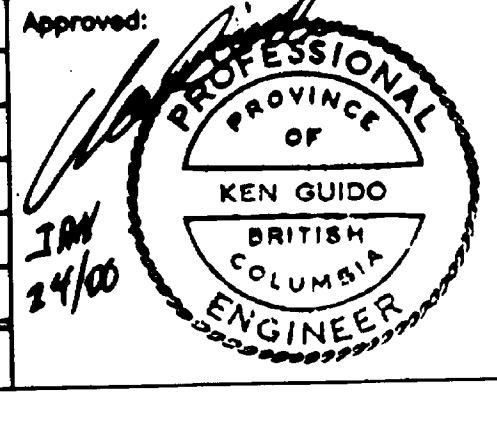
LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
NORTH BAY INDIAN RESERVE No.5, PLAN 52297
SINGLE LINE DIAGRAM, BLOCK DIAGRAM,
B.O.M., AND CONTROL PANEL LAYOUT

Innovation Engineering Incorporated
Civil Engineering & Planning
British Columbia, Canada
Scale: N T S
Drawn by: LB
Ckd. By: KG
Date: 9 DEC 97
Dwg. No.: E002
Rev. c



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No.	Revision	Date	Initial
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B	ISSUED FOR TENDER	FEB 1999	KG
A	DESIGN SUBMISSION	JUNE 1998	KG

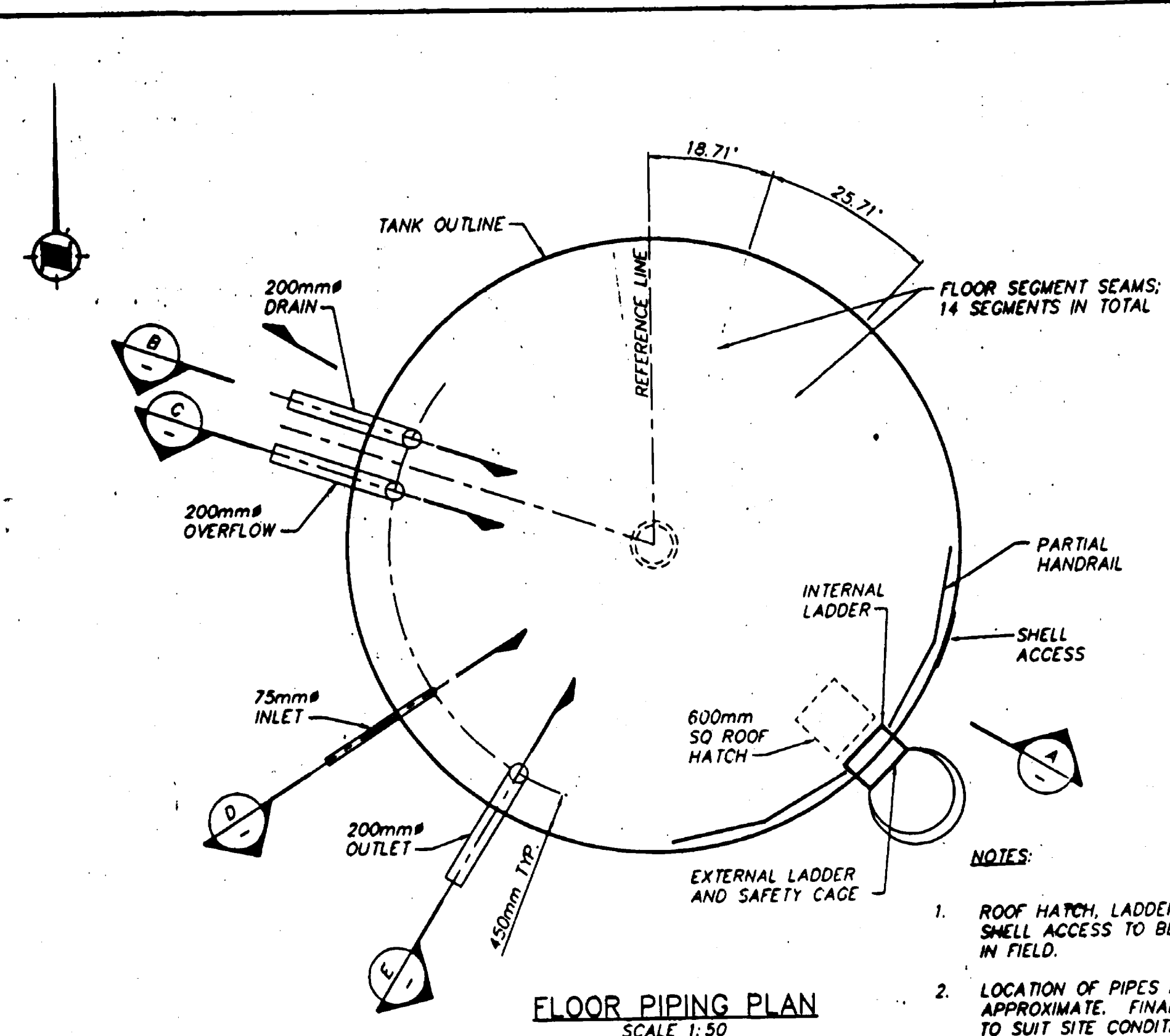


GUIDO AND ASSOCIATES CONSULTING ENGINEERS
 OYAMA B.C.
