HOME

CLIENT:

NICK EBRAHIM

(604) 987-8313 (PH/FAX)

3707 DOLLARTON HWY

nebrahim2001@yahoo.com

PROJECT:

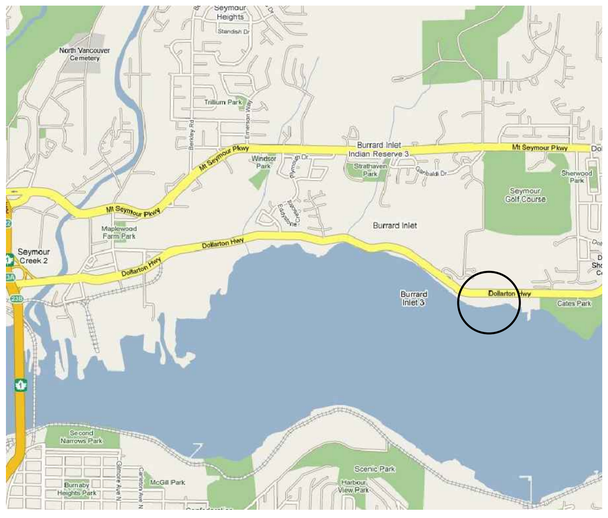
3707 DOLLARTON HWY

NORTH VANCOUVER, BC

LOT 1, BLOCK K, DL 230, PLAN 7990, N.W.D.

DRAWING LIST

DF 8728	KEY PLAN
DF 8729	STORMWATER MANAGEMENT PLAN
DF 8730	SEDIMENT & EROSION CONTROL
DF 8731	SIGNAGE
DF 8732	ROAD
WF 8234	WATERWORKS
SF 8036	SANITARY SEWERS
SF 8037	SANITARY SEWERS
DF 8733	STORM SEWERS
DF 8734	CROSS-SECTIONS ROAD A
DF 8735	CROSS-SECTIONS DOLLARTON
DF 8736	CROSS-SECTIONS DOLLARTON
DF 8737	CROSS-SECTIONS TRAIL
DF 8738	CROSS-SECTIONS TRAIL
DF 8739	CROSS-SECTIONS TRAIL
DF 8740	SITE SECTIONS
DF 8741	SITE SECTIONS
DF 8742	SITE SECTIONS
DET-1	STANDARD DETAILS
DET-2	STANDARD DETAILS
DET-3	STANDARD DETAILS
W-1	PUAR ENGINEERING - CONSTRUCTION RECOMMENDATIONS
W-2	PUAR ENGINEERING - RETENTION PLAN ROAD 'A'
W-3	PUAR ENGINEERING - GENERAL SECTION DETAILS
W-4	PUAR ENGINEERING - STA. 0+100, 0+110 ROAD 'A'
W-5	PUAR ENGINEERING - STA. 0+120, 0+130 ROAD 'A'
W-6	PUAR ENGINEERING - STA. 0+140, 0+150 ROAD 'A'
2405-08-01	DMD - STREET LIGHTING
2405-08-02	DMD - STREET LIGHTING



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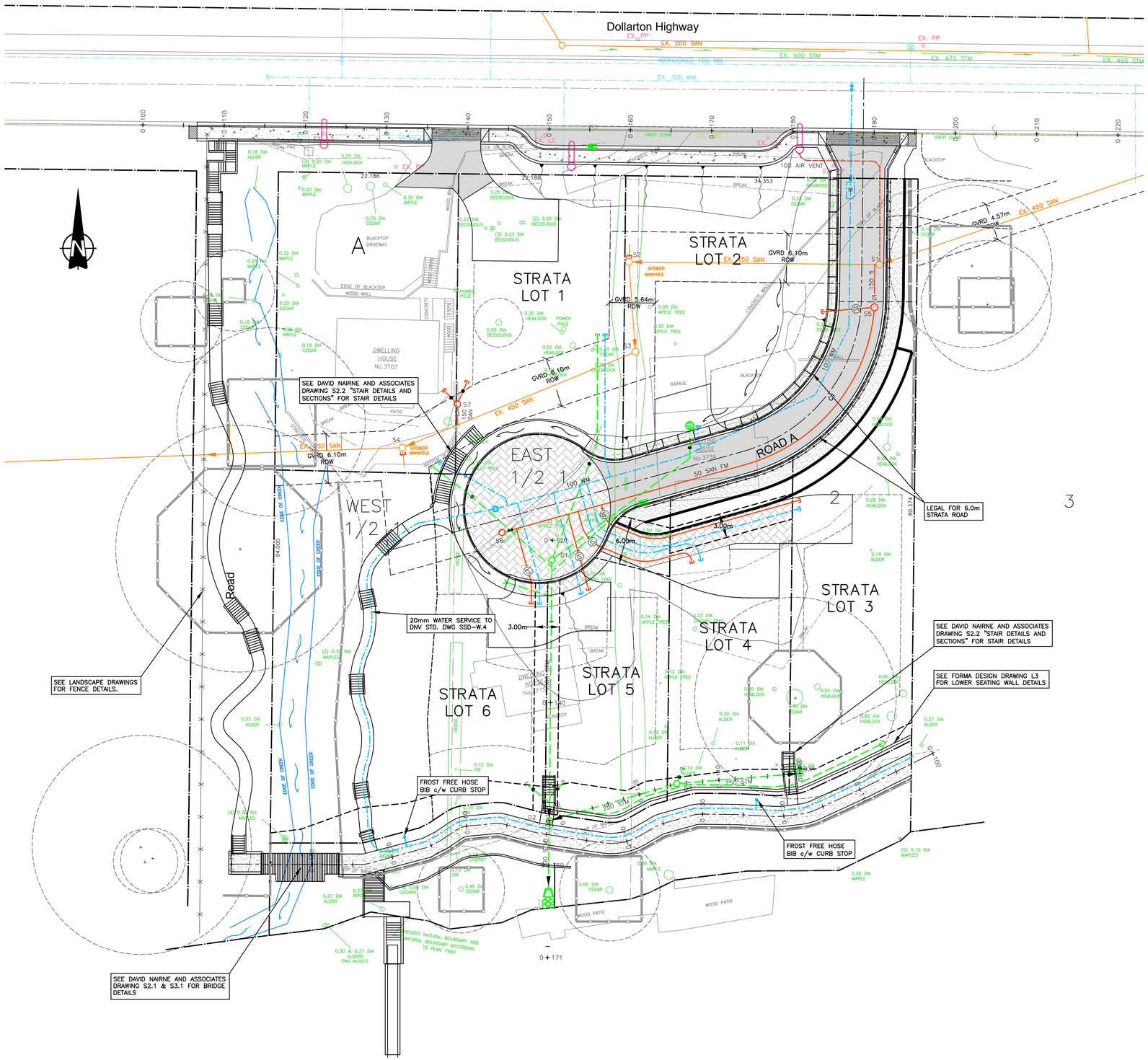

LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m

GENERAL NOTES

1. ALL CONSTRUCTION IN DISTRICT OF NORTH VANCOUVER (DNV) ROAD R.O.W. MUST CONFORM TO THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD VERSION 2000) AND MUST PASS THE DNV'S AND ENGINEER'S INSPECTION. THE CONTRACTOR WILL GIVE THE DISTRICT 48 HOURS NOTICE PRIOR TO HIS REQUIREMENT FOR INSPECTIONS.

2. ALL CONSTRUCTION WITHIN THE PROPERTY MUST CONFORM TO THE MASTER MUNICIPAL CONSTRUCTION DOCUMENT'S SPECIFICATIONS AND THE B.C. PLUMBING CODE.

3. THE CONTRACTOR SHALL ENSURE THAT ALL APPROVALS REQUIRED FOR THE PROPOSED WORK HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION.

4. LOCATIONS OF EXISTING UNDERGROUND SERVICES DETERMINED FROM THE DNV AND UTILITY AS-CONSTRUCTED DRAWINGS. CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO CONSTRUCTION AND TO NOTIFY ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR OMISSIONS.

5. ALL CUTS IN EXISTING ASPHALT REQUIRED FOR TRENCHING SHALL BE VERTICAL, 100mm DEEP, WITH A DIAMOND SAW & REPLACED WITH MINIMUM 100mm ASPHALT AFTER BACKFILL AND COMPACTION. ALL PAVEMENTS, BOULEVARDS, DRIVEWAYS, FENCES ETC. ARE TO BE RESTORED TO ORIGINAL OR BETTER CONDITION WHEN NO IMPROVEMENT IS PROPOSED UNDER THIS CONTRACT.

6. THE CONTRACTOR SHALL USE EXTREME CARE WHEN WORKING NEAR EXISTING SERVICES AND ANY SERVICES DISTURBED ARE TO BE REPLACED TO THE SATISFACTION OF THE DISTRICT AND/OR APPROPRIATE UTILITY CORPORATION.

7. THE CONTRACTOR'S SURVEYOR WILL RECORD & CERTIFY CORRECT ALL INFORMATION REQUIRED FOR THE ENGINEER TO PROVIDE A COMPLETE SET OF AS-CONSTRUCTED DRAWINGS.

8. THE CONTRACTOR MUST NOTIFY THE DNV'S CONSTRUCTION OFFICE, MR. SCOTT MOYES, WORKS INSPECTOR @ 604-990-3886, 48 HOURS PRIOR TO STARTING CONSTRCUTION TO ESTABLISH AN INSPECTION SCHEDULE.

9. RESIDENTS DIRECTLY AFFECTED BY CONSTRUCTION OF THIS PROJECT SHALL BE GIVEN 48 HOURS WRITTEN NOTICE OF THE PROPOSED START OF CONSTRUCTION. IF CONSTRUCTION ENTERS ONTO PRIVATE PROPERTY, THE CONTRACTOR OR DEVELOPER'S AGENT WILL REQUIRE WRITTEN AUTHORIZATION FROM THE PRIVATE PROPERTY OWNER.

10. RETAINING DESIGNATED TREES IS OF PRIME IMPORTANCE. WHEN WORKING IN PROXIMITY TO A DESIGNATED TREE OR WHEN ROOTS ARE ENCOUNTERED, THE CONTRACTOR SHALL CONSULT A CERTIFIED ARBORIST BEFORE PROCEEDING TO PREVENT DAMAGE TO TREES.

11. COVERS FOR INSPECTION CHAMBERS AND VALVE RISERS IN DRIVEWAY SHALL BE SUITABLE FOR TRAVELLED AREAS.

12. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THAT NO SILT IS DISCHARGED TO THE STORM DRAINAGE SYSTEM, ROADWAYS OR ADJACENT PROPERTIES DURING THE COURSE OF CONSTRUCTION IN ACCORDANCE WITH DFO/ MOELP'S "LAND DEVELPMENT GUIDELINES FOR THE PROTECTION OF AQUATIC HABITAT".

13. A PRECONSTRUCTION MEETING BETWEEN DNV STAFF, THE CONSULTANT AND CONTRACTOR IS REQUIRED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

LINETYPE LEGEND	EXISTING	PROPOSED
LEGAL LINE		
EASEMENT		
WATERMAIN		
SANITARY		
STORM		
HYDRO		
TEL		
STREETLIGHT		
GAS		

SYMBOLS LEGEND	EXISTING	PROPOSED
FIRE HYDRANT		
GATE VALVE		
AIR VALVE		
METER BOX		
REDUCER		
INSPECTION CHAMBER		
CATCHBASIN		
SIDE INLET CB		
CAP		
MANHOLE		
POWER POLE		
STREETLIGHT		

TREE LEGEND

30"ø coniferous — TREES TO REMAIN C/W TREE PROTECTION FENCING

12"ø cedar — TREES TO BE REMOVED

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SITE VIEW
SCALE 1:250

no.	date	revision	chk'd
5	APR.09.13	ADDED HOSE BIBS ALONG SOUTH PATHWAY	AFG
4	JAN.10.13	REVISED AS REQUESTED BY D.N.V.	DKD
3	NOV.07.12	REVISED AS REQUESTED BY D.N.V.	DKD
2	FEB.09.12	ISSUED FOR BP	DKD

client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

www.creus.ca

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200 - 901 WEST 16TH ST NORTH VANCOUVER, BC V7P 1R2

approved

designed by F.M.C.
drawn by D.K.D.
checked by R.A.W.
date JAN.15.09

title: KEYPLAN

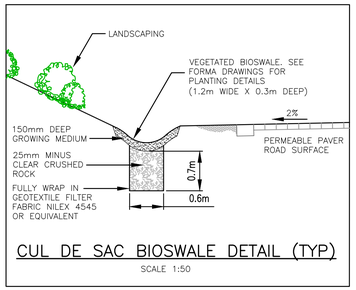
scales: hor: 1:250 vert: -
file no. 09105
drawing no. DF 8728
rev. 5

LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m



CUL DE SAC BIOSWALE DETAIL (TYP)

SCALE 1:50

3006-Stormwater Management	MAR Storm Event (~2yr)	
Roadside Bioswale		
Catchment Area		
Roadway width		6 m
Swale width		1.2 m
Runoff Area directed to Swale		7.2 m2/m
Objective: Infiltrate 50% of the MAR storm event		
From District of North Van IDF Curve...		
2yr-24hr rainfall		80 mm
MAR ~ 2yr event		
50% of MAR		40 mm
Runoff Area for Infiltration	x	7.2 m2/m
Total rainfall from road surface area	=	0.29 m3/m
Total rainfall volume to be infiltrated	=	**0.29 m3/m**
Groundwater infiltration through bottom of trench		
Based on Puar Engineering's estimate ($1x10^{-5}$m/s)		
Conservative design infiltration rate		20 mm/hr
During 24hr storm duration	=	0.48 m3/m2
Swale width		1.2 m
Infiltration per metre of swale	=	**0.58 m3/m**
Underground water storage in trench material voids		
Trench width	=	0.6 m
Field depth	=	0.6 m
Reduction in capacity due to material void spaces	x	0.3
Average storage per metre of trench	=	**0.108 m3/m**
Combined infiltration and storage		
Infiltration per square metre of field		0.58 m3/m (as above)
Storage per square metre of field		0.11 m3/m (as above)
Provided rainfall infiltration and storage		**0.68 m3/m**
Rainfall volume for infiltration	-	0.29 m3/m (as above)
Excess rainfall conveyed downstream	=	**0 m3/m**

ADDITIONAL SOURCE CONTROL MEASURES TO INCLUDE:

* DISCONNECTED ROOF LEADERS
* STEPPED PLANTERS
* BIO-RETENTION AREAS

1. DISCONNECTED ROOF LEADERS AND STEPPED PLANTERS TO BE INCORPORATED IN FINAL BUILDING DESIGN
2. BIO-RETENTION AREAS TO BE LOCATED ALONG FORESHORE

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no.	date	revision	chk'd
4	NOV.07.12	REVISED AS REQUESTED BY D.N.V.	DKD
3	FEB.09.12	ISSUED FOR BP	DKD
2	JUN.23.09	REVISED AS REQUESTED BY D.N.V.	DKD
5	JAN.10.13	REVISED AS REQUESTED BY D.N.V.	FMC

client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

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approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: STORMWATER MANAGEMENT PLAN

scales	hor: 1:250 vert: 1:50
file no.	09105
drawing no.	DF 8729
rev.	5

LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m

SEE DRAWING KEY FOR GENERAL NOTES

SILTATION CONTROL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING A SILTATION AND EROSION CONTROL SYSTEM AS SHOWN ON THESE DRAWINGS AS WELL AS ANY ADDITIONAL TEMPORARY WORKS NECESSARY TO PREVENT SILT DISCHARGES TO THE STORM DRAINAGE SYSTEM.

THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THAT NO SILT IS DISCHARED TO THE STORM DRAINAGE SYSTM, ROADWAYS OR ADJACENT PROPERTIES DURING THE COURSE OF CONSTRUCTION.

2. THE CONTRACTOR SHALL INSPECT THE SILTATION AND EROSION CONTROL WORKS DURING RAINFALL EVENTS AND UNDERTAKE ANY REMEDIAL WORK REQUIRED FOR FUNCTIONAL OPERATION.

3. AS CONSTRUCTION PROGRESSES AND INTERCEPTED FLOWS ARE REDUCED, THE SIZE OF THE SEDIMENT POND MAY BE REDUCED ACCORDINGLY AT THE DISCRETION OF THE ENGINEER AND THE DISTRICT.

4. CONSTRUCTION AND MAINTENANCE OF THE SILTATION AND EROSION CONTROL SYSTEM SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE DEPARTMENT OF FISHERIES AND OCEANS/MINISTRY OF ENVIRONMENT, LANDS AND PARKS 'LAND DEVELOPMENT GUIDELINES FOR THE PROTECTION OF AQUATIC HABITAT" AND SECTION 01561 OF THE MASTER MUNICIPAL SPECTIFICATIONS (MMS).

