

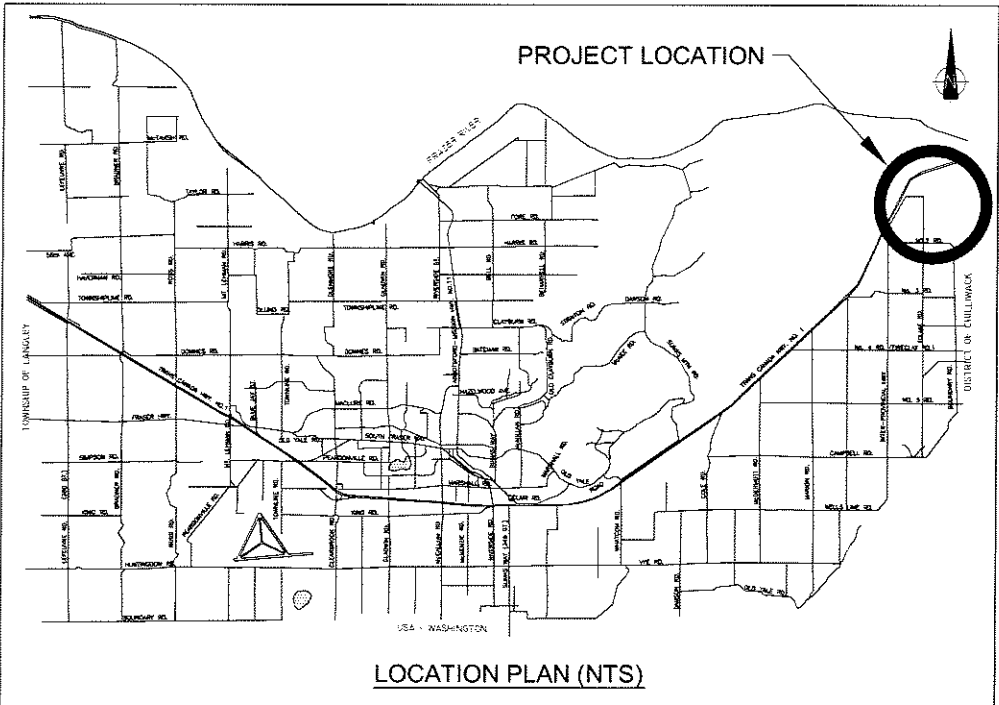
SYMBOL LEGEND

LINETYPE LEGEND

SYMBOL LEGEND	LINEWEIGHTS (EXCEPT AS NOTED)		EXISTING 0.130		PROPOSED 0.400	
	EXISTING	PROPOSED	EXISTING	PROPOSED	EXISTING	PROPOSED
BARRIER			BASELINE			
BUILDING			BREAK LINE			
BUS STOP			TRAFFIC CONDUIT			
CULVERT			CREEK BOTTOM			
CONCRETE HATCHING			CREEK CENTERLINE			
CATCH BASIN			CREEK TOP			
DRAIN CLEANOUT			CROWN OF ROAD			
DRAINAGE MANHOLE			DITCH BOTTOM			
DRAIN WELL			DITCH CENTERLINE			
GAS VALVE			DITCH TOP			
GRAVEL HATCHING			DRIVEWAY			
ORNAMENTAL LIGHT			EASEMENT/R.O.W.			
HYDRO GUY WIRE			FENCE CHAINLINK			
HYDRO JUNCTION BOX			FENCE WOOD			
HYDRO MANHOLE			GAS MAIN			
HYDRO POLE			GUTTERLINE			
HYDRO POLE WITH LIGHT			HYDRO DUCT			
IRON PIN			LANE MARKING			
LAMP STANDARD			STREET LIGHTING			
KIOSK			PAVEMENT EDGE			
MAILBOX			PROPERTY LINE			
PARK BENCH			RAILWAY TRACKS			
SANITARY CLEANOUT			ROAD R/W			
SANITARY MANHOLE			SANITARY MAIN			
SPOT ELEV.			SIDEWALK EDGE			
STAIRS			SLOPE BOTTOM			
TEST HOLE			SLOPE TOP			
TRAFFIC SIGN			STORM MAIN			
SURVEY HUB			TEL DUCT			
SURVEY MONUMENT			WATER MAIN			
SURVEY LEAD PLUG						
TEL GUY WIRE						
TEL MANHOLE						
TEL POLE						
TRAFFIC SIGNAL POLE						
TRAFFIC SIGNAL POST						
CONIFEROUS TREE						
DECIDUIOUS TREE						
GARDEN						
HEDGE						
LAWN						
SHRUB						
FIRE HYDRANT						
WATER AIR RELEASE VALVE						
WATER BLOWOFF						
WATER METER BOX						
WATER MANHOLE						
WATER STANDPIPE						
WATER VALVE						
WHEEL CHAIR DROP						
WALL						

TEXT DETAILS
(PAPERSPACE LAYOUT SIZE)

HEIGHT (mm)	EXISTING LINEWEIGHT	PROPOSED LINEWEIGHT
SMALL	1.8	0.150
MEDIUM	2.5	0.150
LARGE	5.0	0.600



DRAWING INDEX

SHEET NO.	DRAWING NO.	DRAWING DISCIPLINE	DRAWING TITLE
1	D-885	DYKING	KEYPLAN
2	D-885	DYKING	PLAN & PROFILE
3	D-885	DYKING	PLAN & PROFILE
4	D-885	DYKING	PLAN & PROFILE
5	D-885	DYKING	PLAN & PROFILE
6	D-885	DYKING	PLAN & PROFILE
7	D-885	DYKING	PLAN & PROFILE
8	D-885	DYKING	CROSS SECTION
9	D-885	DYKING	CROSS SECTION
10	D-885	DYKING	CROSS SECTION
11	D-885	DYKING	CROSS SECTION

KEY PLAN (NTS)



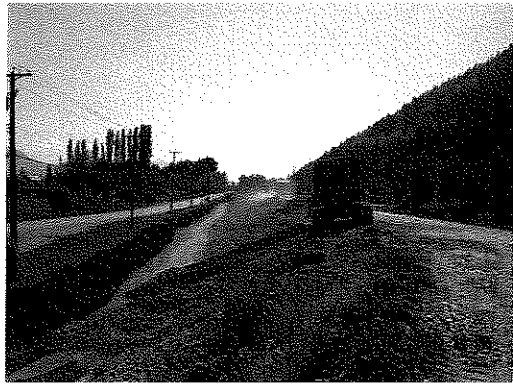
ABBOTSFORD

2007 - VEDDER DYKE UPGRADE
BARROWTOWN TO KEITH WILSON

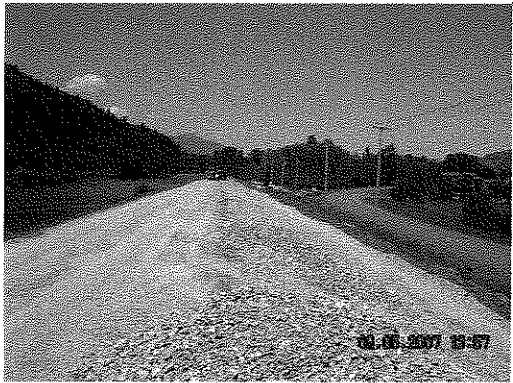
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COVER SHEET REV. 2006-05-16