 PHONE: (250) 548-4151
 FAX: (250) 548-4152
 PROJECT 310

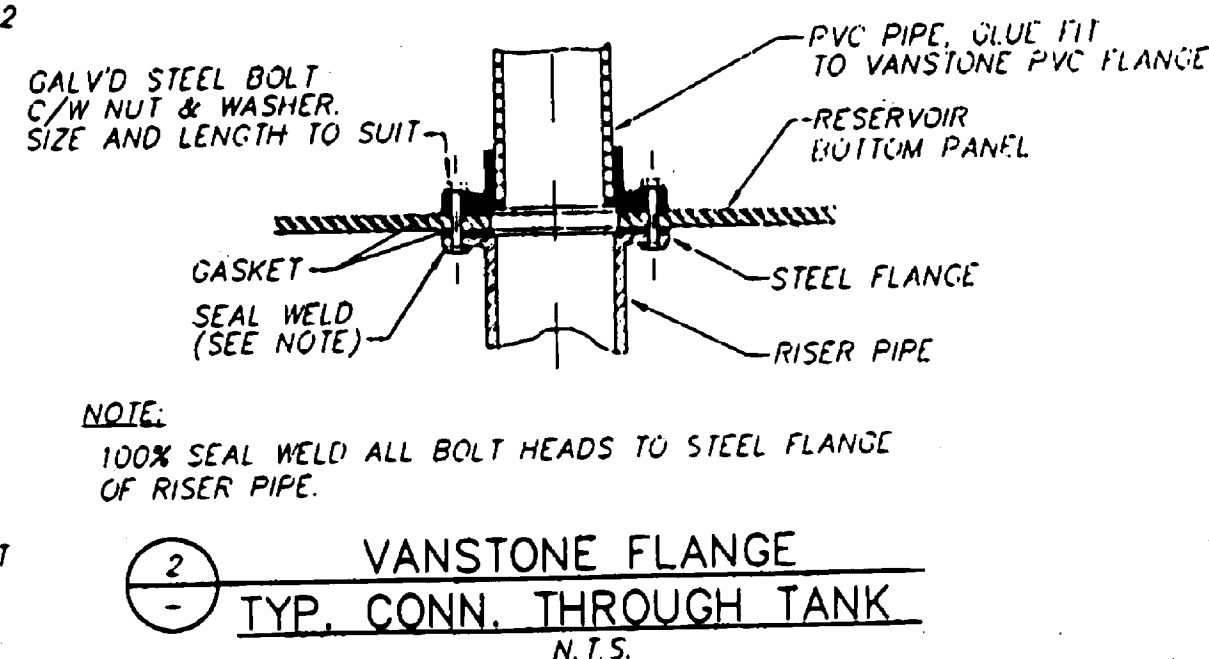
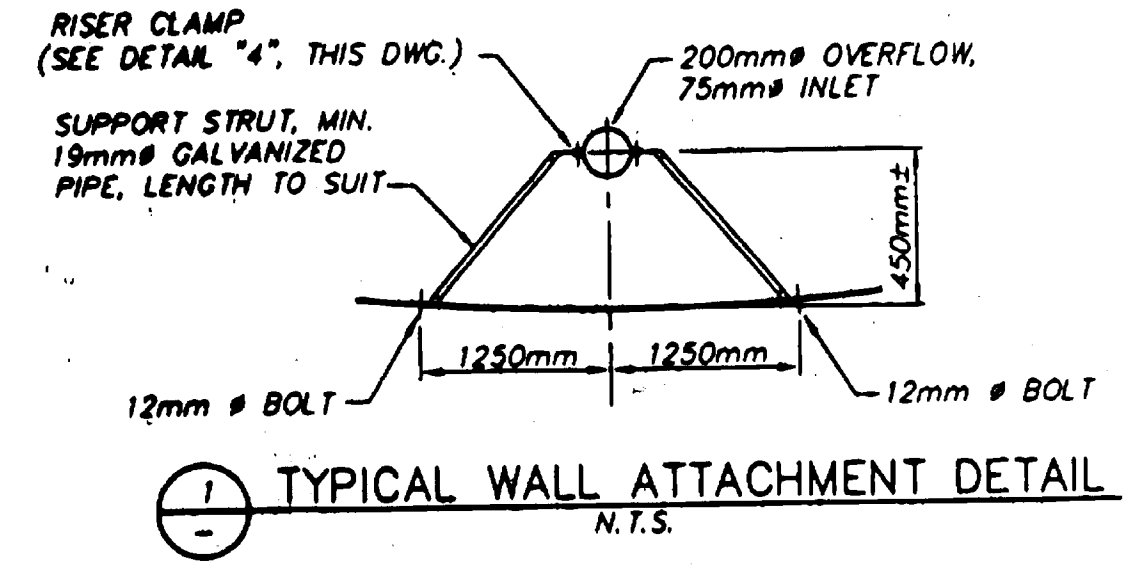
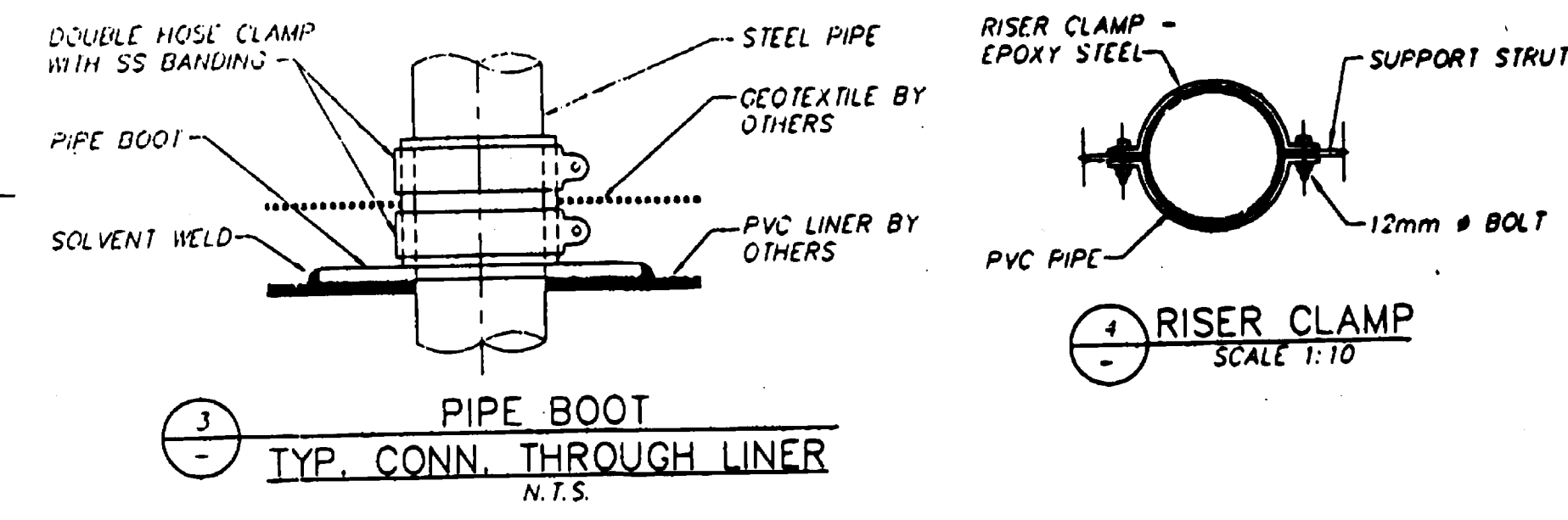
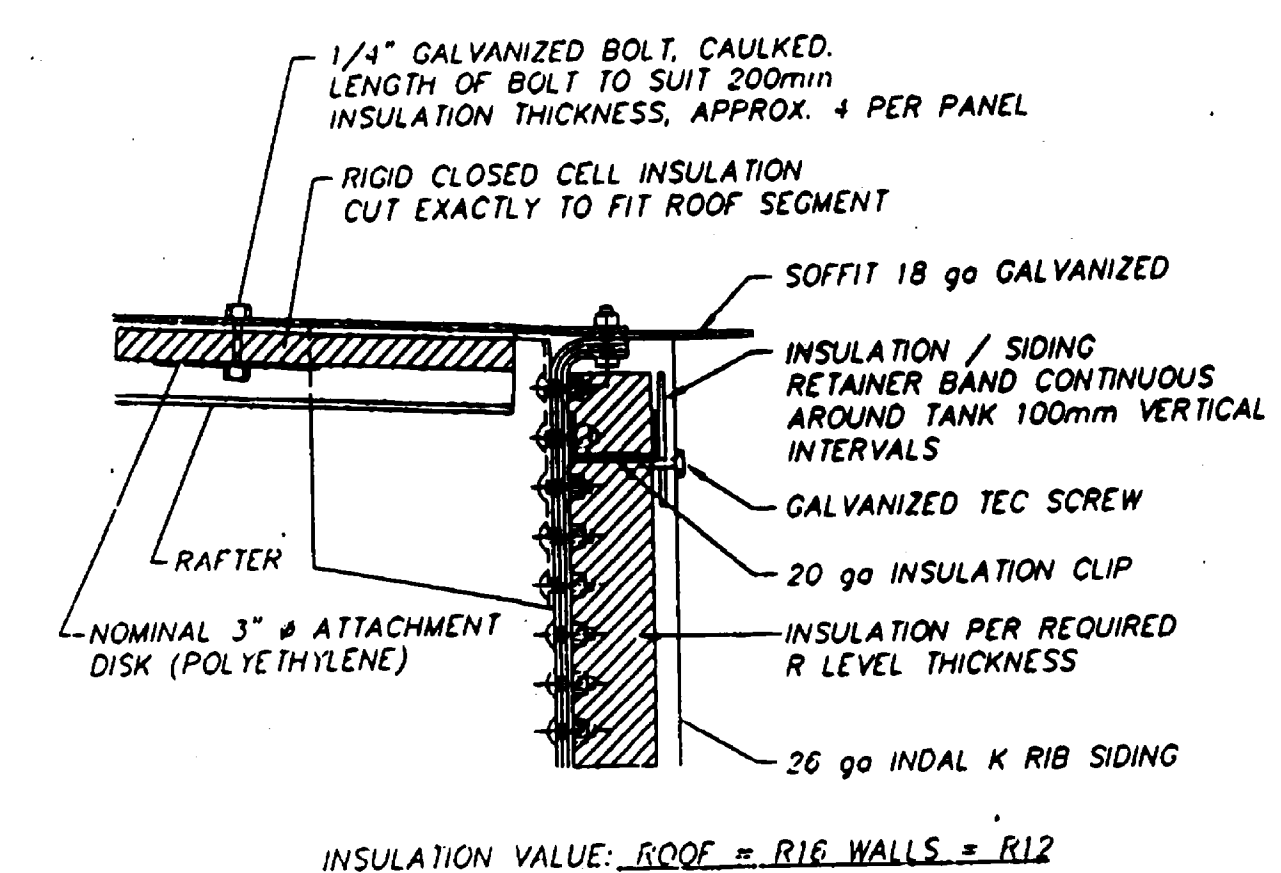
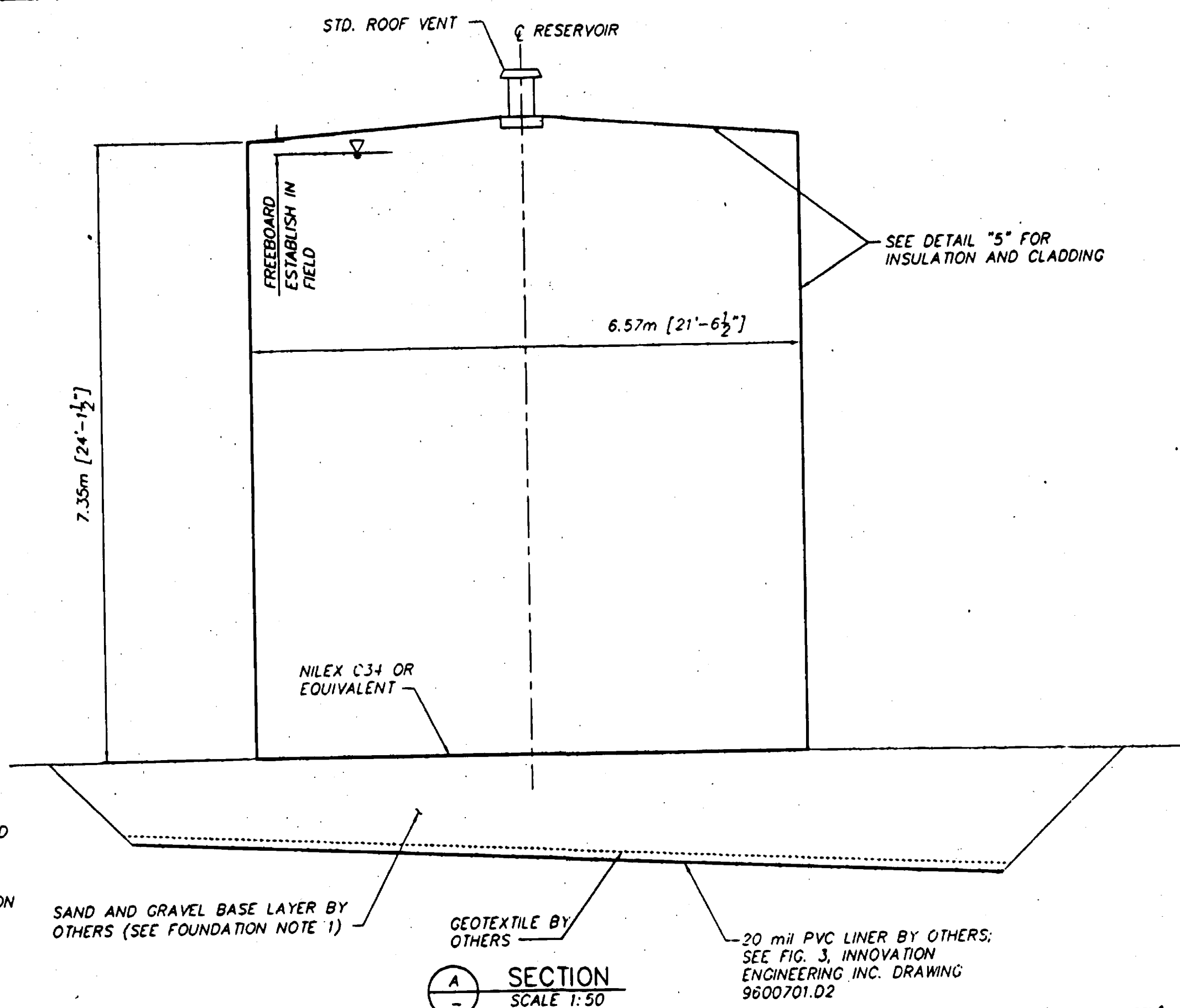
LITTLE SHUSWAP INDIAN BAND
TAPPEN WATER SYSTEM