5. THE SUPPLY AND INSTALLATION OF SILT FENCES SHALL BE AS PER SECTION 3 AND FIGURE 3.3 OF DFO/MOELP'S LAND DEVELOPEMNT GUIDELINES FOR THE PROTECTION OF AQUATIC HABITAT" AND SECTION 01561 OF THE MMS.

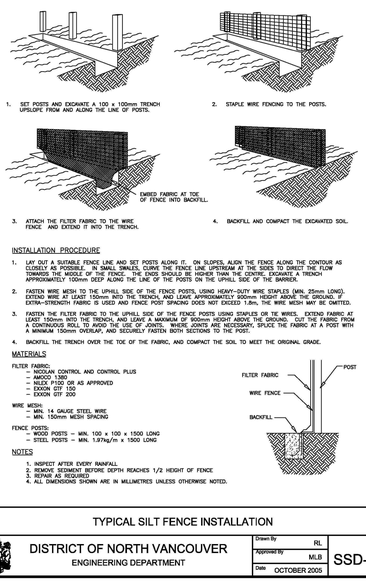
6. THE CONTRACTOR SHALL CLEAN OUT THE SEDIMENT POND ON A REGULAR BASIS TO ENSURE DEPTH OF SEDIMENT ACCULMULATION DOES NOT EXCEED 1/3 HEIGHT OF SILT FENCE OR 0.5m, WHICHEVER IS LESS.

7. THE CONTRACTOR SHALL CONSTRUCT ALL NECESSARY SILTATION AND EROSION CONTROL WORKS, INCLUDING INSTALLATION OF PROTECTIVE FENCING AND SIGNAGE, BEFORE COMMENCING ANY OTHER ON-SITE CONSTRUCTION OTHER THAN FALLING TREES.

8. ALL MATERIAL STOCK-PILES TO BE COVERED WITH POLY TO PREVENT EROSION.

DISTRICT OF NORTH VANCOUVER
DEVELOPMENT SERVICING
BYLAW No. 7388

SCHEDULE D 2.2
SUPPLEMENTARY STANDARD DRAWINGS
OCTOBER 2005



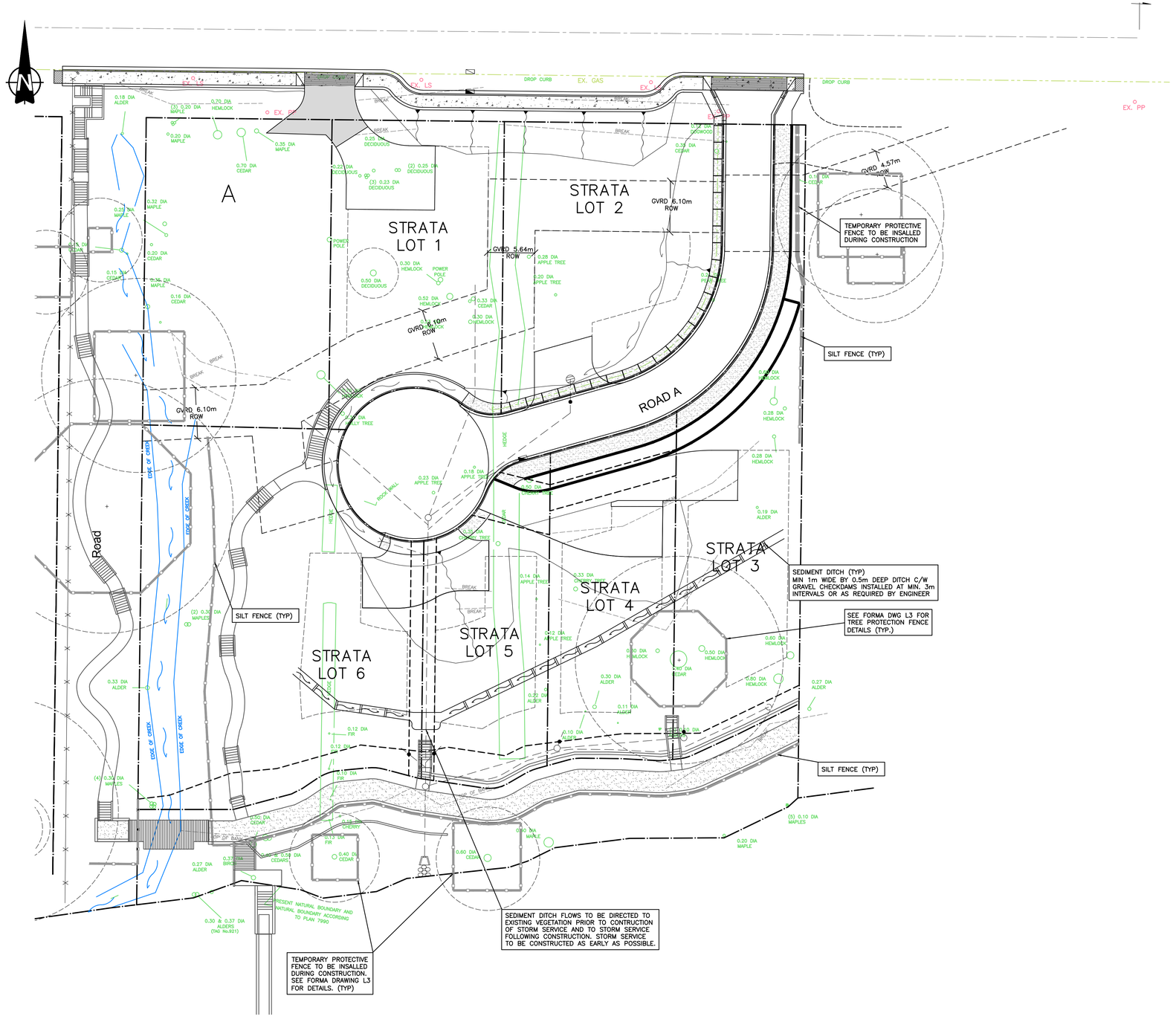
Title

TYPICAL SILT FENCE INSTALLATION

DISTRICT OF NORTH VANCOUVER
ENGINEERING DEPARTMENT

Drawn By RL
Approved By MLB
Date OCTOBER 2005

SSD-D.9



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approved

designed by F.M.C.
drawn by D.K.D.
checked by R.A.W.
date JAN.15.09

title: SEDIMENT & EROSION CONTROL PLAN

scales hor: 1:250 vert: 1:50
file no. 09105
drawing no. DF 8730
rev. 3

LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m

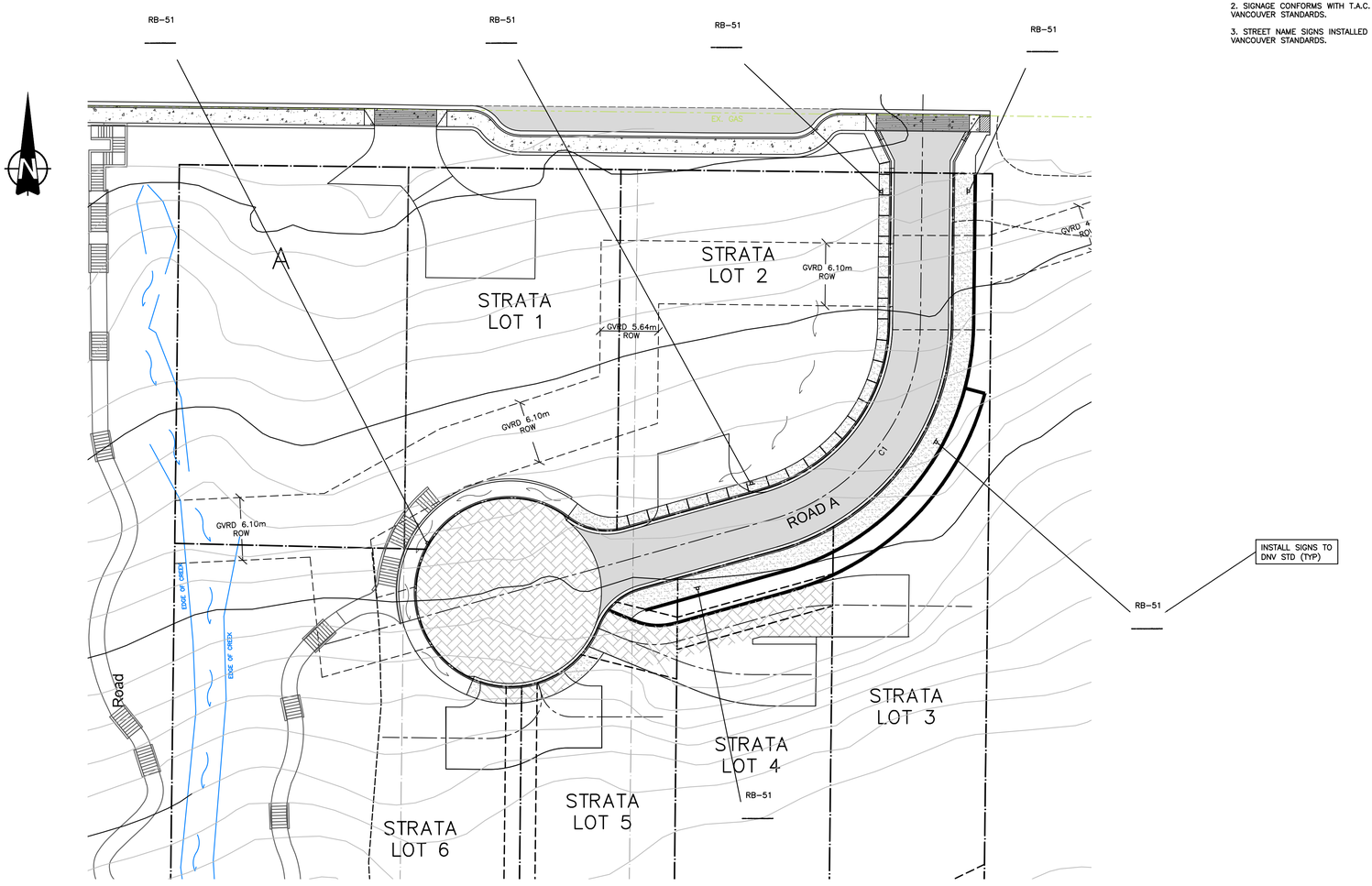
SEE DRAWING KEY FOR GENERAL NOTES

NOTE:

1. TRAFFIC CONTROL AS PER THE MINISTRY OF TRANSPORTATION 'TRAFFIC MANUAL FOR WORK ON ROADWAYS' AND AS PER THE TRANSPORTATION ASSOCIATION OF CANADA 'MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES'.

2. SIGNAGE CONFORMS WITH T.A.C. AND DISTRICT OF NORTH VANCOUVER STANDARDS.

3. STREET NAME SIGNS INSTALLED TO DISTRICT OF NORTH VANCOUVER STANDARDS.



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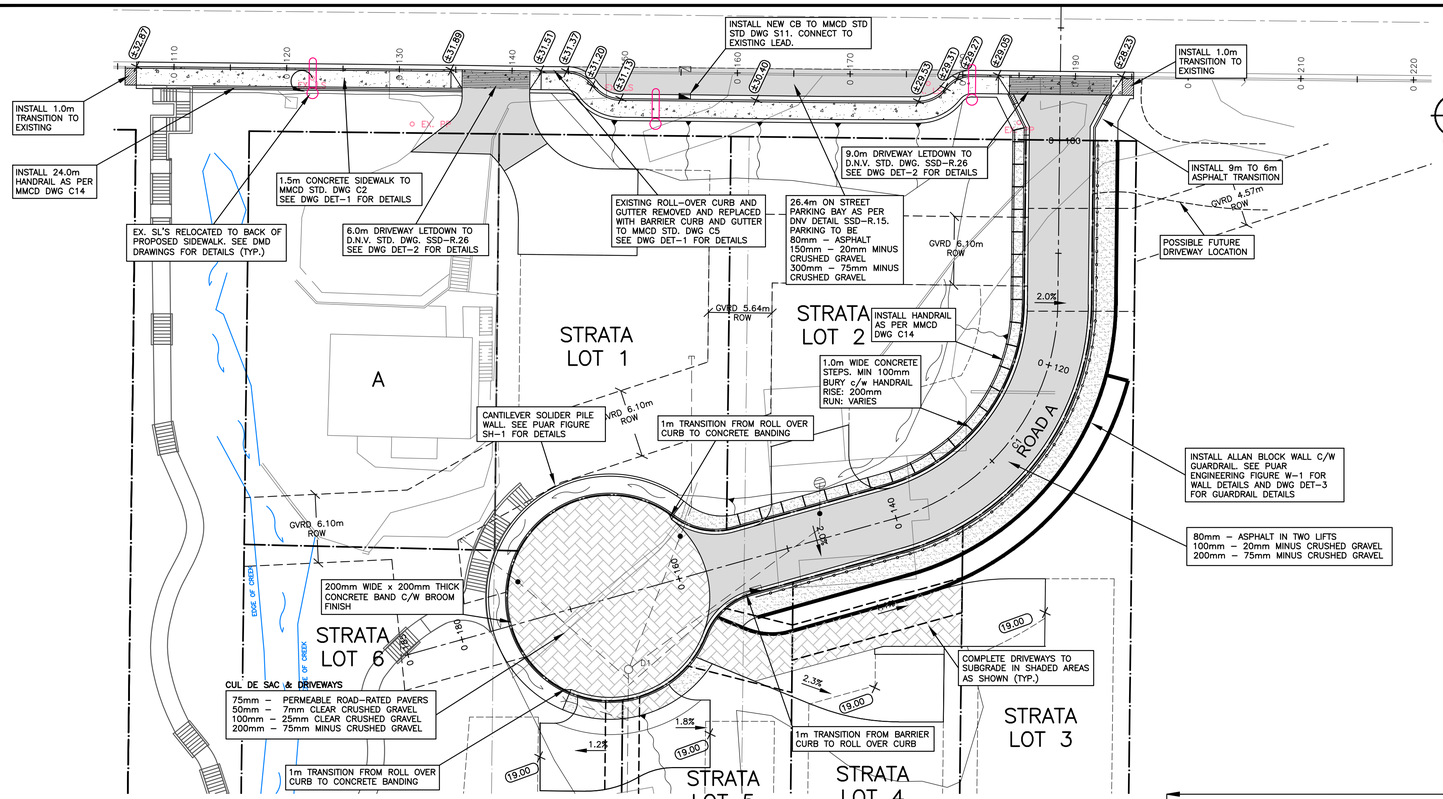
approved

designed by: F.M.C.
drawn by: D.K.D.
checked by: R.A.W.
date: JAN.15.09

title: SIGNAGE

scales: hor: 1:250 vert: -
file no.: 09105
drawing no.: DF 8731
rev.: 3



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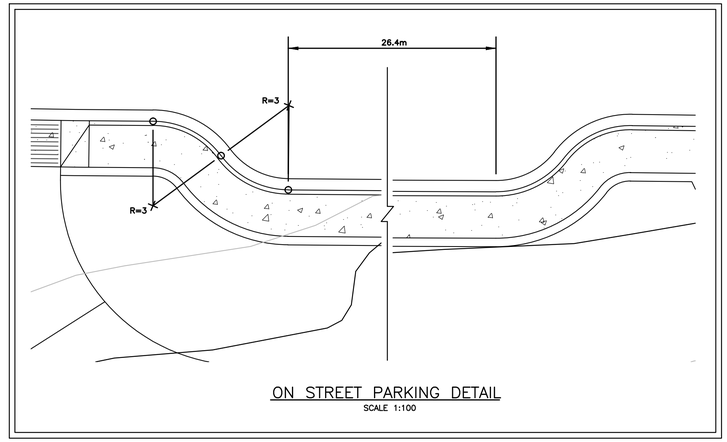
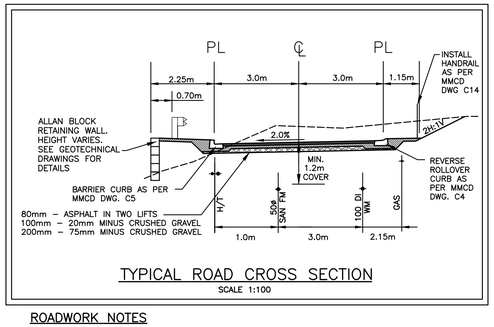


ON STREET PARKING DETAIL
SCALE 1:100

CURVE TABLE - ROAD A								
CURVE #	RADIUS	LENGTH	IP		START POINT		END POINT	
C1	20.00m	25.73m	N 1952.67	E 1965.47	N 1952.83	E 1980.46	N 1938.22	E 1961.43