73+00 WIDENING BASE



76+00 WIDENING BASE



79+00 WIDENING BASE



48+00 STRIPPING



67+50 WIDENING BASE



57+00 WIDENING BASE



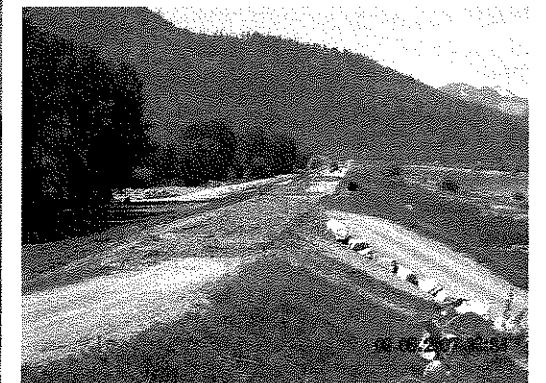
46+00 WIDENING BASE



51+00 DUMPING BASE MATERIAL



51+00 DUMPING BASE MATERIAL



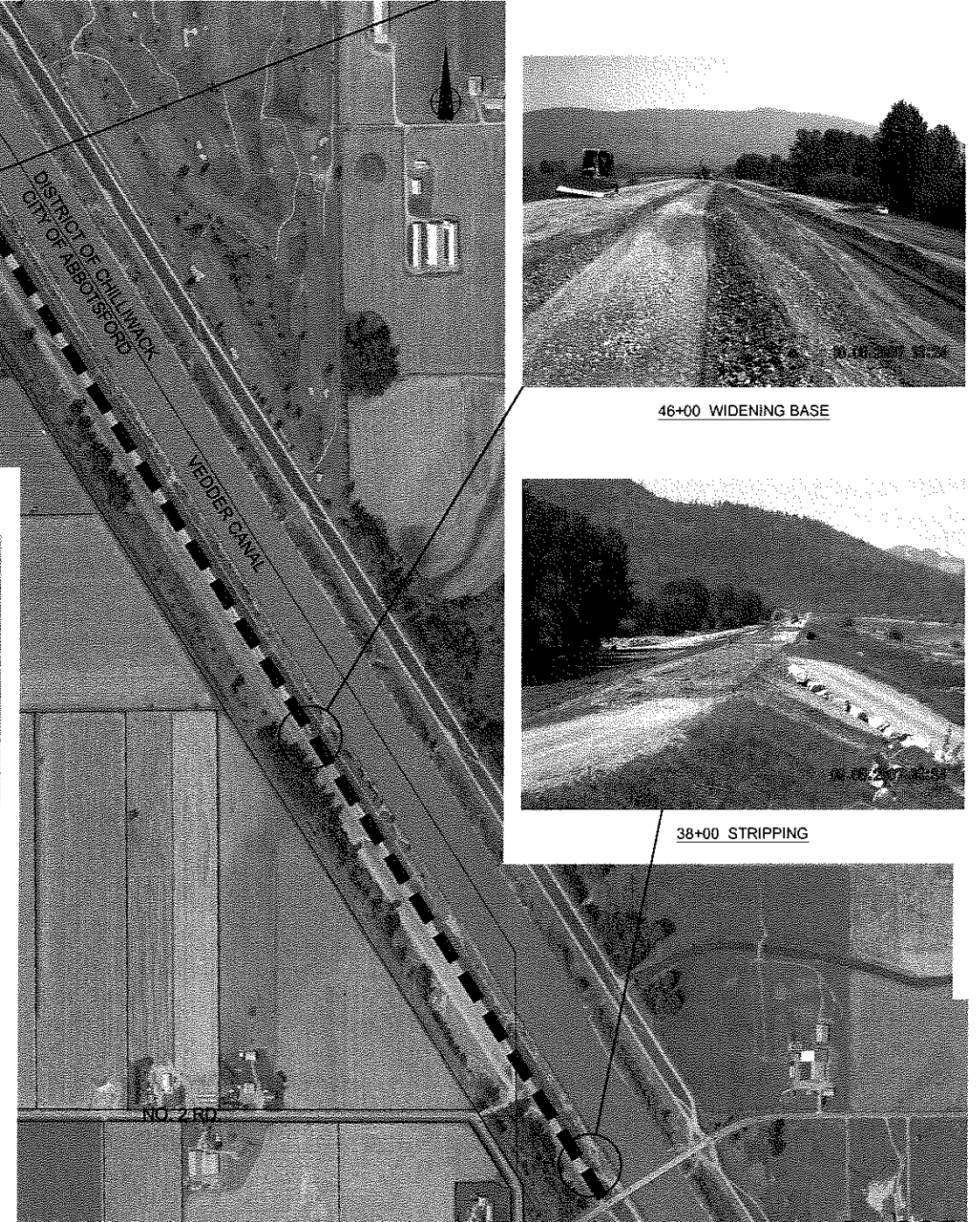
38+00 STRIPPING



41+50 STRIPPING



50+00 PLACING BASE MATERIAL



GRID NO. H17 SHEET NO. 1 OF 11 DRWG. NO. D-885

AERIAL PHOTO FLOWN:
MAY 11, 2007

LOCATION FOR GAS, ELECTRICAL, TEL, & CABLE
UTILITIES TO BE VERIFIED

NO.	DATE	BY	REVISIONS	TECH. ENG.
1.	JULY 2007	MR	AS-BUILT	JL

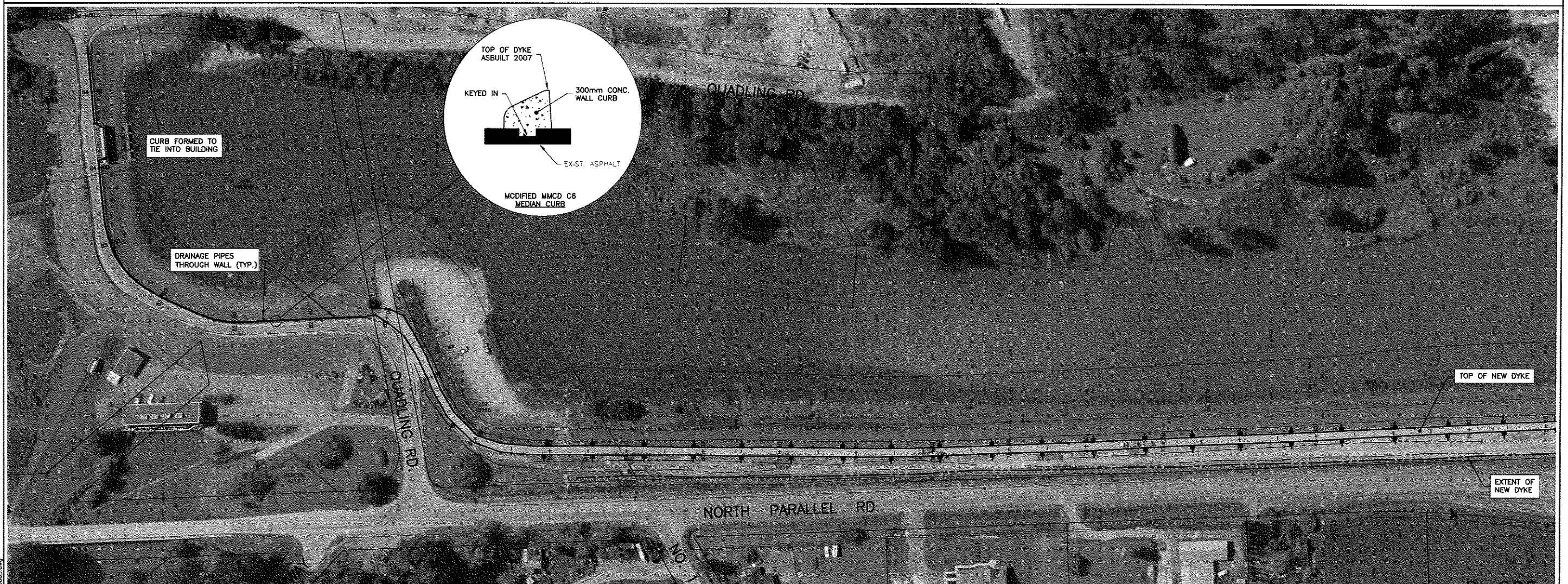
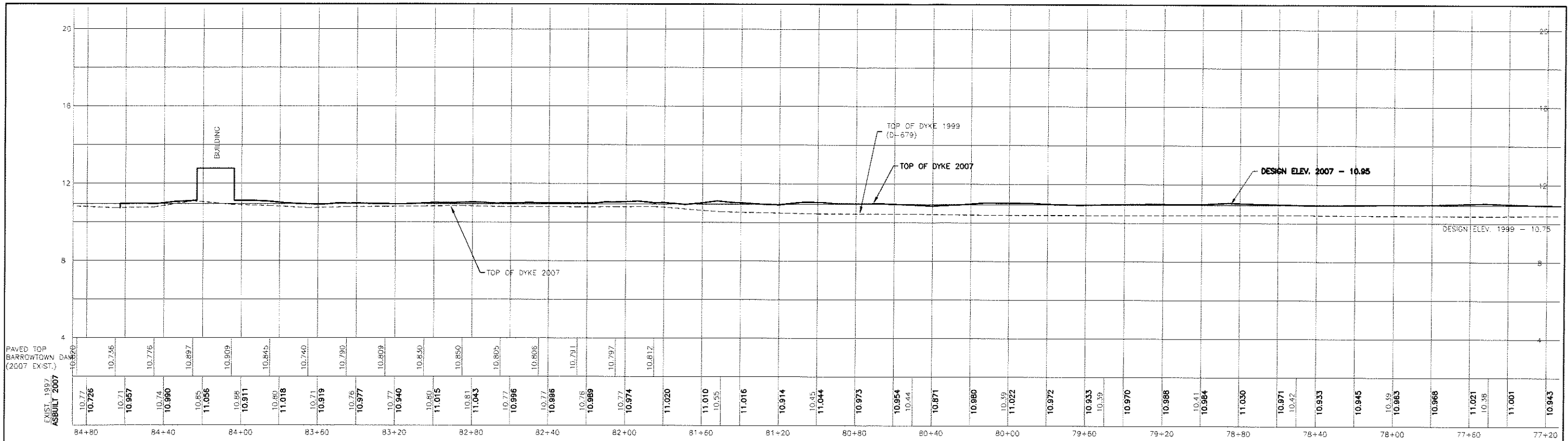
GOLDER ASSOCIATES LTD. CITY OF ABBOTSFORD

DATE	2007 09 04
DRAWN	MR
DESIGN	JL
WORK ORDER NO.	403485

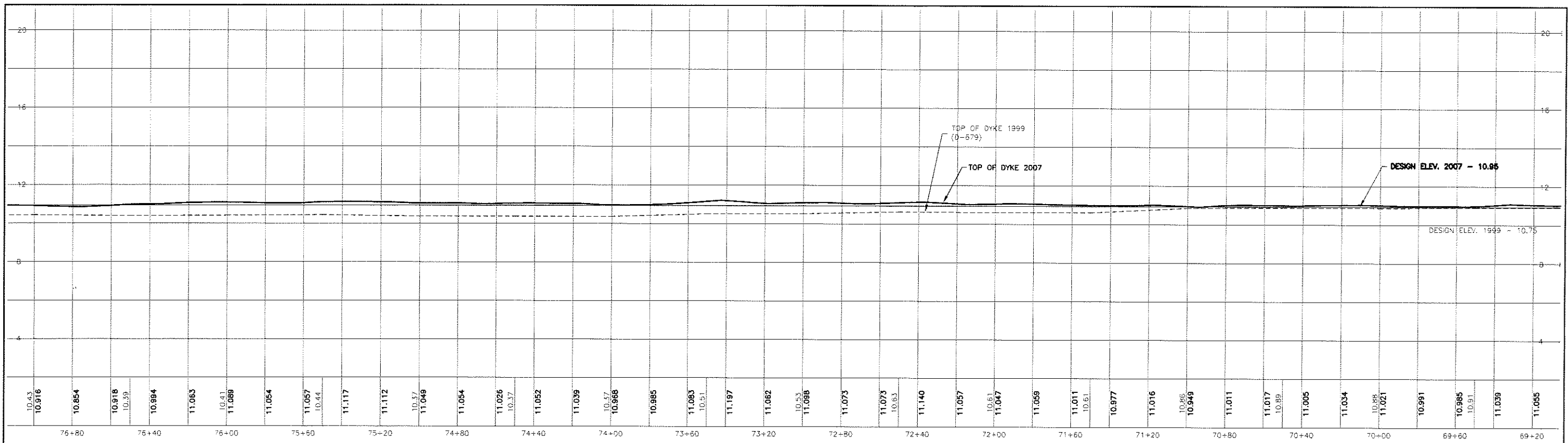
SURVEY JOB NO.	07-061
SURVEYCREW	RB/RG
SCALE	1 : 5000
VERT.	