 NORTH BAY INDIAN RESERVE No.5, PLAN 52297
 SCADA PACK DIAGRAM & TERMINAL BLOCK

Innovation Engineering Incorporated
 Civil Engineering & Planning
 British Columbia, Canada

Scale: N T S
 Date: 9 DEC 97
 Drawn By: LB
 Ckd. By: KG
 Dwg. No.: E003
 Rev. C



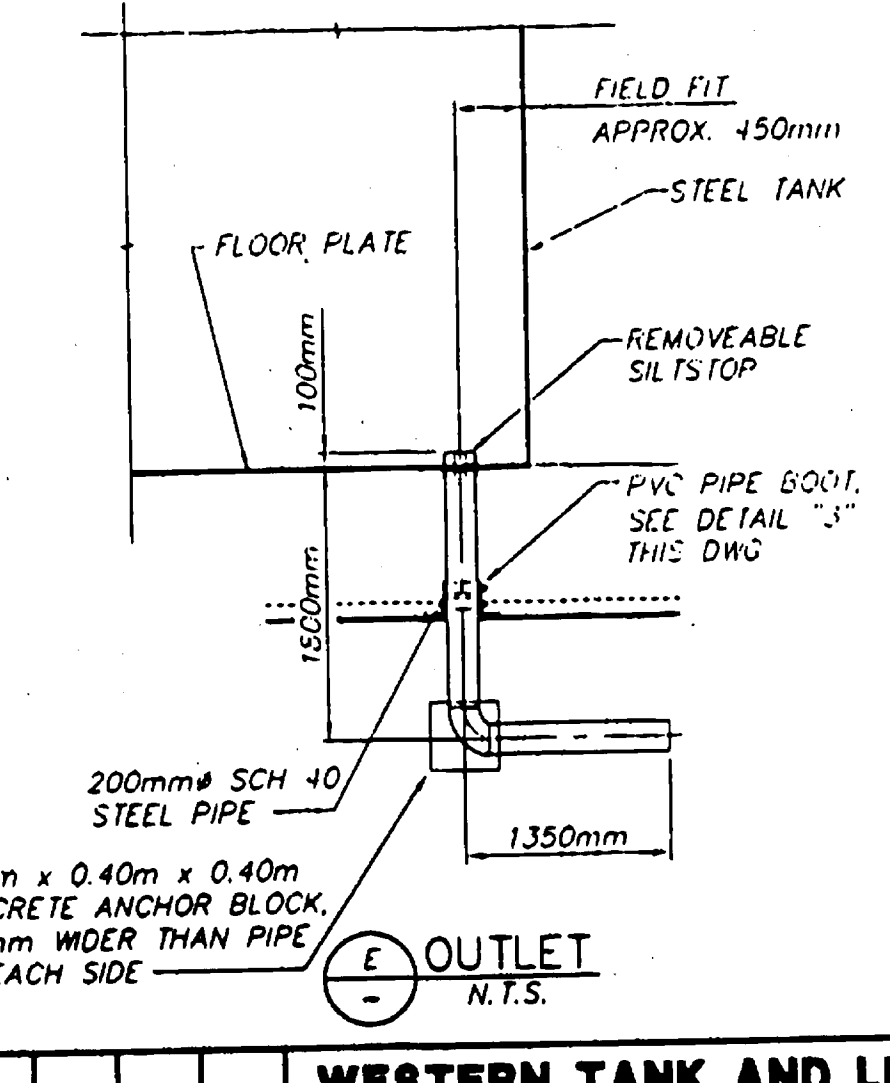