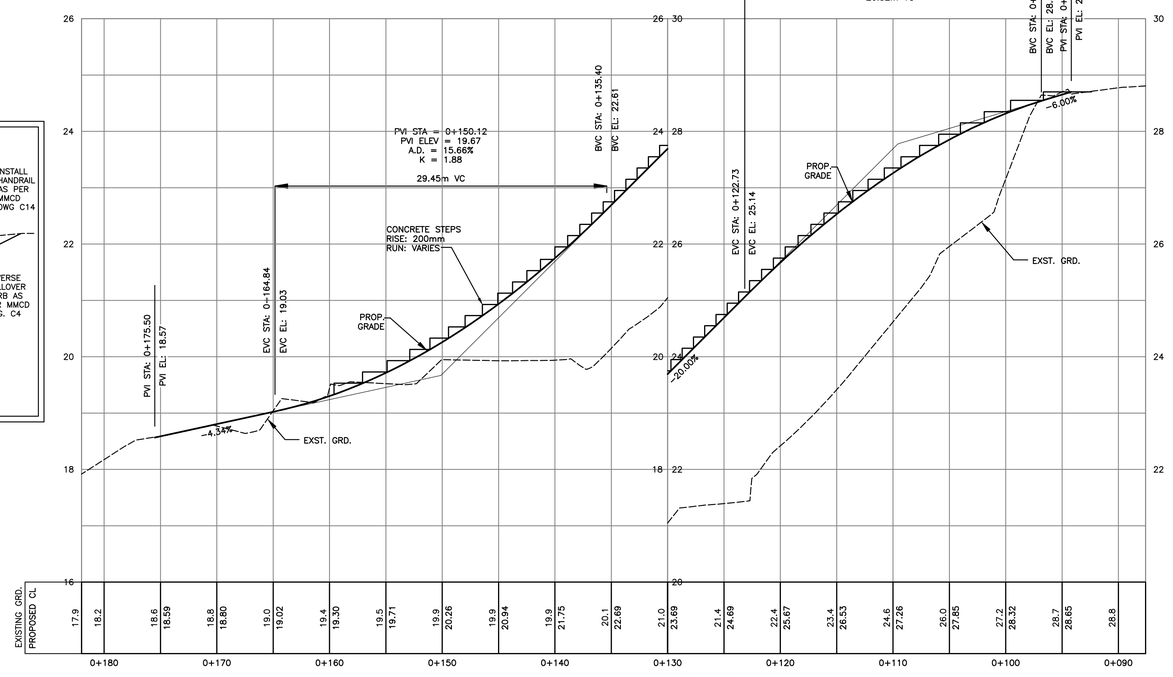
SEE DRAWING KEY FOR GENERAL NOTES

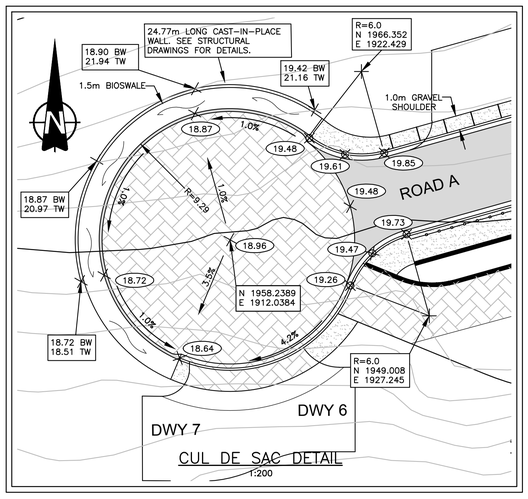


TYPICAL ROAD CROSS SECTION
SCALE 1:100

ROADWORK NOTES

1. ALL ROADWORKS CONSTRUCTION AND METHODS MUST BE IN ACCORDANCE WITH MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD).
2. ALL LOOSE AND ORGANIC MATERIAL TO BE EXCAVATED FROM DRIVEWAY AND DISPOSED OF ON-SITE IN A LOCATION APPROVED BY THE ENGINEER.
3. ALL SUBGRADES TO BE COMPACTED TO 95% MODIFIED PROCTOR DENSITY. SUBGRADE TO BE INSPECTED BY ENGINEER PRIOR TO PLACEMENT OF GRAVEL SUBBASE. ANY WATER SOFTENED SUB GRADE SOIL SHALL BE OVER EXCAVATED AND THE GRADE RESTORED WITH GRANULAR SOILS COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
4. THE BASE AND SUBBASE MATERIALS SHALL BE PROPERLY PLACED AND COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR DRY DENSITY (ASTM D1557).
5. CHANGES IN GRADE TO BE FORMED WITH SMOOTH CURVES.
6. PAVING CAN ONLY PROCEED IN THE PRESENCE OF THE MUNICIPAL & ENGINEERING INSPECTORS.
7. ALL SURFACE DRAINAGE, PERIMETER DRAINAGE AND DRAINWATER LEADERS TO BE DIRECTED TOWARDS PERMEABLE PAVER STORM DETENTION AREAS.





* BOTTOM OF WALL IS FINAL GRADE AND DOES NOT INCLUDE FOOTING DEPTH

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approved

designed by: F.M.C.
drawn by: D.K.D.
checked by: R.A.W.
date: JAN.15.09

title: ROADWORKS
ROAD A

scales: hor: 1:250 vert: 1:50
file no.: 09105
drawing no.: DF 8732
rev.: 4

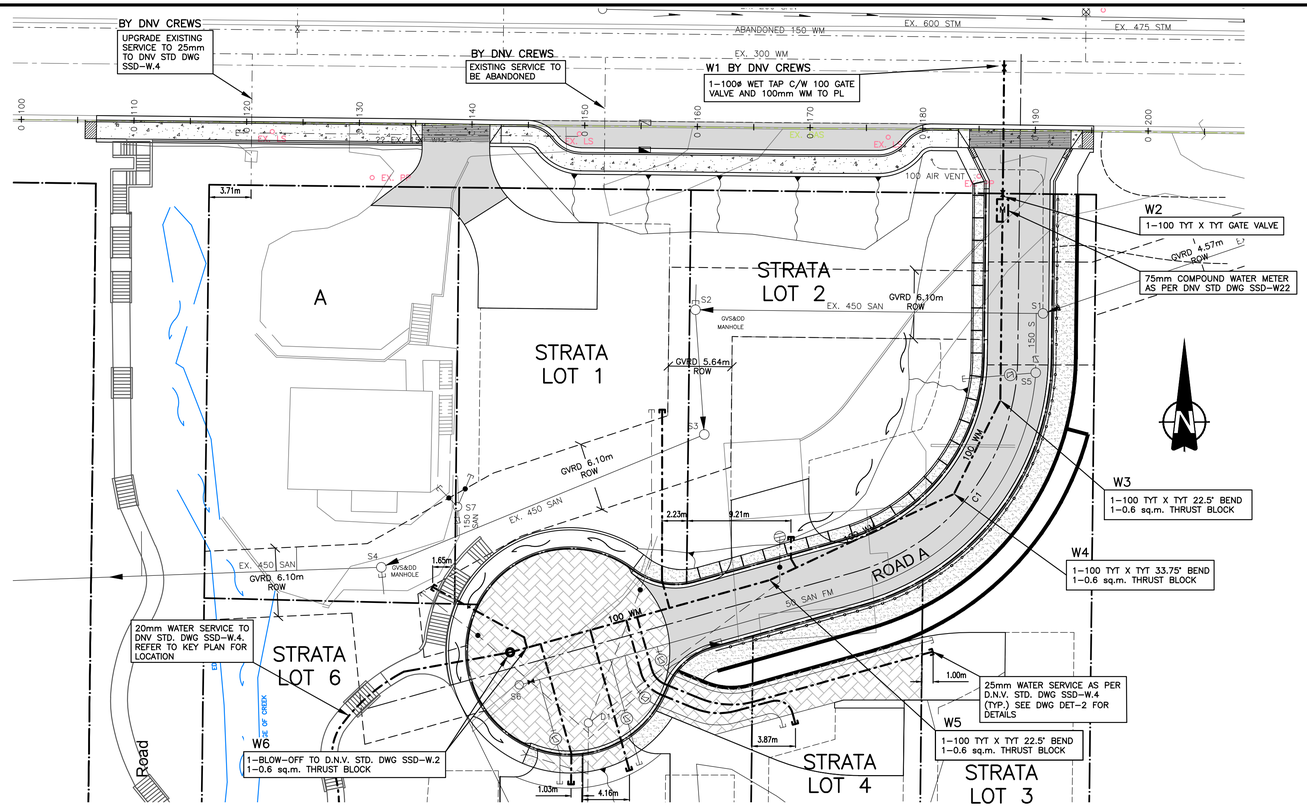
X:\09100\09105 - 3707 Dollarton Highway\DESIGN\SERVICING\ROAD.dwg 9/4/2014 7:26:46 AM DWG To PDF.pc3

LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

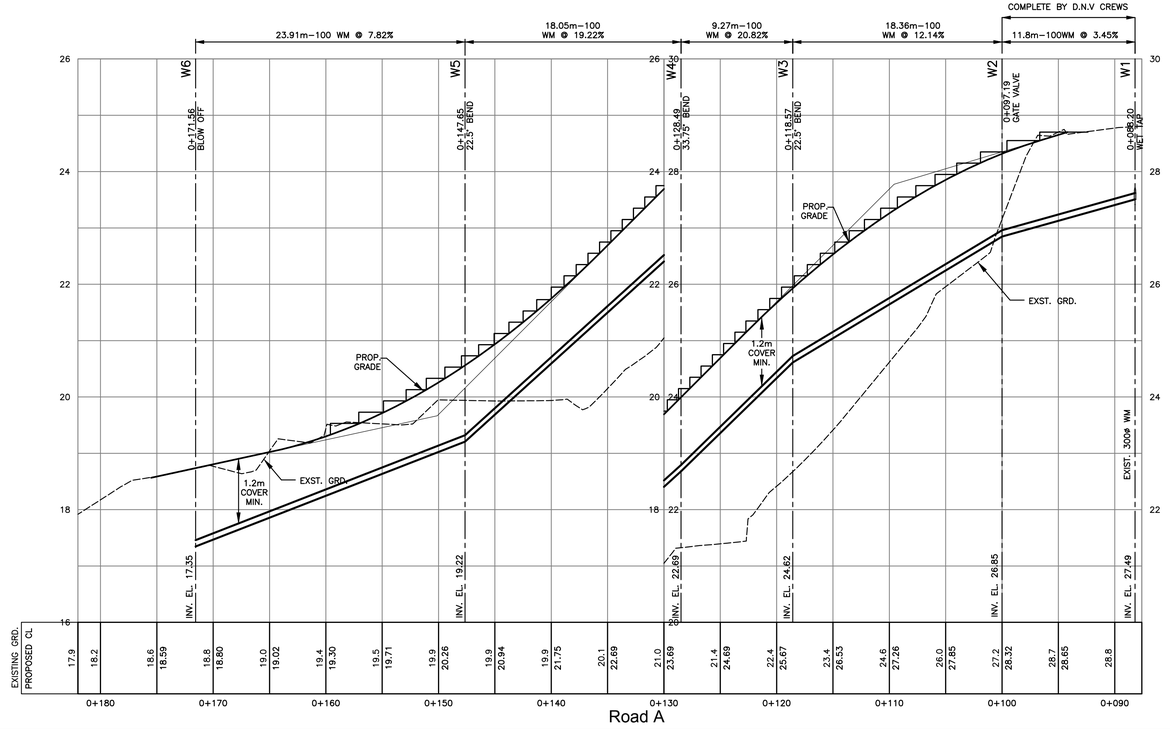
BENCHMARK INFORMATION

ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m



SEE DRAWING KEY FOR GENERAL NOTES

WATERMAIN COORDINATES		
M.H. #	NORTHING	EASTING
W1	2006.82	1951.63
W2	1995.07	1951.51
W3	1976.71	1951.29
W4	1968.41	1947.17
W5	1960.76	1930.82
W6	1954.35	1907.79



WATERWORK NOTES

1. WATER SERVICES ARE TO BE 25mm DIA., TYPE K ANNEALED COPPER TO ASTM B88M. WATER SERVICE CONNECTION TO DNV STD. DRAWINGS SSD-W.4.
2. INSTALLATION, TESTING AND CHLORINATION TO BE PREPARED IN ACCORDANCE WITH THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD) AND THE B.C. PLUMBING CODE.
3. SERVICE CONNECTIONS ARE TO BE MARKED WITH A 50mm x 100mm POST PAINTED BLUE AT TERMINATION.
4. DUCTILE IRON (D.I.) WATERMAIN IS TO BE CLASS 50 TO AWWA C151, CEMENT MORTAR LINED TO AWWA C104. TYTON JOINT AWWA C111. EBA MEGALUG JOINT RESTRAINT ASSEMBLY TO BE USED WHERE GRADE IS AT OR EXCEEDS 20%.
5. EXCAVATION AND PAVEMENT RESTORATION FOR WATERMAIN TIE-IN TO BE COMPLETED BY DEVELOPER'S CONTRACTOR. DNV UTILITIES DEPT. TO SUPPLY WET TAP MATERIALS AND COMPLETE TIE-IN AT DEVELOPER'S COST.

"I, FRED CIAMBRELLI, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WORKS AS HEREIN SET OUT ON THE ATTACHED DRAWINGS HAVE BEEN DESIGNED TO GOOD ENGINEERING STANDARDS AND IN ACCORDANCE WITH: THE DISTRICT OF NORTH VANCOUVER DESIGN CRITERIA MANUAL, DATED NOV 2005, THE MASTER MAUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), VERSION 2000 AND THE DISTRICT OF NORTH VANCOUVER SUPPLEMENTARY MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (SUPPLEMENTARY SPECIFICATIONS AND SUPPLEMENTARY STANDARD DRAWINGS), ADOPTED BY THE DISTRICT OF NORTH VANCOUVER. _____

no.	date	revision	chk'd
3	NOV.07.12	REVISED AS REQUESTED BY D.N.V.	DKD
2	JUN.23.09	REVISED AS REQUESTED BY D.N.V.	DKD
1	APR.08.09	REVISED AS REQUESTED BY D.N.V.	DKD

client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

www.creus.ca
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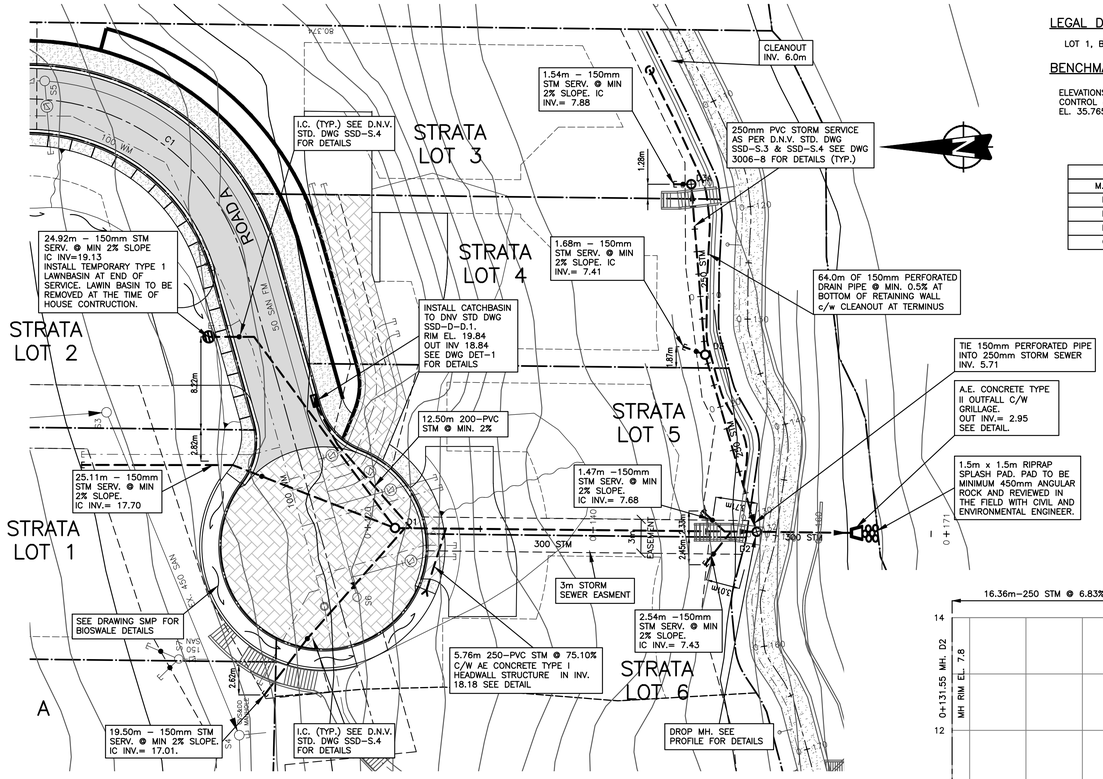
approved

designed by F.M.C.
drawn by D.K.D.
checked by R.A.W.
date JAN.15.09

title: WATERWORKS

scales: hor: 1:250 vert: 1:50
file no. 09105
drawing no. WF 8234
rev. 3



SEE DRAWING KEY FOR GENERAL NOTES
SEE DRAWING S–1 FOR STORM SEWER NOTES

CONTRACTOR TO VERIFY & LOCATE EXISTING MAINS & SERVICE CONNECTIONS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING CONSTRUCTION