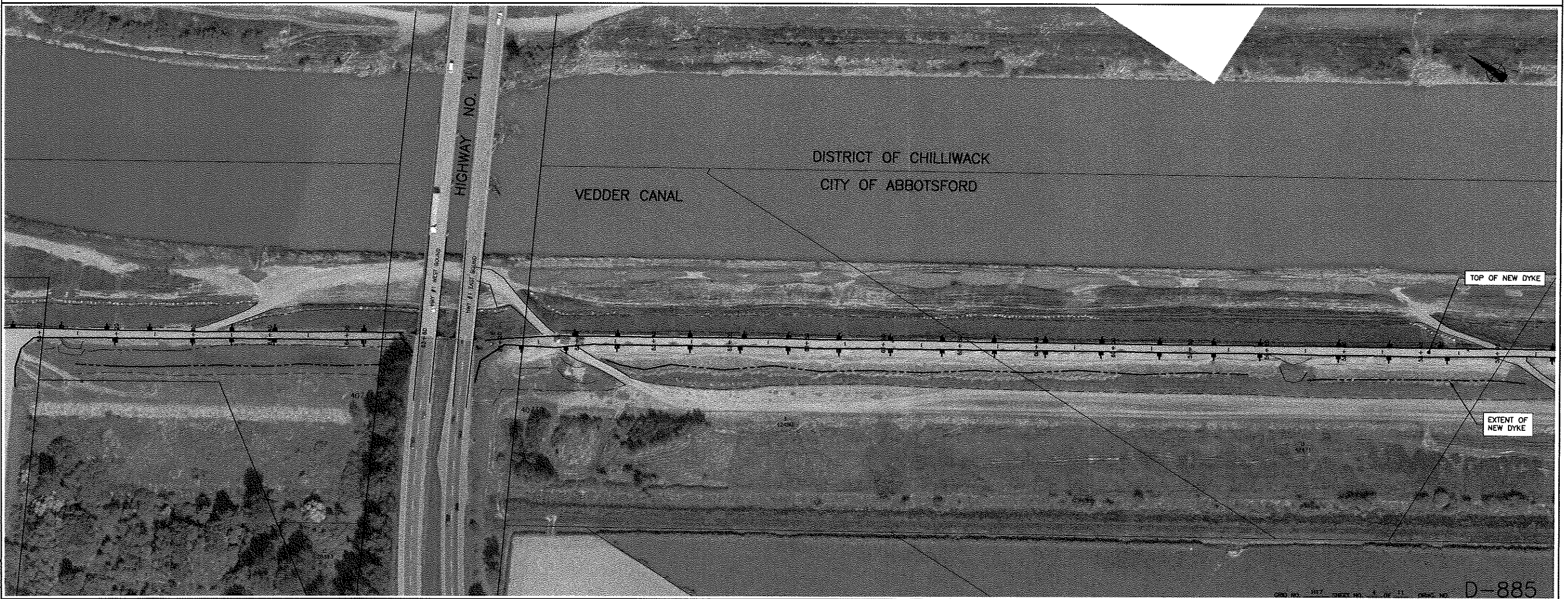
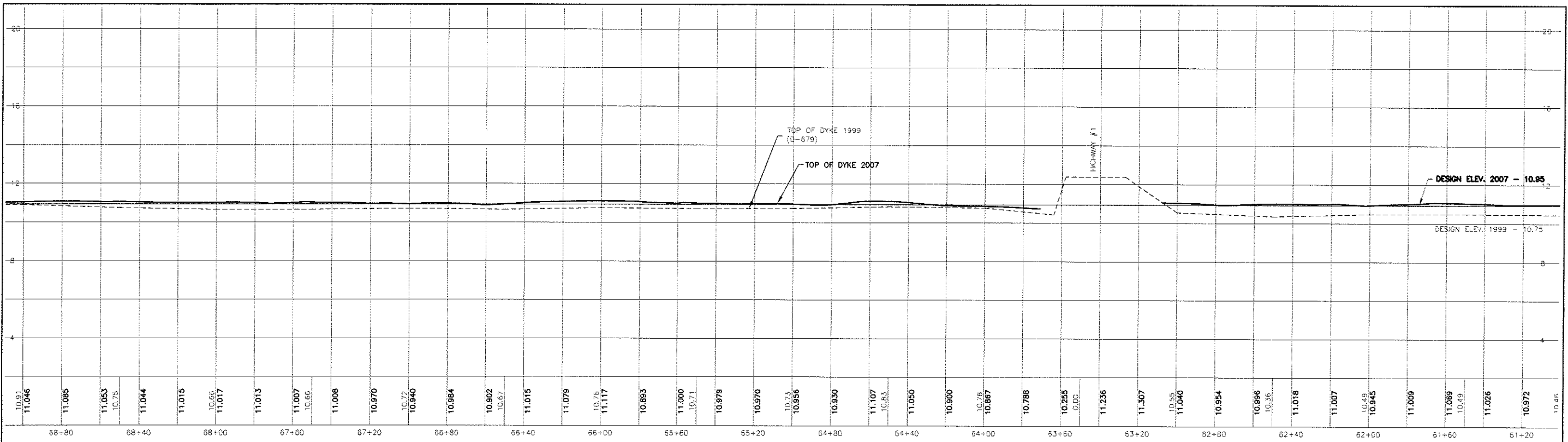
VEDDER DYKE
BARROWTOWN TO KEITH WILSON RD.
2007 DYKE UPGRADE - KEYPLAN



AERIAL PHOTO FLOWN: MAY 11, 2007		GOLDER ASSOCIATES LTD.		CITY OF ABBOTSFORD		DATE 2007 09 04		SURVEY JOB NO. 07-061		GRID NO. H17 SHEET NO. 2 OF 11 DRWG. NO. D-885	
LOCATION FOR GAS, ELECTRICAL, TEL. & CABLE UTILITIES TO BE VERIFIED						DRAWN MR		SURVEYCREW RB/RG		SCALE 1:1000	
1. JULY 2007 MR AS-BUILT						DESIGN JL		HOR. 1:1000		VERT. 1:100	
NO. DATE BY REVISIONS						WORK ORDER NO. 403485		VERT. 1:100		ABBOTSFORD	
										VEDDER DYKE BARROWTOWN TO KEITH WILSON RD. 2007 DYKE UPGRADE	