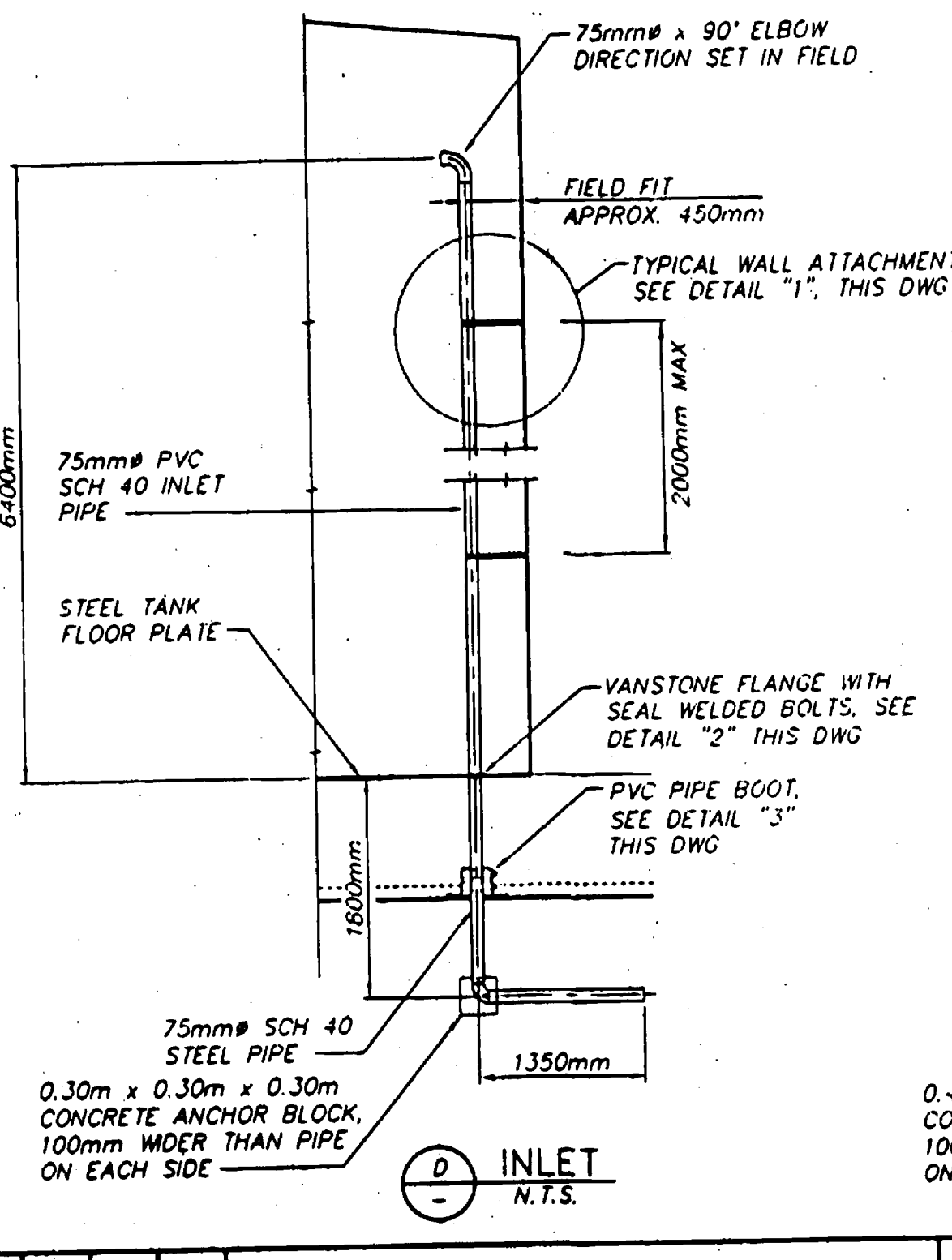
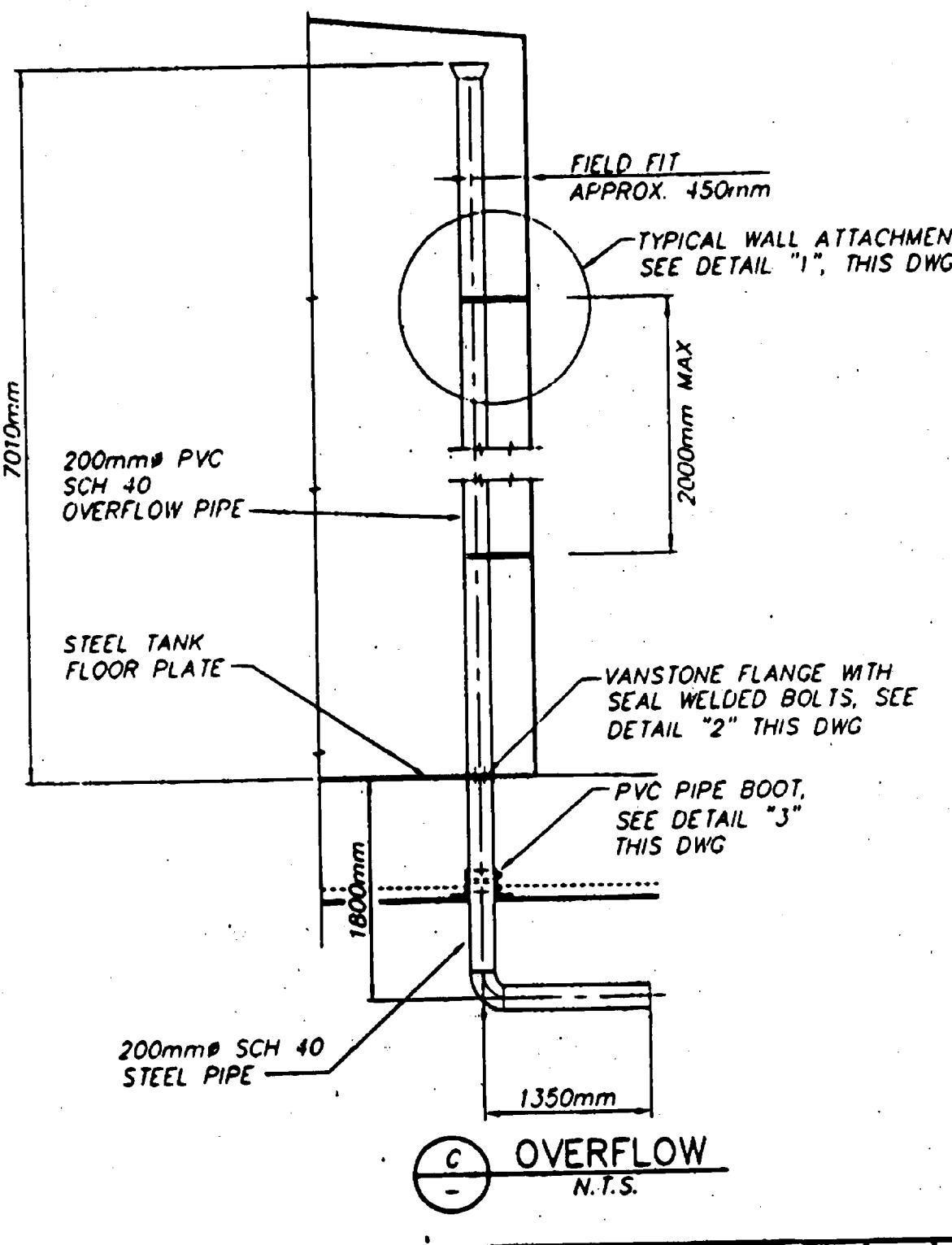
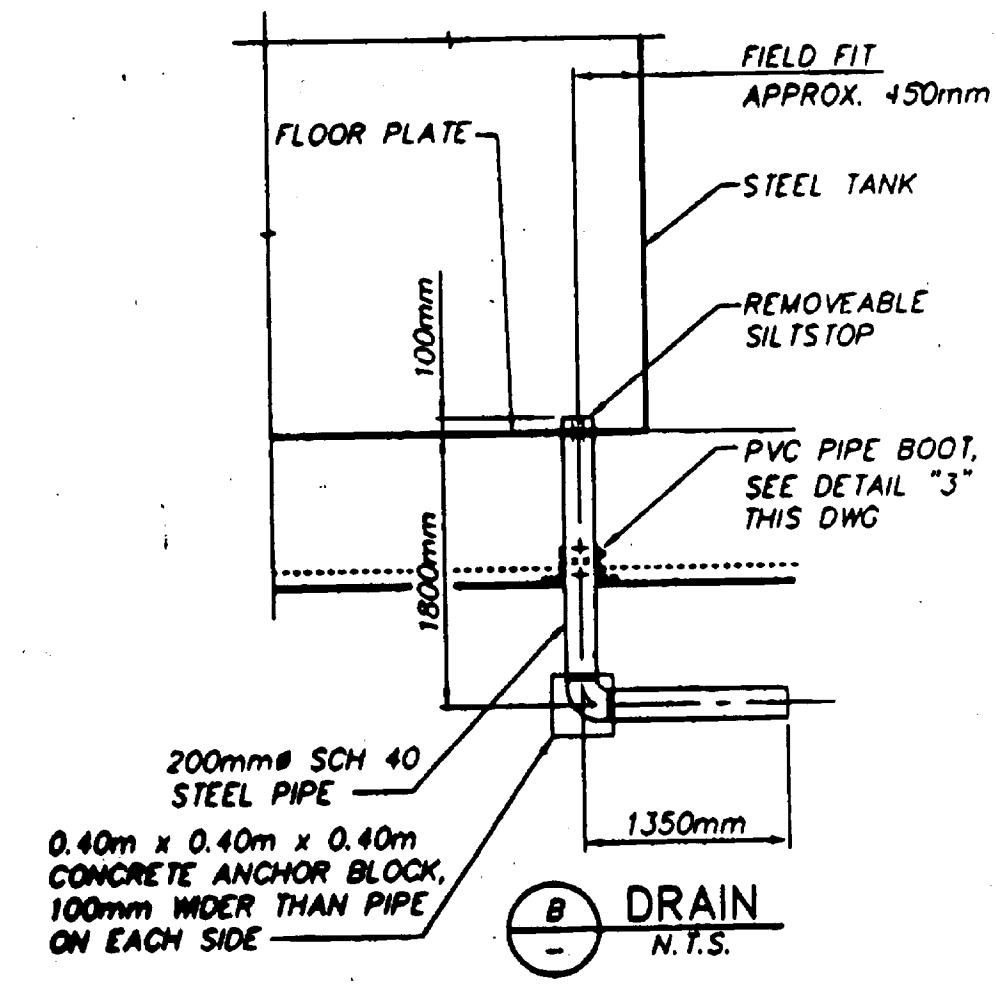
- NOTES:**
1. ROOF HATCH, LADDERS AND SHELL ACCESS TO BE LOCATED IN FIELD.
 2. LOCATION OF PIPES IS APPROXIMATE. FINAL LOCATION TO SUIT SITE CONDITIONS.



- FOUNDATION NOTES**