SEE LANDSCAPE PLANS FOR LANDSCAPE DETAILS

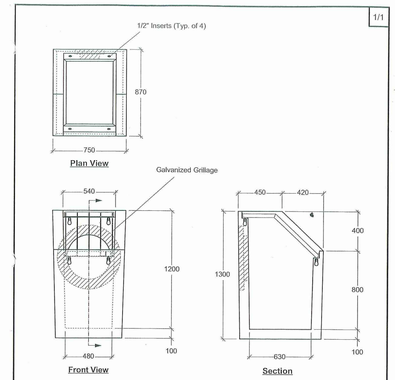
LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m

STORM COORDINATES		
M.H. #	NORTHING	EASTING
D1	1946.991	1914.743
D2	1915.976	1914.413
D3	1920.547	1930.122
OUTLET	1905.888	1914.286

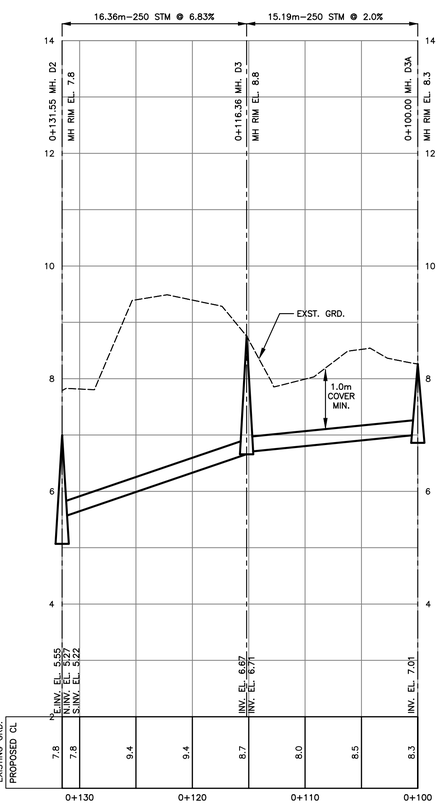


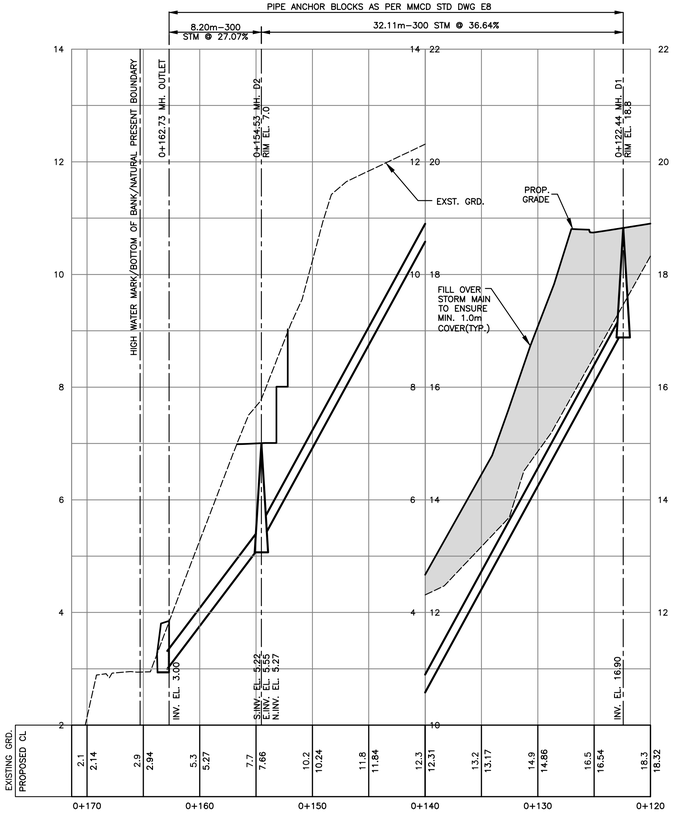
General Notes:
- Lifting loops cast in.
- Size and Location of Opening Varies.
- Cement to CAN / CSA A5-93 Portland Cement.
- Reinforcing steel to CSA G-30.18-M92 Grade 400.
- Minimum concrete strength 35 MPa @ 28 Days.
- Site installation and backfilling are the responsibility of others.

Type I Inlet (For up to 450mmØ RCP)	Scale 1:20 mm
	Weight: 909 kg / 2,000 lbs.
A.E. Concrete Precast Products Ltd. Office: 19060 - 54th Ave. Surrey, BC V3S 8E5 Tel (604) 576-1808 Fax (604) 576-2454 Shipping: 5353 - 192nd St. Surrey, BC V3S 8E5 Tel (604) 576-5651 Fax (604) 574-1174	Rev: 10Jan01
	Dwg#: "HD01-N9-ZZZZ-C

General Notes:
- Lifting loops cast in.
- Size and Location of Opening Varies.
- Cement to CAN / CSA A5-93 Portland Cement.
- Reinforcing steel to CSA G-30.18-M92 Grade 400.
- Minimum concrete strength 35 MPa @ 28 Days.
- Site installation and backfilling are the responsibility of others.

Type II Outfall (For up to 450mmØ RCP)	Scale 1:20 mm
	Weight: 1 091 kg / 2,400 lbs.
A.E. Concrete Precast Products Ltd. Office: 19060 - 54th Ave. Surrey, BC V3S 8E5 Tel (604) 576-1808 Fax (604) 576-2454 Shipping: 5353 - 192nd St. Surrey, BC V3S 8E5 Tel (604) 576-5651 Fax (604) 574-1174	Rev: 10Jan01
	Dwg#: "HD20-N9-ZZZZ-C





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client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

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approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: STORM SEWERS

scales hor:	1:250 vert: 1:50
file no.	09105
drawing no.	DF 8733
rev.	4

* LOTS 2–6 SANITARY TO BE PUMPED

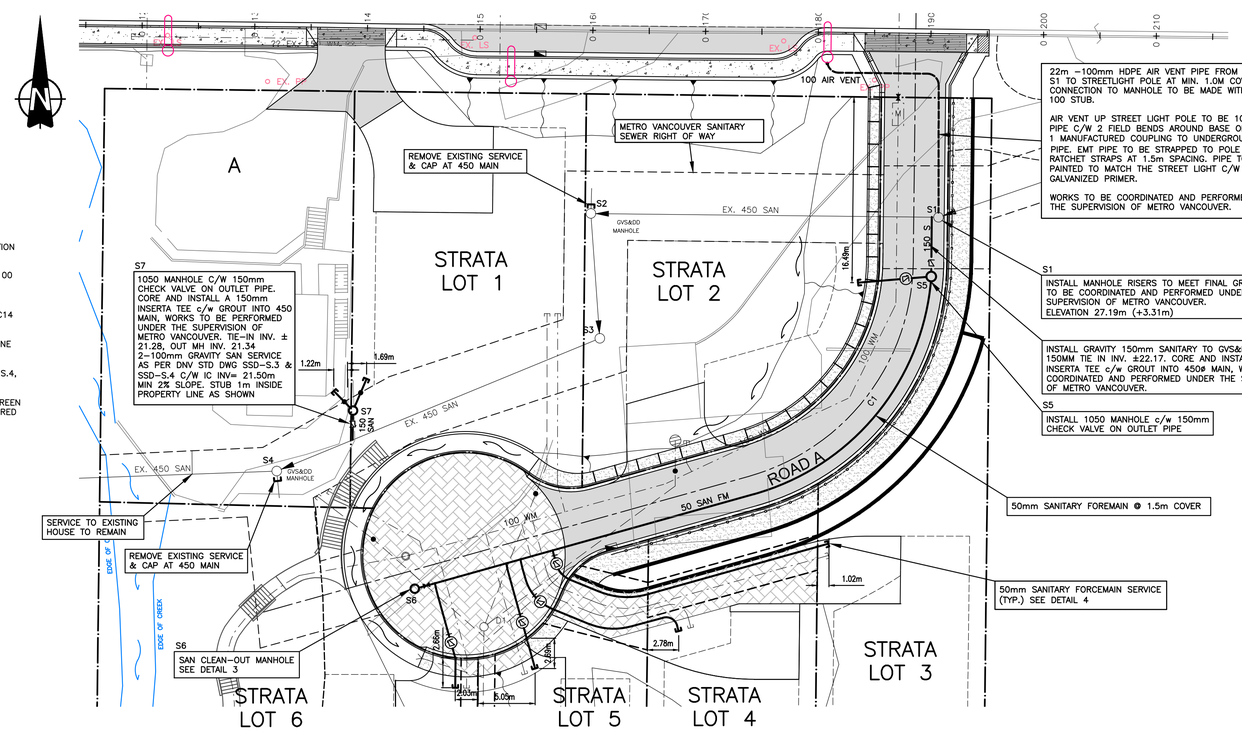
BARNES SUBMERSIBLE GRINDER PUMP TO BE SERIES SGVF & SGVH 2HP, 3450RPM, 60 HZ HIGH–FLOW AND HIGH–HEAD INSTALLED BY OWNER DURING HOUSE CONSTRUCTION

STORM AND SANITARY SEWER NOTES

1. GRAVITY SANITARY SEWER MAINS TO BE DR35 PVC, MIN. PIPE STIFFNESS (F/Y) 320 kPA @ 5% DEFLECTION TO ASTM D2412, ASTM D3034 AND CSA B182.2. GASKETS TO ASTM F477.
2. SANITARY FORCEMAIN TO BE PVC TO AWWA C900 CLASS 150 OR HIGH DENSITY POLYETHYLENE SERIES 100 (DR17) OR BETTER, TO ASTM F714–85 & ASTM D–1248–84.
3. STORM SEWER MAINS TO BE DR35 PVC, MIN. PIPE STIFFNESS (F/Y) 320 kPA @ 5% DEFLECTION TO ASTM D2412, ASTM D3034 AND CSA B182.2. GASKETS TO ASTM F477 OR CONCRETE AND SHALL MEET THE ASTM C14 CLASS 3 SPECIFICATIONS FOR NON–REINFORCED PIPE. (FOR PIPES UP TO A MAXIMUM OF 900mm)
4. SANITARY SERVICE CONNECTIONS TO BE 50mm DIA. PVC TO ASTM D2241 OR HIGH DENSITY POLYETHYLENE TO AWWA C906 C/W CHECK VALVE AT MAIN TIE–IN LOCATION.
5. STORM SERVICE TO BE DR 28 P.V.C., 150mm MIN. ø TO D.N.V. STANDARD DRAWINGS SSD–S.3 & SSD–S.4, C/W INSPECTION CHAMBER AT PROPERTY LINE.
6. STORM AND SANITARY SERVICE CONNECTIONS TO BE MARKED WITH A 50mm x 100mm POST PAINTED GREEN AND RED RESPECTIVELY. THE BELL END AND CAP AT THE TERMINATION IS ALSO TO BE PAINTED GREEN AND RED TO SUIT.
7. MINIMUM GRADE ON STORM SERVICE CONNECTIONS TO BE 2% UNLESS NOTED OTHERWISE.
8. ALL MANHOLES TO BE MMCD STD S1 UNLESS NOTED OTHERWISE.
9. ALL FUTURE HOMES CONNECTING TO THE SANITARY SYSTEM TO HAVE BACKFLOW PREVENTION AND AIR MANAGEMENT.

SANITARY COORDINATES		
M.H. #	NORTHING	EASTING
MH S1	1984.419	1955.076
MH S3	1973.679	1925.015
MH S4	1961.897	1896.353
MH S5	1979.162	1954.424
MH S6	1951.456	1908.594
MH S7	1967.265	1903.122

SEE DRAWING KEY FOR GENERAL NOTES



S7
1050 MANHOLE C/W 150mm CHECK VALVE ON OUTLET PIPE. CORE AND INSTALL A 150mm INSERTA TEE c/w GROUT INTO 450 MAIN, WORKS TO BE PERFORMED UNDER THE SUPERVISION OF METRO VANCOUVER. TIE–IN INV. ± 21.28, OUT MH INV. 21.34
2–100mm GRAVITY SAN SERVICE AS PER DNV STD DWG SSD–S.3 & SSD–S.4 C/W IC INV= 21.50m MIN 2% SLOPE. STUB 1m INSIDE PROPERTY LINE AS SHOWN

22m –100mm HDPE AIR VENT PIPE FROM MANHOLE S1 TO STREETLIGHT POLE AT MIN. 1.0M COVER. CONNECTION TO MANHOLE TO BE MADE WITH PRECAST 100 STUB.

AIR VENT UP STREET LIGHT POLE TO BE 100mm EMT PIPE C/W 2 FIELD BENDS AROUND BASE OF POLE & 1 MANUFACTURED COUPLING TO UNDERGROUND HDPE PIPE. EMT PIPE TO BE STRAPPED TO POLE WITH ½" RATCHET STRAPS AT 1.5m SPACING. PIPE TO BE PAINTED TO MATCH THE STREET LIGHT C/W GALVANIZED PRIMER.

WORKS TO BE COORDINATED AND PERFORMED UNDER THE SUPERVISION OF METRO VANCOUVER.

S1
INSTALL MANHOLE RISERS TO MEET FINAL GRADE. TO BE COORDINATED AND PERFORMED UNDER THE SUPERVISION OF METRO VANCOUVER. ELEVATION 27.19m (+3.31m)

INSTALL GRAVITY 150mm SANITARY TO GVS&DD MAIN. 150MM TIE IN INV. ±22.17. CORE AND INSTALL A 150mm INSERTA TEE c/w GROUT INTO 450ø MAIN, WORKS TO BE COORDINATED AND PERFORMED UNDER THE SUPERVISION OF METRO VANCOUVER.

S5
INSTALL 1050 MANHOLE c/w 150mm CHECK VALVE ON OUTLET PIPE

50mm SANITARY FOREMAIN @ 1.5m COVER

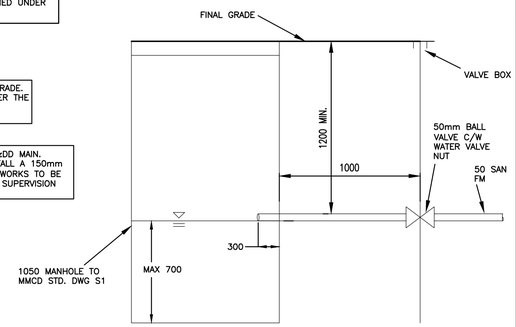
50mm SANITARY FORCEMAIN SERVICE (TYP.) SEE DETAIL 4

LEGAL DESCRIPTION

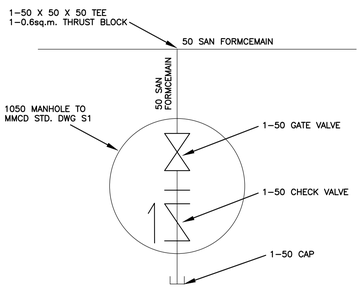
LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

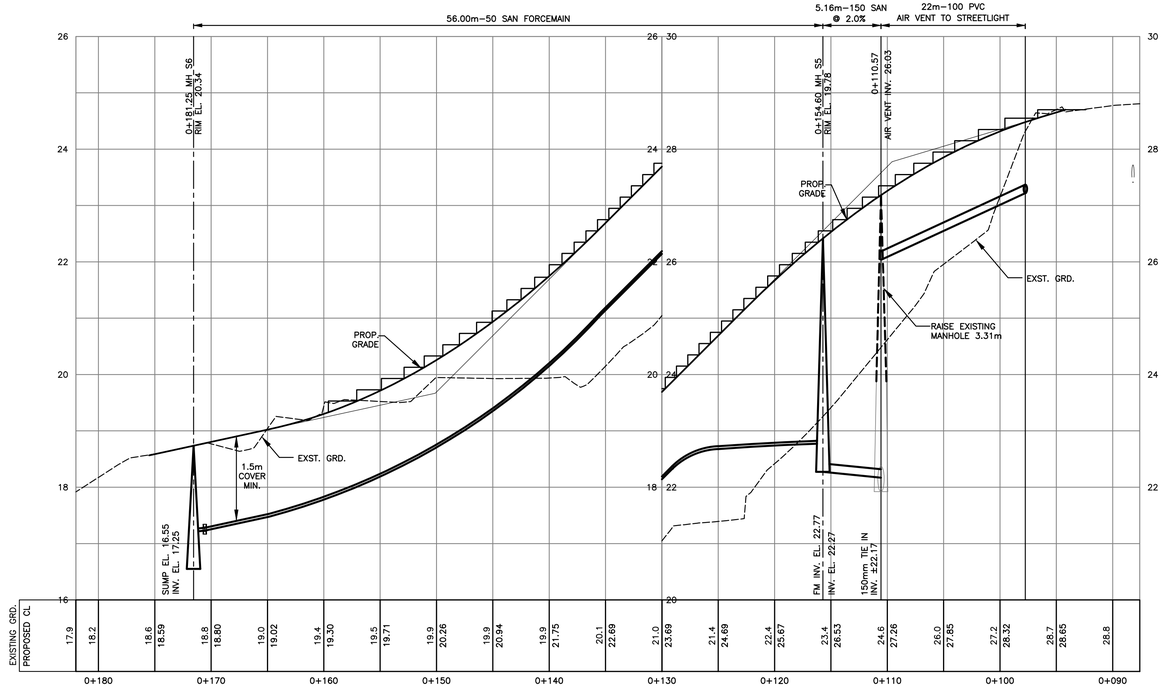
ELEVATIONS ARE METRIC, GEODETIC DATUM, AND DERIVED FROM:
CONTROL MONUMENT 73H 1160
EL. 35.765m



DETAIL 3
SANITARY CLEANOUT MANHOLE
N.T.S.