AERIAL PHOTO FLOWN: MAY 11, 2007		GOLDER ASSOCIATES LTD.		CITY OF ABBOTSFORD	DATE: 2007 09 04	SURVEY JOB NO. 07-061		GRID NO. H17 SHEET NO. 3 OF 11 DRWG. NO. D-885											
LOCATION FOR GAS, ELECTRICAL, TEL. & CABLE UTILITIES TO BE VERIFIED					DRAWN: MR	SURVEYCREW: RB/RG		VEDDER DYKE BARROWTOWN TO KEITH WILSON RD. 2007 DYKE UPGRADE											
					DESIGN: JL	SCALE: 1:1000													
					WORK ORDER NO. 403485	VERT. SCALE: 1:100													
		<table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>BY</th> <th>REVISIONS</th> <th>TECH. ENG.</th> </tr> <tr> <td>1.</td> <td>JULY 2007</td> <td>MR</td> <td>AS-BUILT</td> <td>JL</td> </tr> </table>		NO.	DATE	BY	REVISIONS	TECH. ENG.	1.	JULY 2007	MR	AS-BUILT	JL						
NO.	DATE	BY	REVISIONS	TECH. ENG.															
1.	JULY 2007	MR	AS-BUILT	JL															



AERIAL PHOTO FLOWN:
MAY 11, 2007

LOCATION FOR GAS, ELECTRICAL, TEL, & CABLE
UTILITIES TO BE VERIFIED

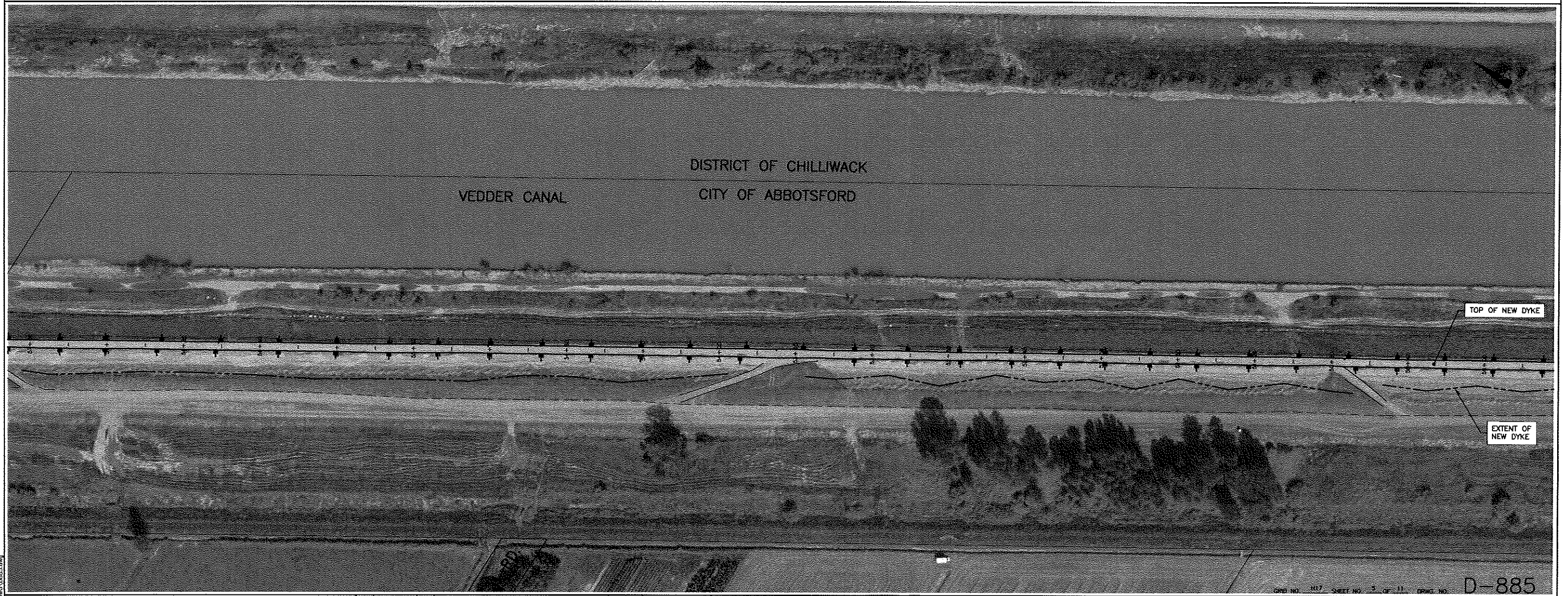
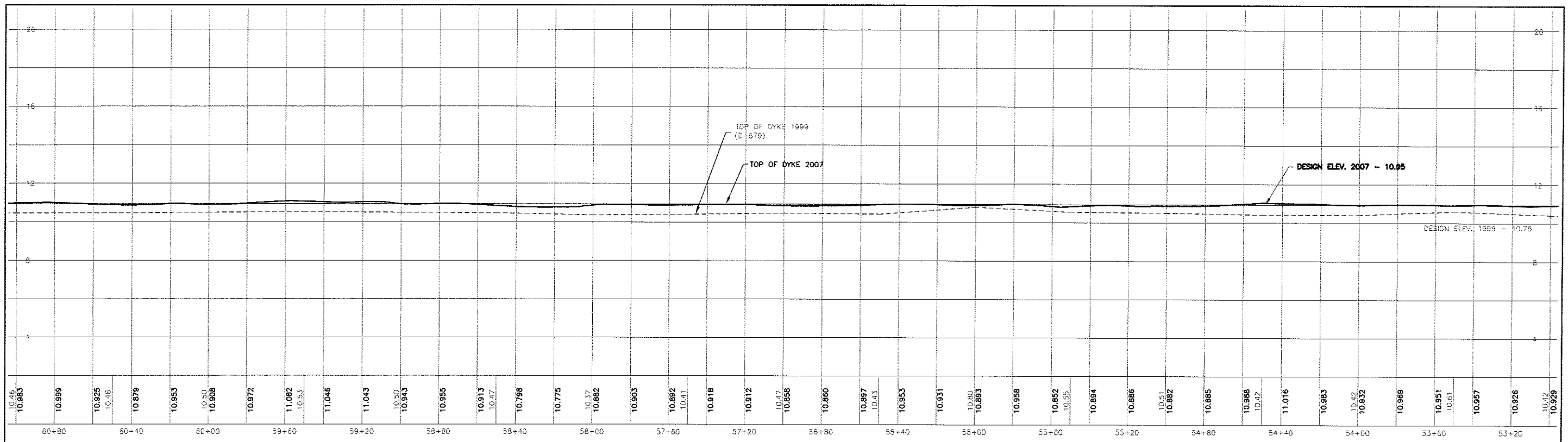
1.	JULY 2007	MR	AS-BUILT	JL
NO.	DATE	BY	REVISIONS	TECH ENG