1. SUB-BASE PREPARED BY OTHERS. STATIC BEARING STRENGTH TO BE 2300 PSF. SEISMIC BEARING STRENGTH TO BE 3200 PSF ON OUTER RIM. SUB-BASE TO BE APPROVED BY OTHERS PRIOR TO FOUNDATION PLACEMENT.
 2. CONCRETE TO BE 30 MPa AT 28 DAYS (CLASS F-1 EXPOSURE ACCORDING TO CAN/CSA-A23.1, A23.2-M90).
- GENERAL NOTES**
5. INSTALL TANK IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 6. ALL OTHER WORK TO BE IN ACCORDANCE WITH THESE SPECIFICATIONS.
 7. TANK DESIGNED FOR SEISMIC LOAD EQUIVALENT TO ANZA ZONE 1. NBC Zv = 1, Zo = 1.
 8. DESIGN ROOF SNOW LOAD - 2.66 kPa (55.6 PSF).
 9. SUBGRADE PLUMBING TO BE SCHED. 40, SANDBLASTED, EPOXY COATED AND LINED, SUPPLIED AND INSTALLED BY WTL.
 10. ALL STEEL PIPE SECTIONS TO BE EPOXY COATED AND LINED SCHED. 40, SHOP WELDED.
 11. DESIGN WIND LOAD = 100 MPH.

REFERENCE DRAWINGS: COLUMBIAN STEEL TANK DRAWING TO FOLLOW INNOVATION ENGINEERING INC. DRAWING 9600701.D2

SCALE 1:50



WESTERN TANK AND LINING										TAPPEN		PROJECT E5515	
DRAWN DGC										SCALE AS SHOWN		DATE MAR 1999	
DESIGNED CL/GSM										DRAWING NO.		REV	
CHECKED GSM										5515-100		0	
INSPECTED										SHEET		OF	
APPROVED													
0	FOR APPROVAL	MAR 25 1999											
REV	ISSUE	DATE	REV	ISSUE	DATE	REV	DESCRIPTION	DWN	CHK	APVD	DATE	REV	DESCRIPTION