DETAIL 4
SANITARY SERVICE CONNECTION (TYP.)
N.T.S.



Road A

CONTRACTOR TO VERIFY & LOCATE EXISTING MAINS & SERVICE CONNECTIONS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING CONSTRUCTION

SEE LANDSCAPE PLANS FOR LANDSCAPE DETAILS

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no.	date	revision	chk'd
5	FEB.1.13	REVISED AS REQUESTED BY METRO VANCOUVER	DKD
4	JAN.10.13	REVISED AS REQUESTED BY D.N.V.	DKD
3	JAN.03.13	REVISED FOR METRO SANITARY TIE–INS	DKD
2	FEB.09.12	ISSUED FOR BP	DKD

client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

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200 - 901 WEST 16TH ST NORTH VANCOUVER, BC V7P 1R2

approved

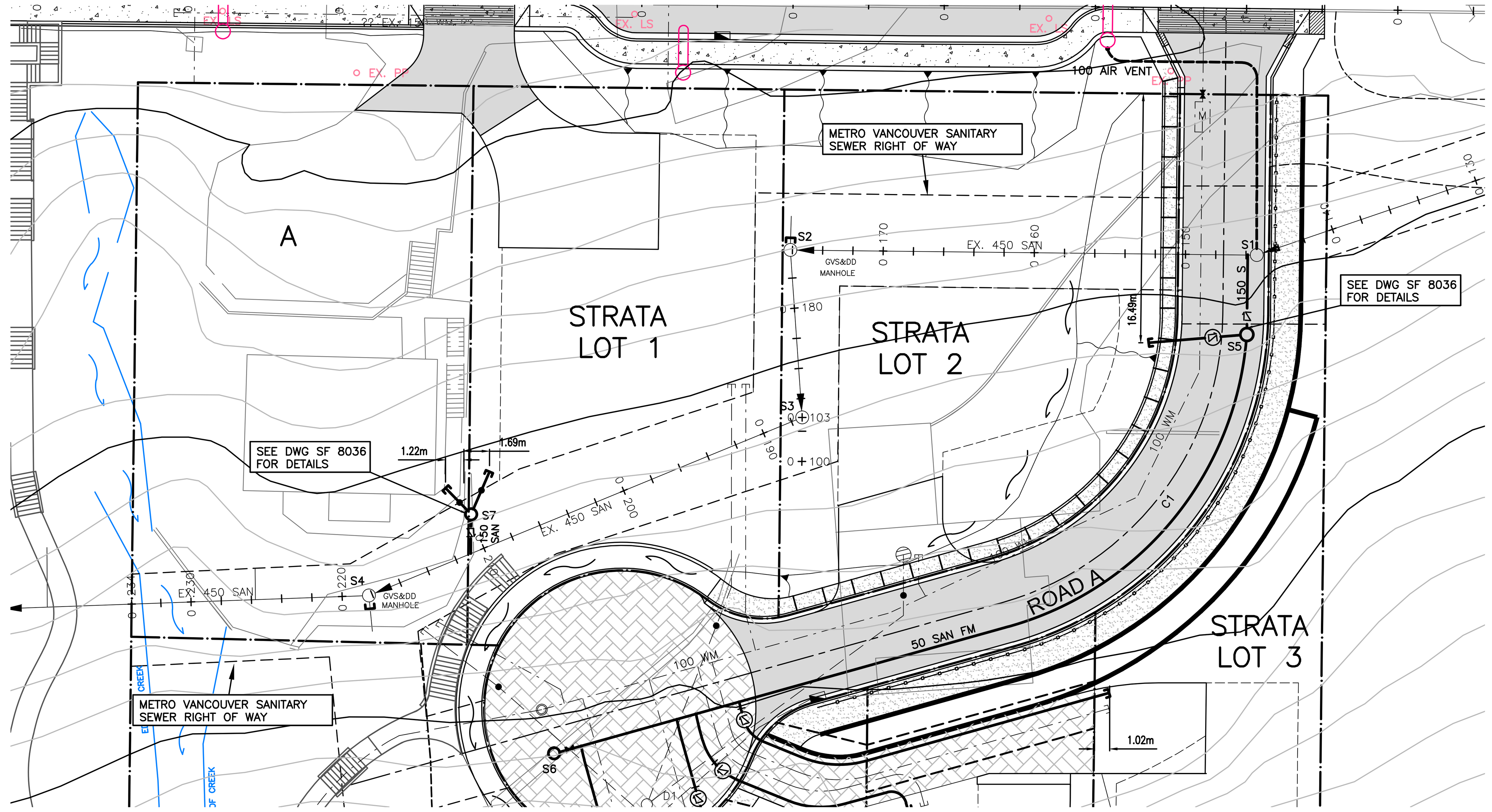
designed by F.M.C.
drawn by D.K.D.
checked by R.A.W.
date JAN.15.09

title: SANITARY SEWERS

scales: hor: 1:250 vert: 1:50
file no. 09105
drawing no. SF 8036
rev. 5

* LOTS 3–7 SANITARY TO BE PUMPED

BARNES SUBMERSIBLE GRINDER PUMP TO BE SERIES SGVF & SGVH 2HP, 3450RPM, 60 HZ HIGH–FLOW AND HIGH–HEAD INSTALLED BY OWNER DURING HOUSE CONSTRUCTION



SEE DRAWING 3186–1 FOR GENERAL NOTES

LEGAL DESCRIPTION

LOT 1, BLOCK K, DL 230, PLAN 7990, GROUP 1, NEW WESTMINSTER DISTRICT

BENCHMARK INFORMATION

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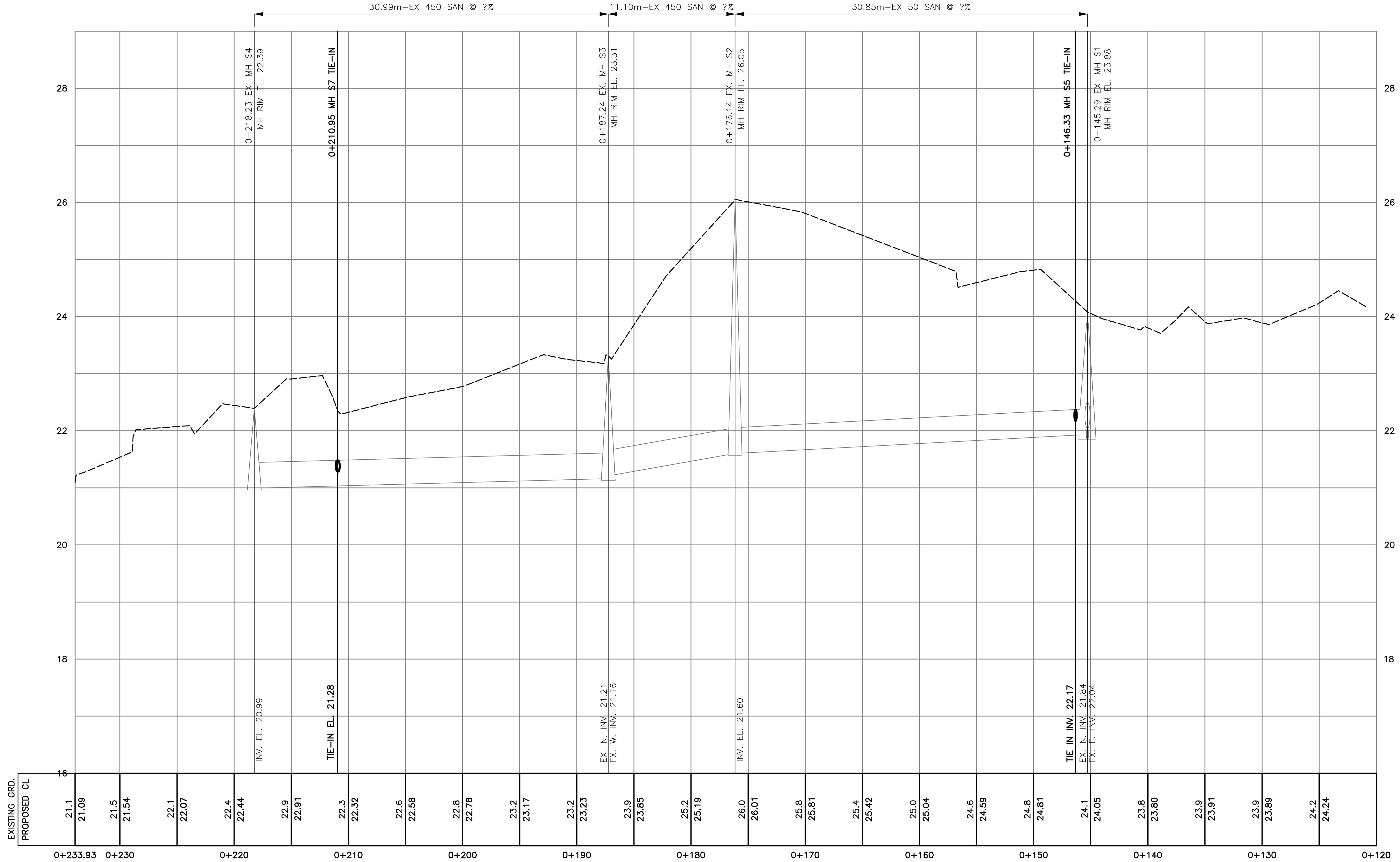
CONTROL MONUMENT 73H 1160
EL. 35.765m



EXISTING SANITARY THROUGH GVRD ROW

CONTRACTOR TO VERIFY & LOCATE EXISTING MAINS & SERVICE CONNECTIONS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO BEGINNING CONSTRUCTION

SEE LANDSCAPE PLANS FOR LANDSCAPE DETAILS

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no.	date	revision	chk'd
3	JAN.10.13	REVISED AS REQUESTED BY D.N.V.	FMC
2	FEB.09.12	ISSUED FOR BP	DKD
1	MAR.23.09	REVISED AS REQUESTED BY D.N.V.	DKD

client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

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approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: SANITARY SEWERS
METRO VANCOUVER LINE

scales hor: 1:250 vert: 1:50

file no. 09105

drawing no. SF 8037

rev. 3

"I, FRED CIAMBRELLI, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WORKS AS HEREIN SET OUT ON THE ATTACHED DRAWINGS HAVE BEEN DESIGNED TO GOOD ENGINEERING STANDARDS AND IN ACCORDANCE WITH: THE DISTRICT OF NORTH VANCOUVER DESIGN CRITERIA MANUAL, DATED NOV 2005, THE MASTER MAUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), VERSION 2000 AND THE DISTRICT OF NORTH VANCOUVER SUPPLEMENTARY MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (SUPPLEMENTARY SPECIFICATIONS AND SUPPLEMENTARY STANDARD DRAWINGS), ADOPTED BY THE DISTRICT OF NORTH VANCOUVER.

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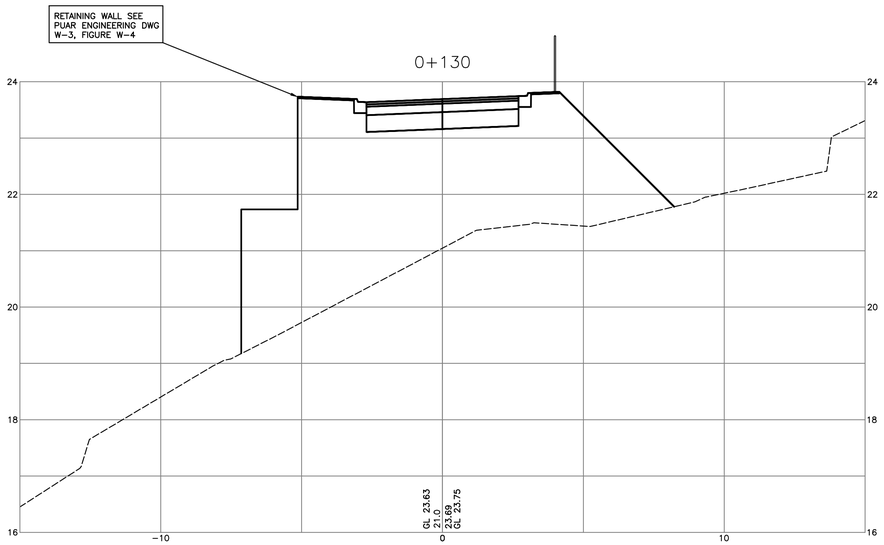

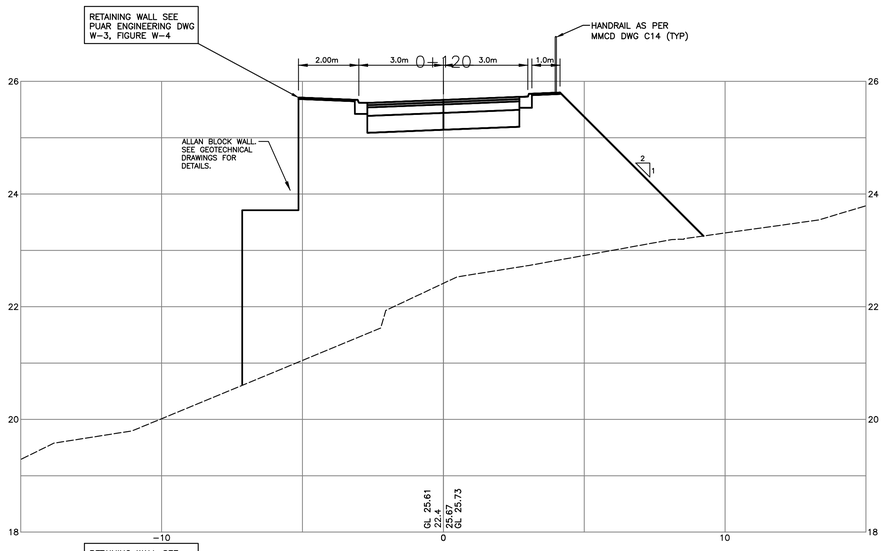

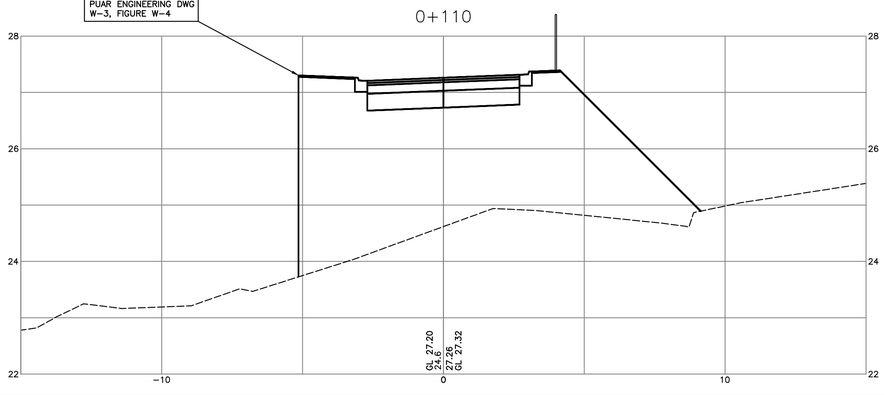

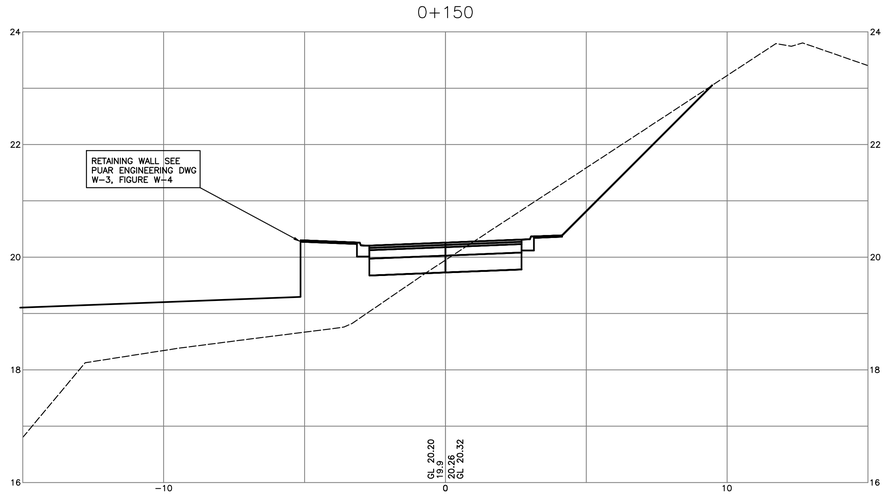

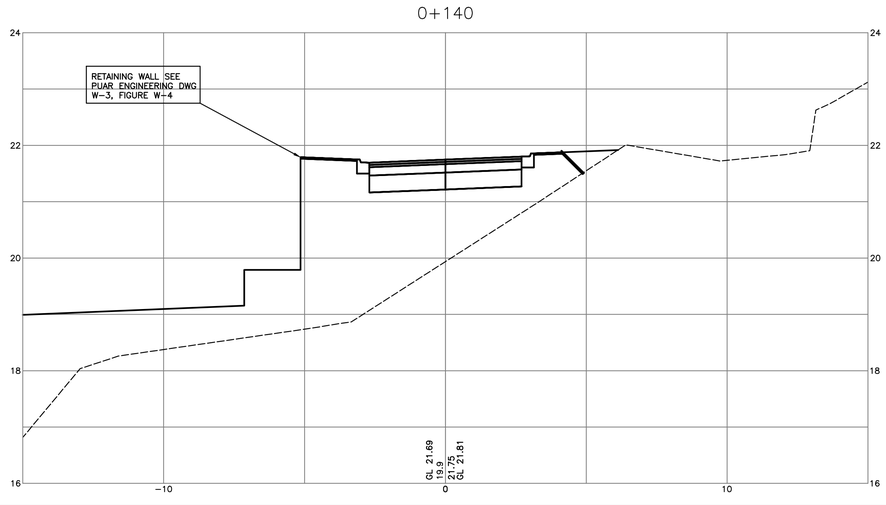

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client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
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approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: CROSS SECTIONS
ROAD A