GOLDER ASSOCIATES LTD.	CITY OF ABBOTSFORD	DATE	2007 09 04	SURVEY JOB NO.	07-061
		DRAWN	MR	SURVEYCREW	RB/RG
		DESIGN	JL	SCALE	HOR. 1 : 1000
		WORK ORDER NO.	403485	VERT.	1 : 100



VEDDER DYKE
BARROWTOWN TO KEITH WILSON RD.
2007 DYKE UPGRADE

D-885



DISTRICT OF CHILLIWACK
CITY OF ABBOTSFORD

VEDDER CANAL

TOP OF NEW DYKE

EXTENT OF NEW DYKE

GRID NO. H17 SHEET NO. 3 OF 11 DRAWING NO. D-885

AERIAL PHOTO FLOWN:
MAY 11, 2007

LOCATION FOR GAS, ELECTRICAL, TEL. & CABLE
UTILITIES TO BE VERIFIED

NO.	DATE	BY	REVISIONS	TECH/ENG.
1.	JULY 2007	MR	AS-BUILT	JL

GOLDER ASSOCIATES
LTD.

CITY OF ABBOTSFORD

DATE 2007 09 04

SURVEY JOB NO. 07-061

DRAWN MR

SURVEYCREW RB/RG

DESIGN JL

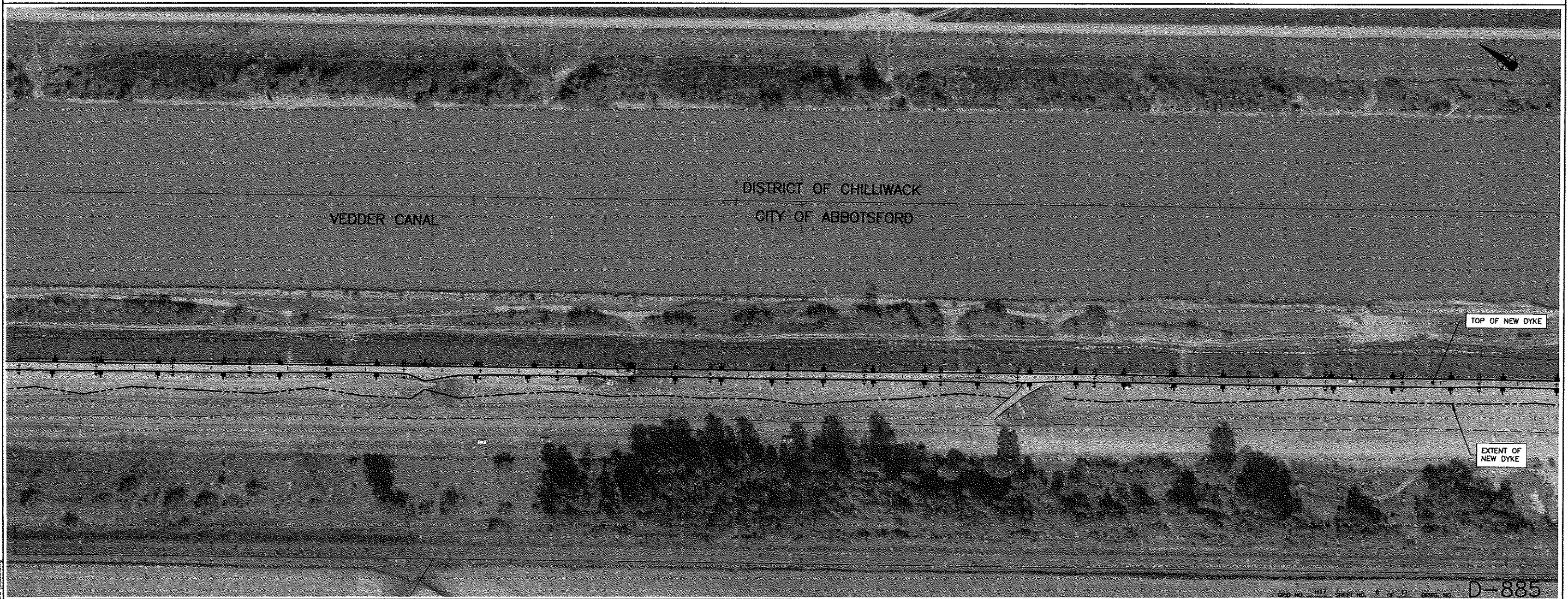
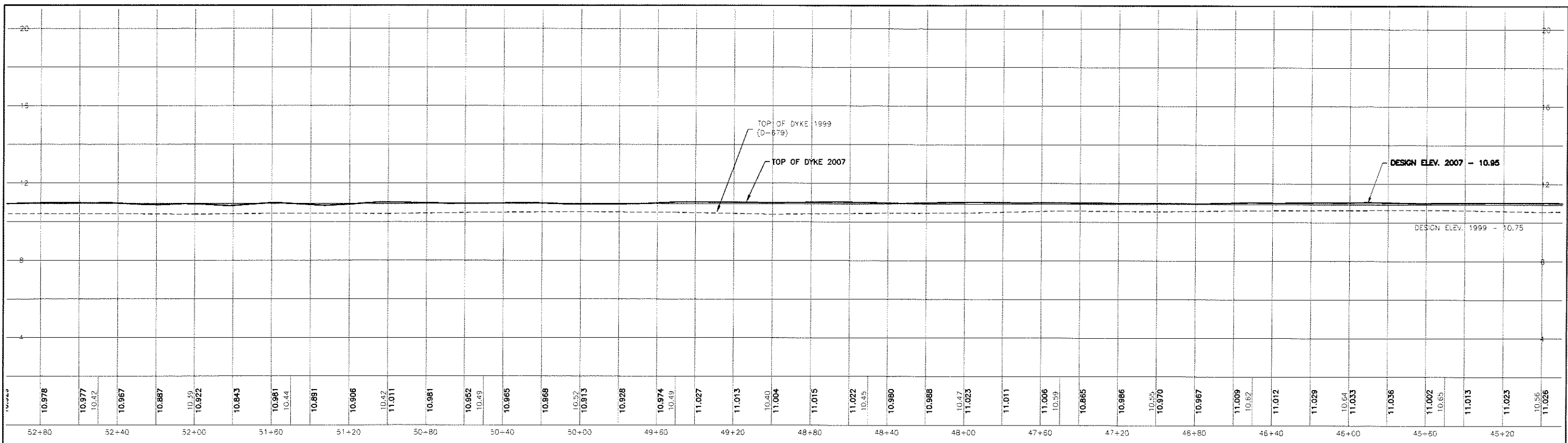
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WORK ORDER NO. 403485