scales hor:	1:100
vert:	1:50
file no.	09105
drawing no.	DF 8734
rev.	5

"I, FRED CIAMBRELLI, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WORKS AS HEREIN SET OUT ON THE ATTACHED DRAWINGS HAVE BEEN DESIGNED TO GOOD ENGINEERING STANDARDS AND IN ACCORDANCE WITH: THE DISTRICT OF NORTH VANCOUVER DESIGN CRITERIA MANUAL, DATED NOV 2005, THE MASTER MAUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), VERSION 2000 AND THE DISTRICT OF NORTH VANCOUVER SUPPLEMENTARY MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (SUPPLEMENTARY SPECIFICATIONS AND SUPPLEMENTARY STANDARD DRAWINGS), ADOPTED BY THE DISTRICT OF NORTH VANCOUVER.

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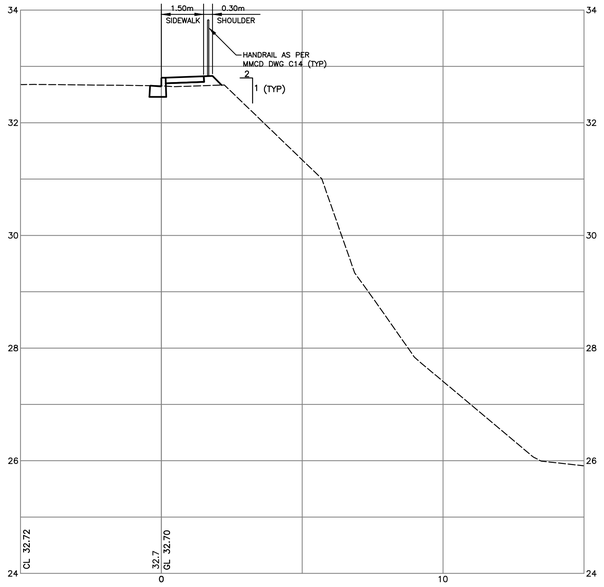

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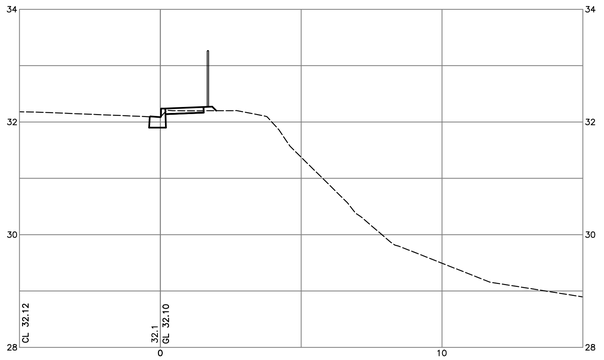

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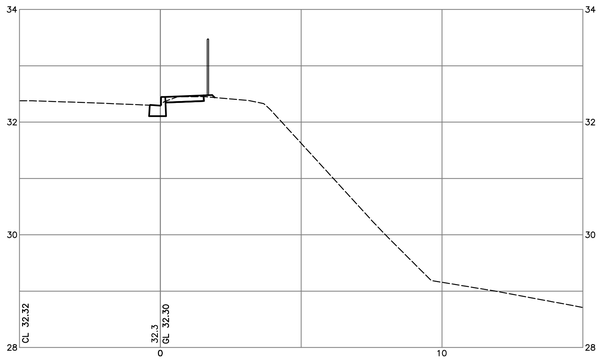

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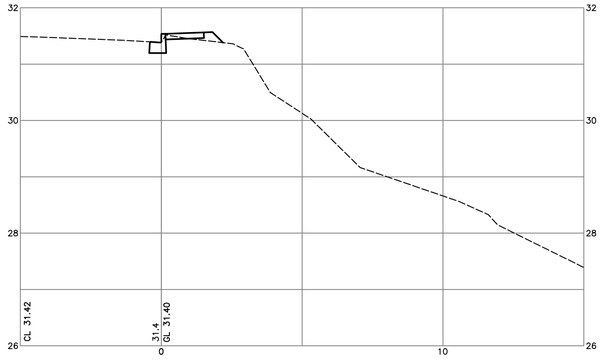

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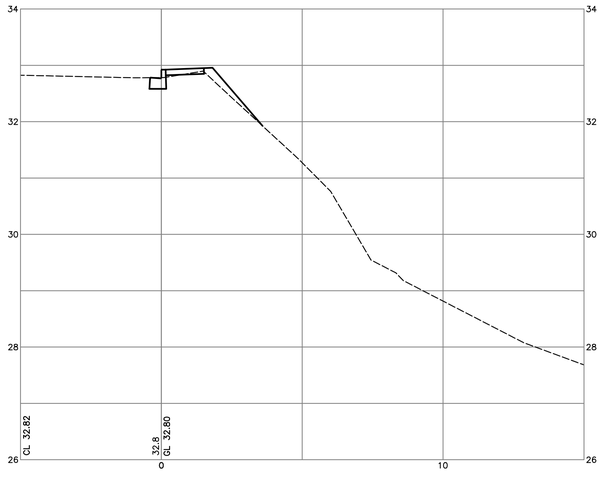

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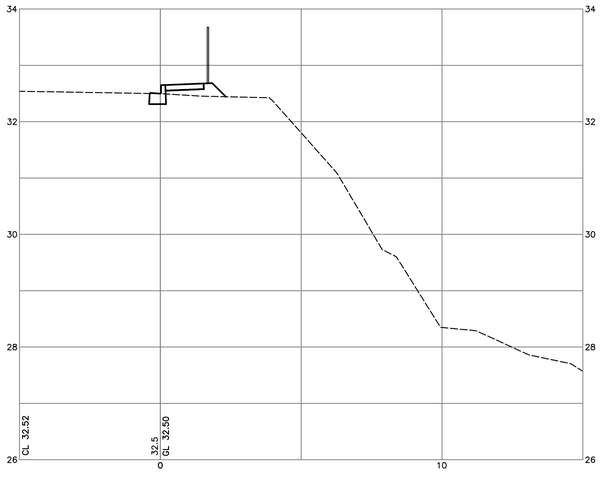

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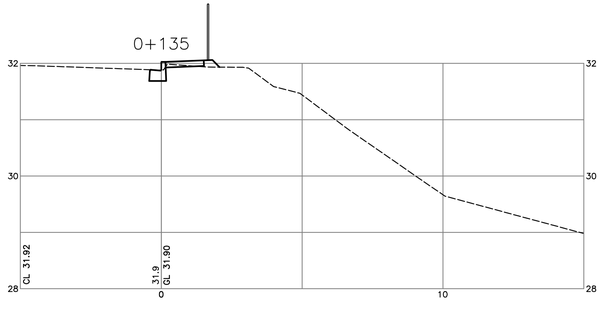

no.	date	revision	chk'd
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client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
NORTH VANCOUVER, BRITISH COLUMBIA

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approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: CROSS SECTIONS
DOLLARTON

scales	hor: 1:100 vert: 1:50
file no.	09105
drawing no.	DF 8735
rev.	4

"I, FRED CIAMBRELLI, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WORKS AS HEREIN SET OUT ON THE ATTACHED DRAWINGS HAVE BEEN DESIGNED TO GOOD ENGINEERING STANDARDS AND IN ACCORDANCE WITH: THE DISTRICT OF NORTH VANCOUVER DESIGN CRITERIA MANUAL, DATED NOV 2005, THE MASTER MAUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), VERSION 2000 AND THE DISTRICT OF NORTH VANCOUVER SUPPLEMENTARY MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (SUPPLEMENTARY SPECIFICATIONS AND SUPPLEMENTARY STANDARD DRAWINGS), ADOPTED BY THE DISTRICT OF NORTH VANCOUVER.

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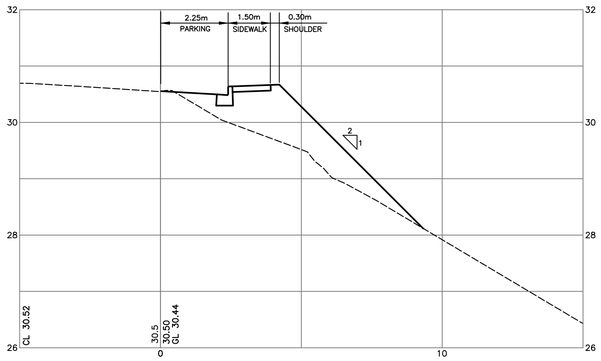

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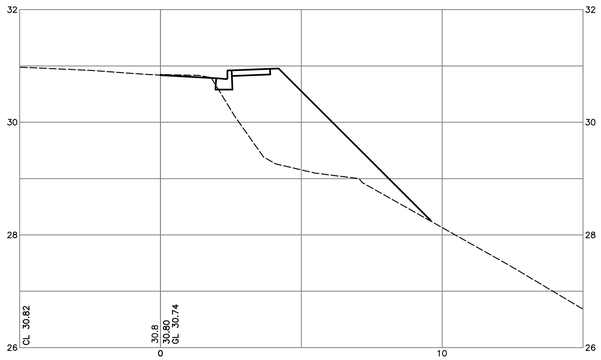

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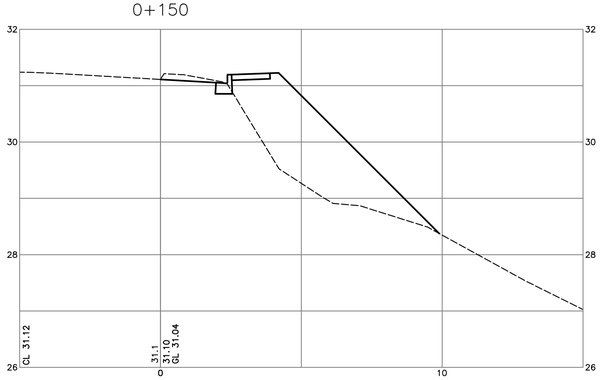

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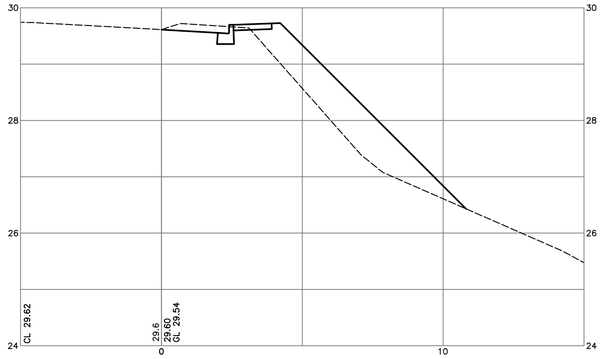

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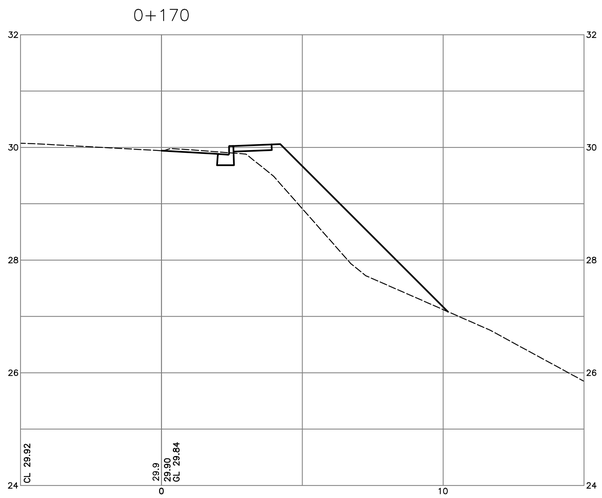

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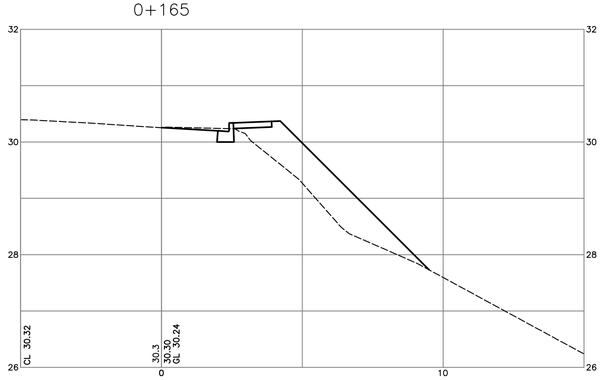

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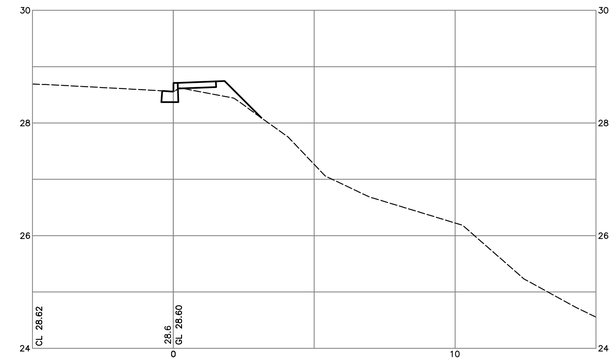

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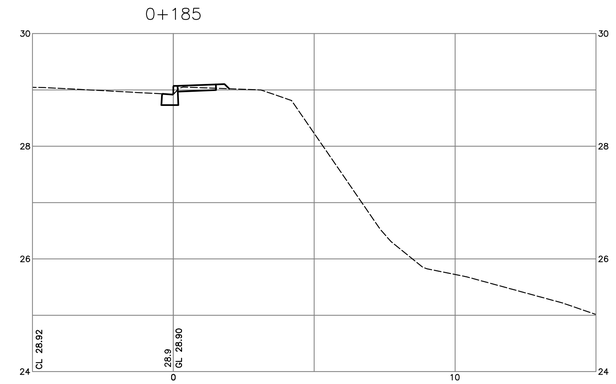

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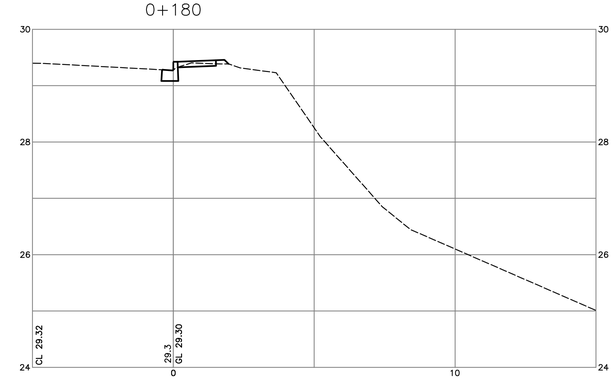

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approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: CROSS SECTIONS
DOLLARTON

scales	hor: 1:100 vert: 1:50
file no.	09105
drawing no.	DF 8736
rev.	3

"I, FRED CIAMBRELLI, PROFESSIONAL ENGINEER, IN GOOD STANDING IN AND FOR THE PROVINCE OF BRITISH COLUMBIA, HEREBY CERTIFY THAT THE WORKS AS HEREIN SET OUT ON THE ATTACHED DRAWINGS HAVE BEEN DESIGNED TO GOOD ENGINEERING STANDARDS AND IN ACCORDANCE WITH: THE DISTRICT OF NORTH VANCOUVER DESIGN CRITERIA MANUAL, DATED NOV 2005, THE MASTER MAUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), VERSION 2000 AND THE DISTRICT OF NORTH VANCOUVER SUPPLEMENTARY MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (SUPPLEMENTARY SPECIFICATIONS AND SUPPLEMENTARY STANDARD DRAWINGS), ADOPTED BY THE DISTRICT OF NORTH VANCOUVER.

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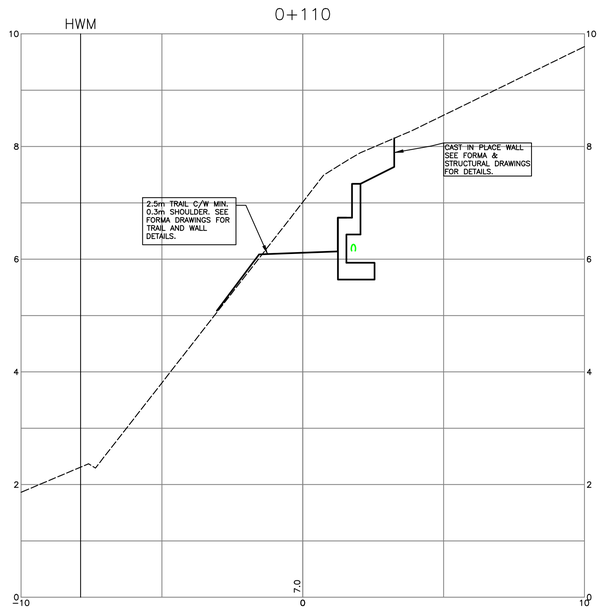

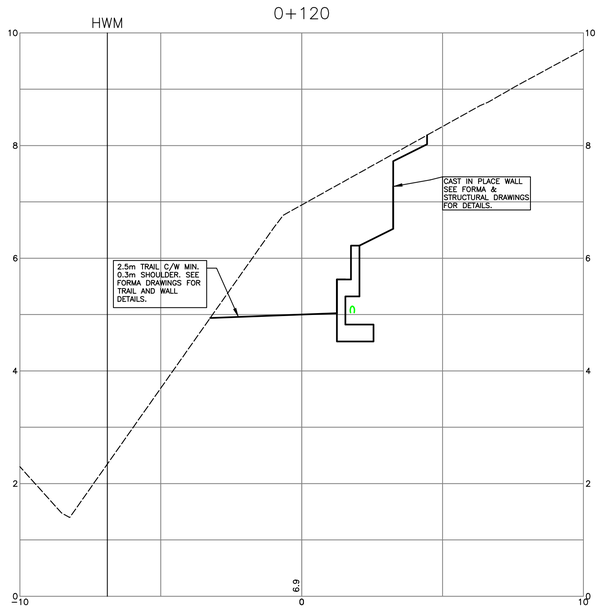

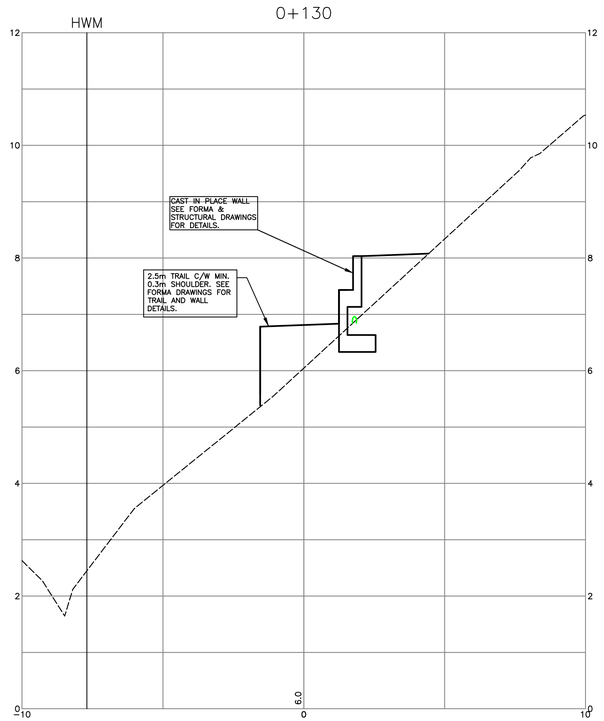

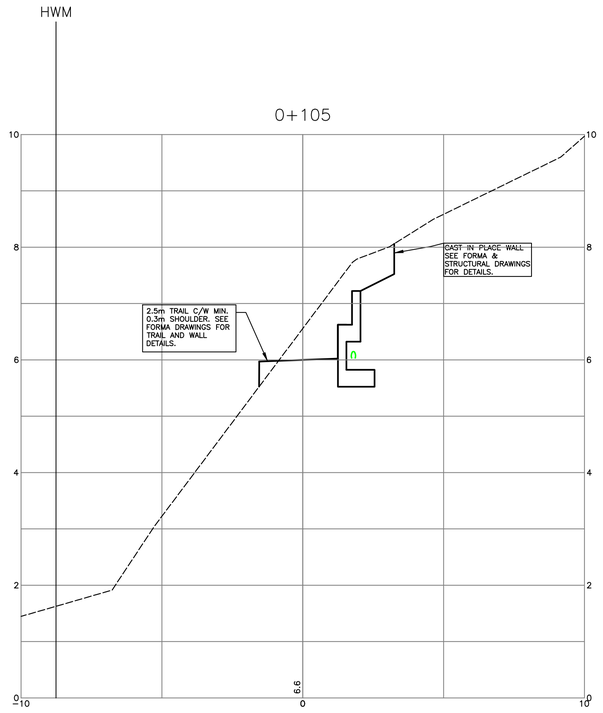

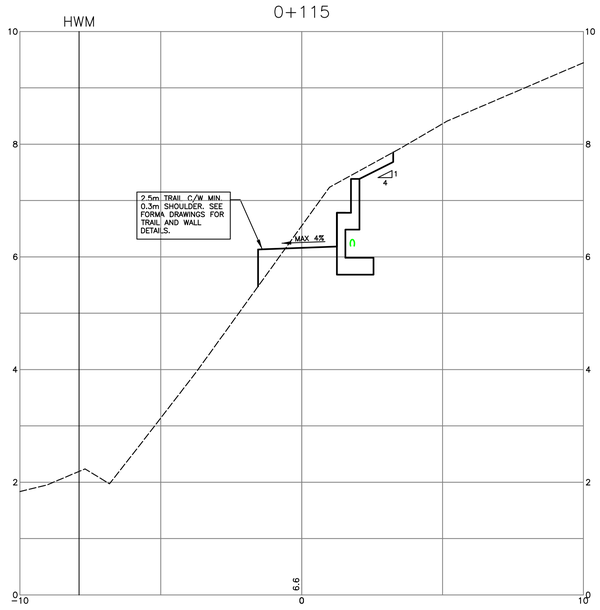

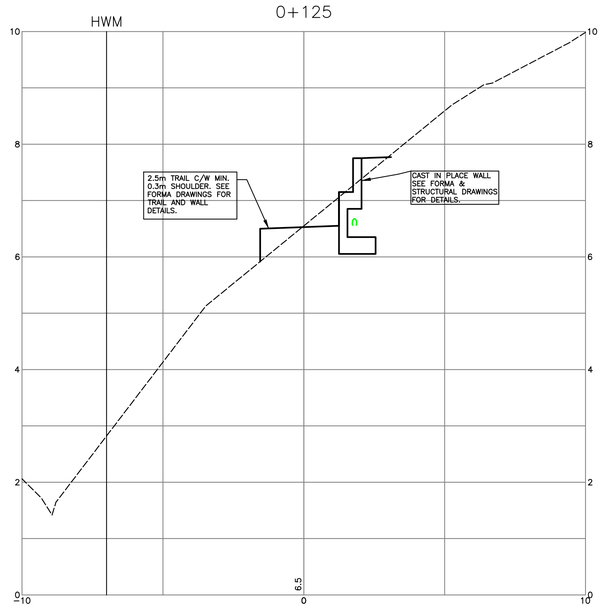

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designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: CROSS SECTIONS
TRAIL

scales	hor: 1:100 vert: 1:50
file no.	09105
drawing no.	DF 8737
rev.	4

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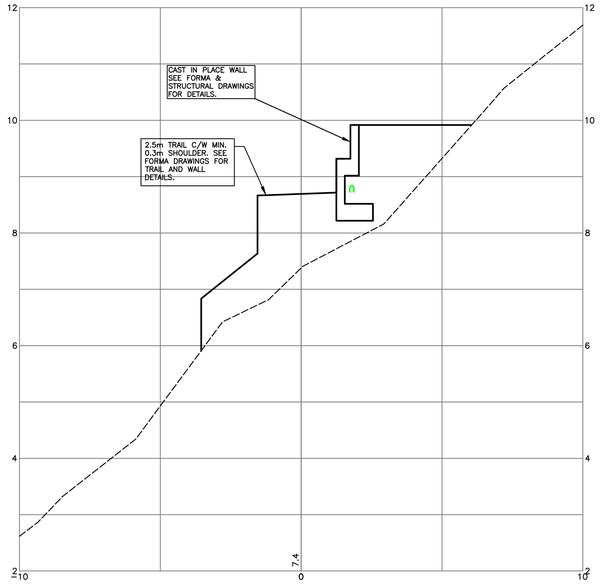

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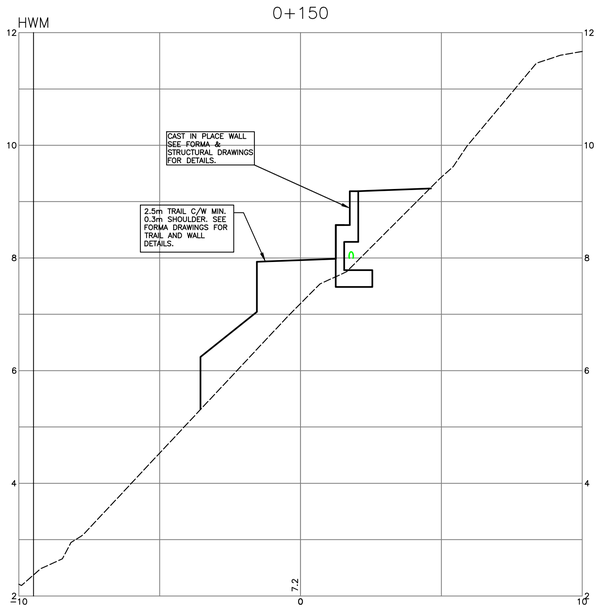

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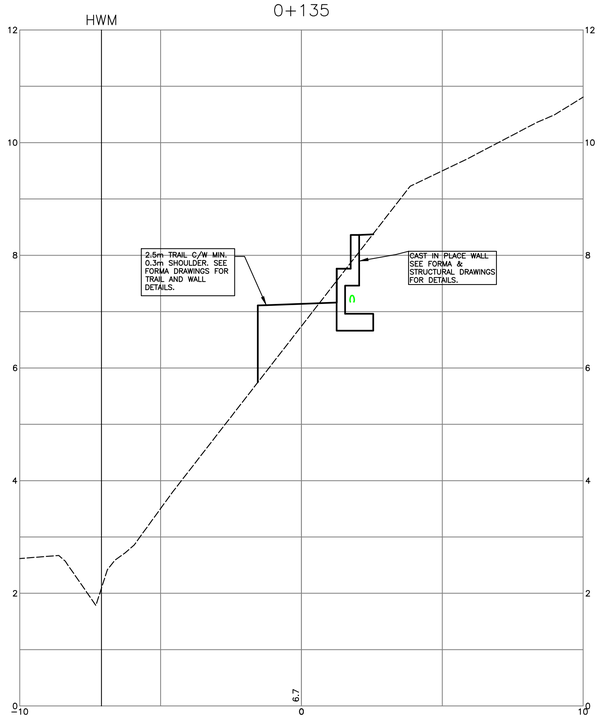

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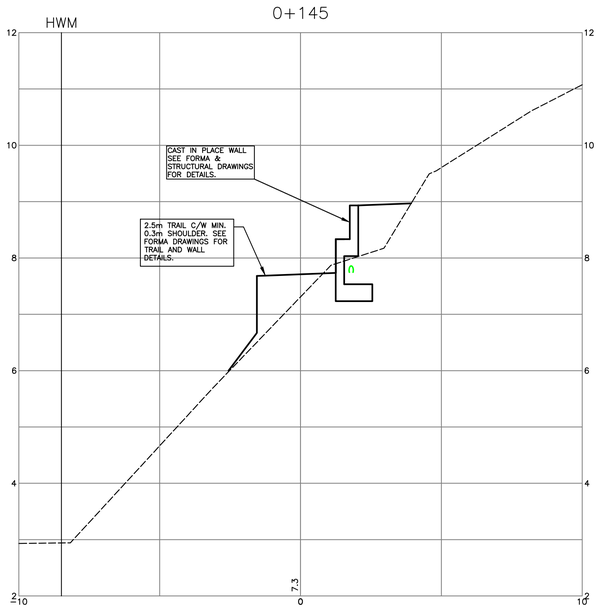

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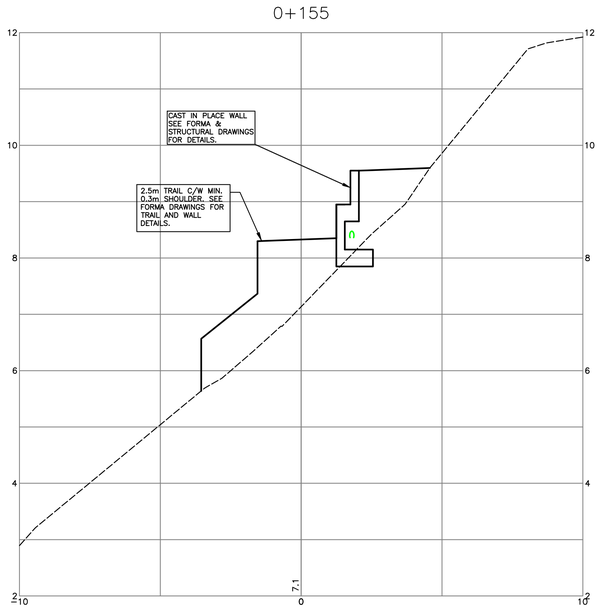

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approved

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drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: CROSS SECTIONS
TRAIL

scales hor:	1:100 vert: 1:50
file no.	09105
drawing no.	DF 8738
rev.	4

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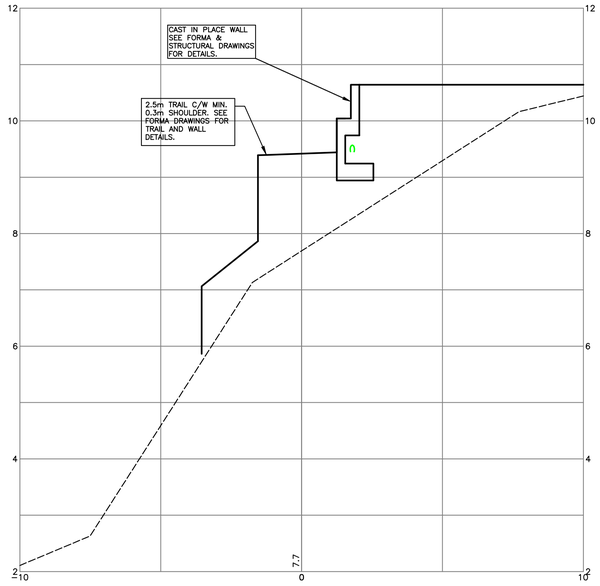

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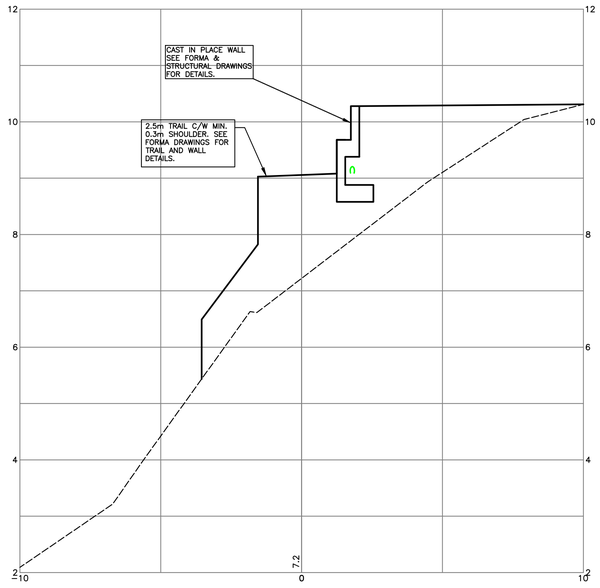