HOR. 1 : 1000
VERT. 1 : 100

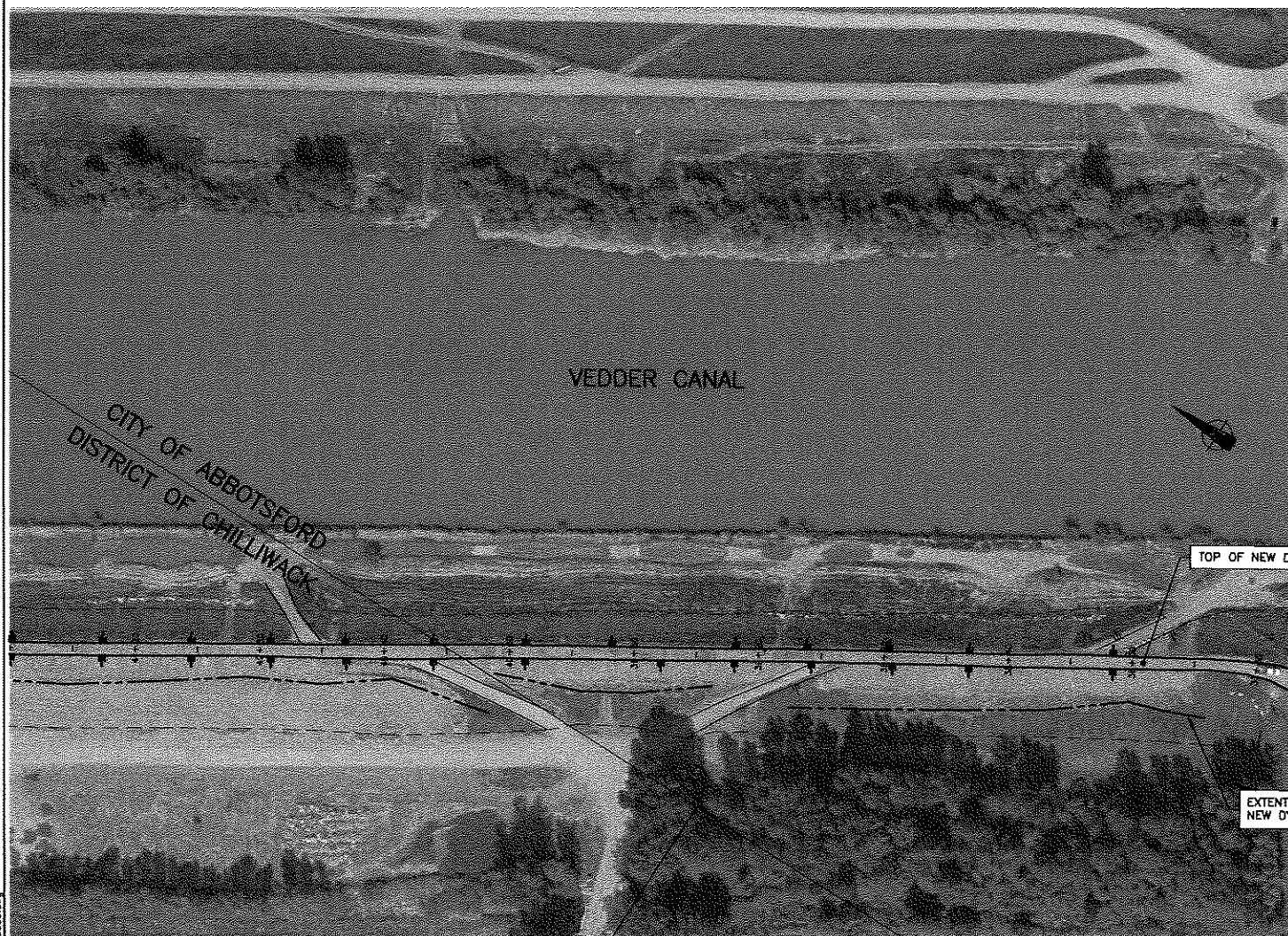
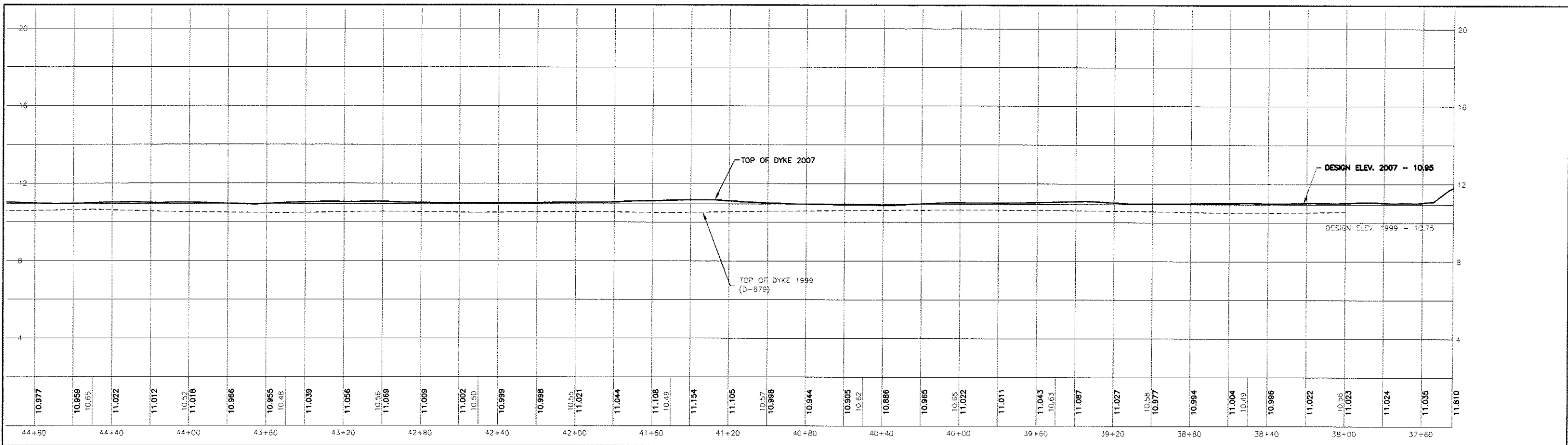