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TRAIL

scales	hor: 1:100 vert: 1:50
file no.	09105
drawing no.	DF 8739
rev.	4

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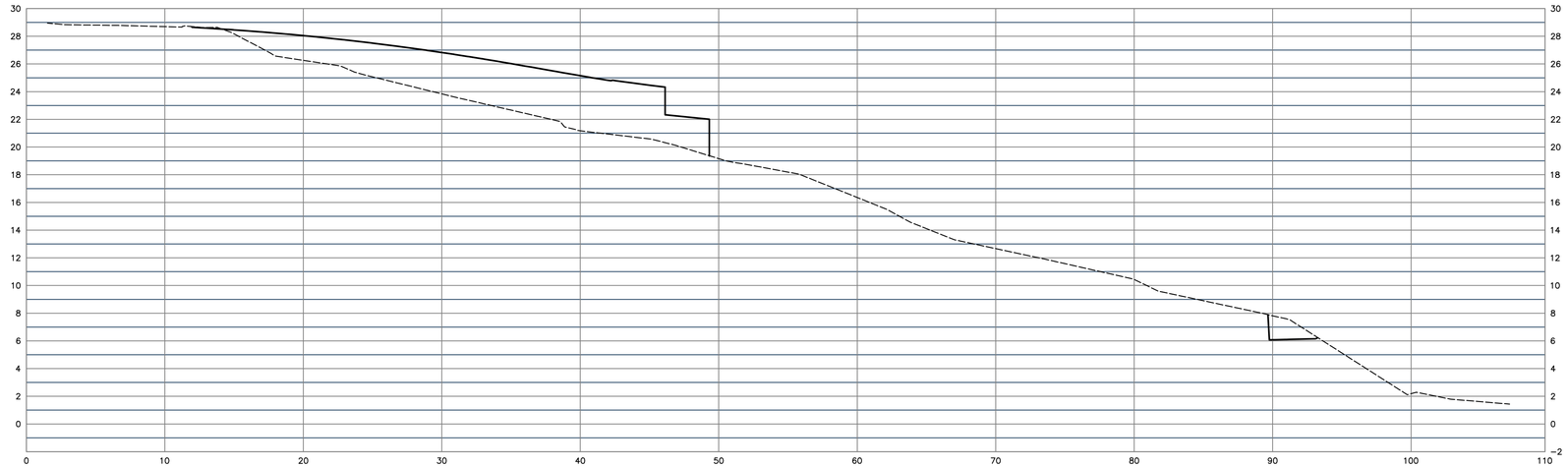

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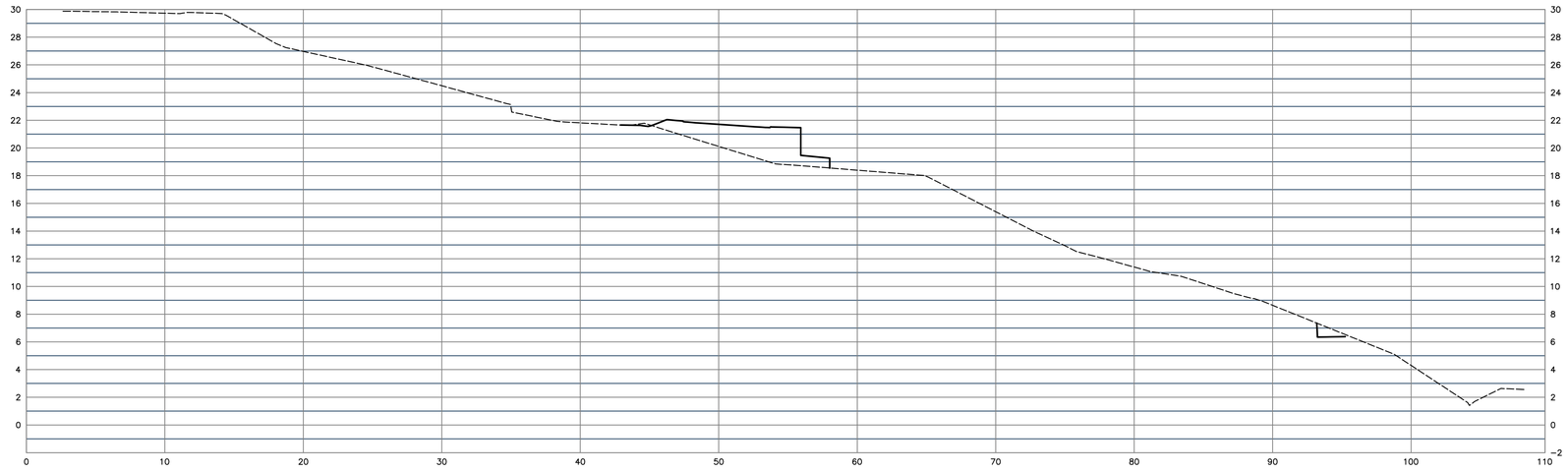

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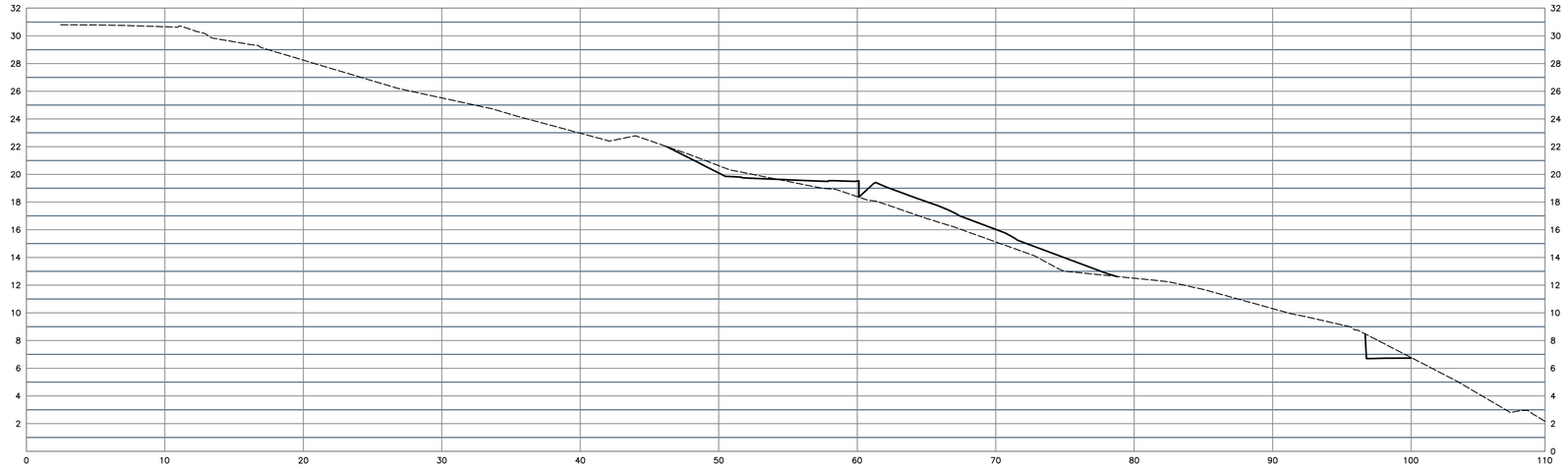

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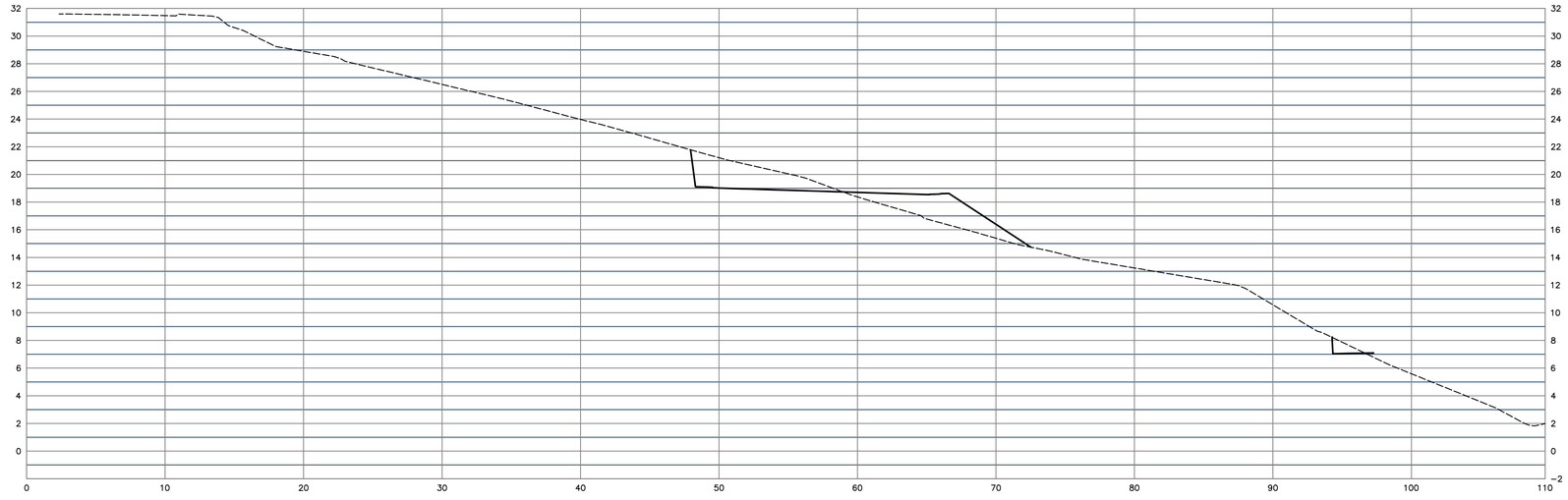
drawn by D.K.D.
checked by R.A.W.
date JAN.15.09

title: SITE SECTIONS

scales hor: 1:200 vert: 1:200
file no. 09105
drawing no. DF 8740
rev. 3

SECT D–D



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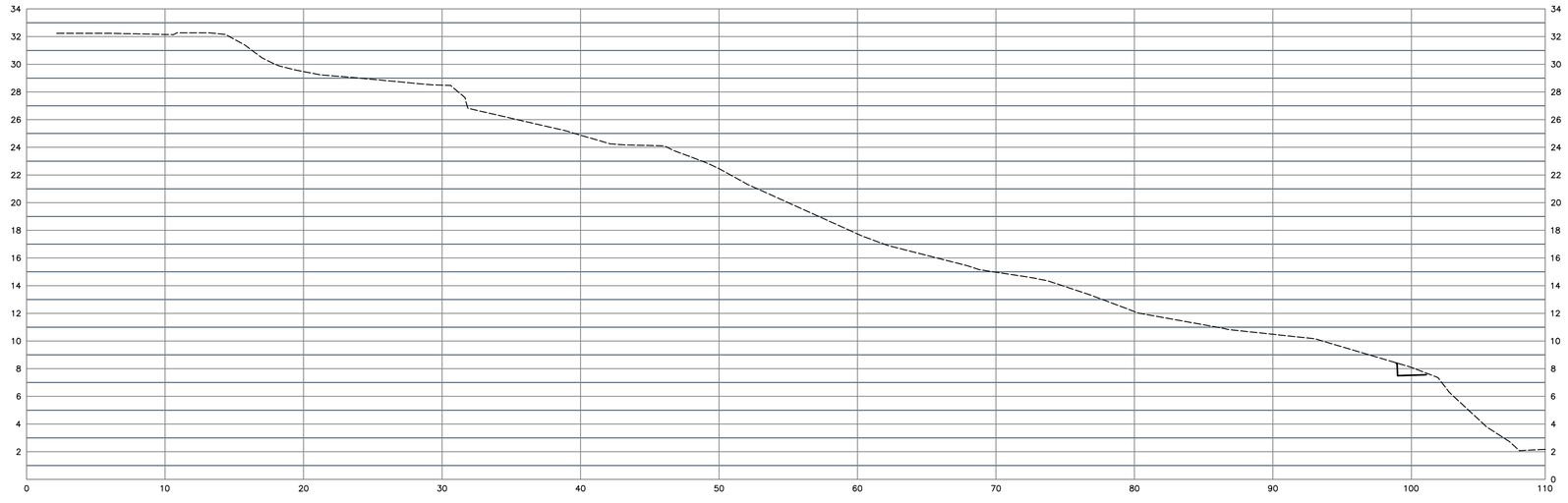

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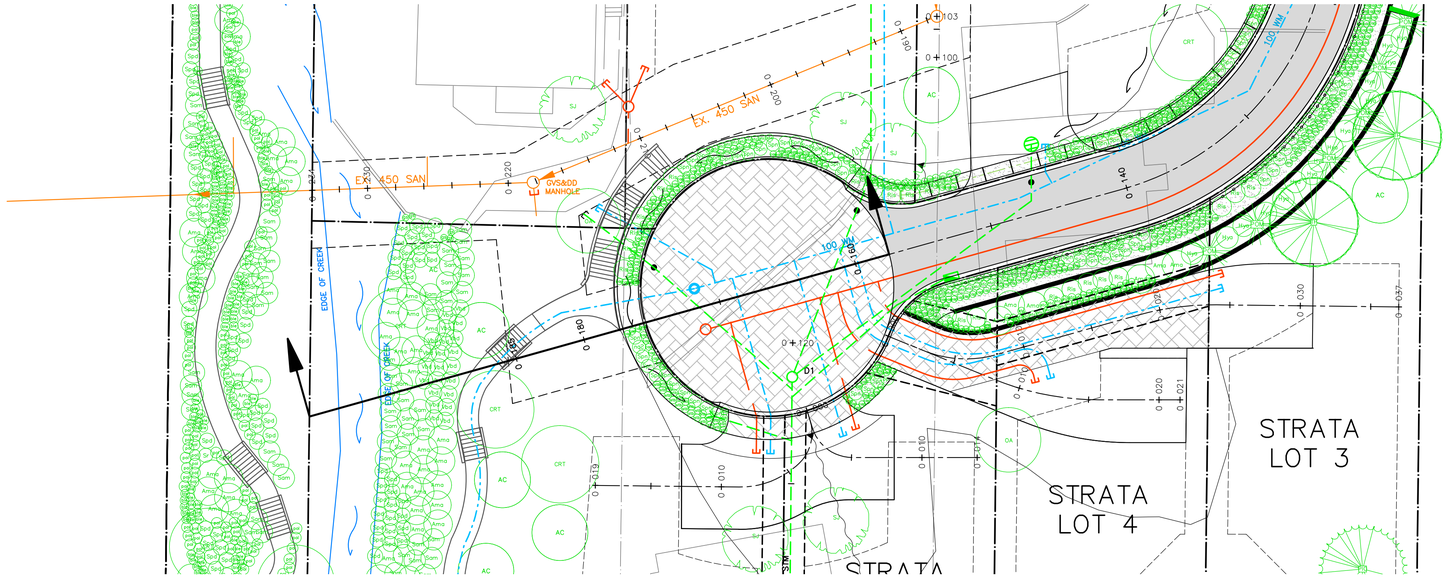
approved

designed by	F.M.C.
drawn by	D.K.D.
checked by	R.A.W.
date	JAN.15.09

title: SITE SECTIONS

scales	hor: 1:200 vert: 1:200
file no.	09105
drawing no.	DF 8741
rev.	3



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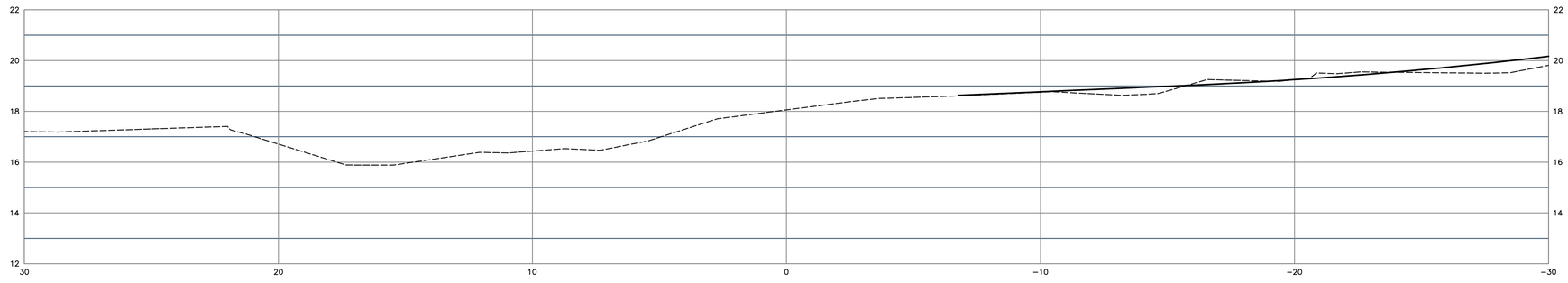

SWALE SECTION
SCALE 1:100

HOME

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client: NICK EBRAHIM

project: 3707 DOLLARTON HIGHWAY
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