VEDDER DYKE
BARROWTOWN TO KEITH WILSON RD.
2007 DYKE UPGRADE



AERIAL PHOTO FLOWN: MAY 11, 2007 LOCATION FOR GAS, ELECTRICAL, TEL, & CABLE UTILITIES TO BE VERIFIED	<table border="1"> <tr><td>NO.</td><td>DATE</td><td>BY</td><td>REVISIONS</td></tr> <tr><td>1.</td><td>JULY 2007</td><td>MR</td><td>AS-BUILT</td></tr> </table>	NO.	DATE	BY	REVISIONS	1.	JULY 2007	MR	AS-BUILT	GOLDER ASSOCIATES LTD. CITY OF ABBOTSFORD	DATE 2007 09 04 DRAWN MR DESIGN JL WORK ORDER NO. 403485	SURVEY JOB NO. 07-061 SURVEYCREW RB/RG SCALE HOR. 1 : 1000 VERT. 1 : 100		VEDDER DYKE BARROWTOWN TO KEITH WILSON RD. 2007 DYKE UPGRADE
NO.	DATE	BY	REVISIONS											
1.	JULY 2007	MR	AS-BUILT											

D-885



TECHNICAL MEMORANDUM

Golder Associates Ltd.
 600-278 Steeles East
 Abbotsford, B.C., Canada V2T 4J8
 Telephone: 604-850-8756
 Fax: 604-850-8754

To: Paul Blaker, P.Eng., City of Abbotsford
From: Brian Mylchreest, P.Eng., Golder Associates Ltd.
Re: PROPOSED DESIGN AND CONSTRUCTION METHODOLOGY VEDDER DIKE UPGRADES FOR 2007 FRESHET ABBOTSFORD, B.C.

Date: April 16, 2007
Job No.: 07-1459-0029-0020

The Technical Memorandum outlines the proposed design and construction methodology for the upgrade to the existing Vedder dike within the City of Abbotsford, British Columbia on the west side of Vedder Canal from the Barrowtown Pump Station to Keith Wilson Bridge in anticipation of the 2007 Freshet.

1.0 DESIGN CONSIDERATIONS

It is understood that the existing Vedder dike used to be upgraded and raised by about 0.55 m to meet the new flood elevations in anticipation of the 2007 Freshet. It is also understood that the existing dike was originally constructed with a low permeability core. A review of information contained in Drawing No. 4844-5, sheets 1 and 6 to 9 inclusive indicates that the side slopes on the existing dike, near the crest of dike, were constructed to 2.5 Horizontal to 1 Vertical on the river side and 3 Horizontal to 1 Vertical on the land side. A visual inspection of the existing dike was carried out on April 4, 2007.

Due to the urgency of this project and the compressed timeline in which it must be completed, no provision has been made for any site-specific investigations including test hole and/or detailed analysis unless field observations warrant more detailed assessment in specific locations.

Given the compressed timeline available within which to complete the dike upgrade, it is proposed to implement the dike upgrade (raising the crest elevation and widening onto the existing side slopes) on the landside of the existing dike. This will minimize impacts to existing riparian slopes that require the need for further assessment and protection of newly placed fill slopes and minimize the potential for impacts to the adjacent sensitive riparian areas.

The gradation specifications for the proposed fill materials to be used in the dike upgrade is as follows:

Mr. Paul Blaker, P.Eng. - 2 - April 16, 2007 07-1459-0029

Diaphragm Designation	Percent Passing
75 mm	100
50 mm	70 - 100
25 mm	50 - 100
4.75 mm	25 - 100
2.36 mm	10 - 85
0.075 mm	5 - 10

The gradation specification outlined above was modified from the Master Municipal Specifications for Pit Run Gravel with an allowance for some additional fines. A fill material could be specified containing significantly more fines; however, compaction would be difficult to achieve in wet weather conditions which typically occur in early spring. If the weather conditions are favourable and suitable fill material containing more fines are available, such material will be used.

It is proposed to upgrade the existing dike such that the crest width is maintained at 3.0 m and the newly constructed side slopes are developed on steeper than 2.5 Horizontal to 1 Vertical on the land side of the dike where the widening upgrade will occur. The proposed 2.5 Horizontal to 1 Vertical slope over the top of the land side of the existing dike will minimize the widening footprint and prevent overtopping the existing dike blanket near the base of the existing dike slope. The attached Figure 1 illustrates the proposed dike upgrade concept.

2.0 SITE PREPARATION

Site preparation will include temporary removal (and reinstatement) of all fences, gates and the dike.

The soil and topsoil cover will be removed along the land side slopes of the existing dike and stockpiled adjacent to the work area for reinstatement following the dike upgrade work.

Mr. Paul Blaker, P.Eng. - 3 - April 16, 2007 07-1459-0029

3.0 CONSTRUCTION CONSIDERATIONS

Low height horizontal benches shall be cut into the existing side slopes to key the new fill widening into the existing fill side slopes. Excavation for the benches must not penetrate into the existing lower permeability core material.

The new dike fill materials shall be placed in loose lifts not exceeding 300 mm in thickness and compacted to at least 90 per cent of Modified Proctor maximum dry density (ASTM D1557). Proctor field density testing will be carried out by Golder Associates Ltd. to ensure that the density specification is achieved. The top rolling surface of the existing dike shall be scarified to a depth of 150 mm prior to placement of the initial lift of fill on top of the existing dike crest.

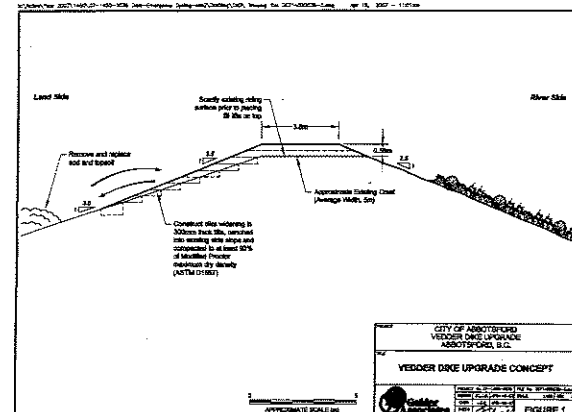
The side slopes of the new dike placed on the land side of the dike shall be developed on steeper than 2.5 Horizontal to 1 Vertical. The top of the dike shall be provided with a 2 per cent cross fall down towards the river side to prevent ponding of water on top of the dike crest.

The stockpiled soil and topsoil mixture shall be reinstated on the newly constructed side slopes along the land side of the dike and these slopes shall be revegetated with hydroseed or similar methods.

4.0 CONSTRUCTION MONITORING

Full-time construction monitoring will be carried out during construction including inspection of import fill materials and compaction testing. Daily records of site inspection and field density testing will be maintained.

Attachment
 BLM/MSL/2
 1/2007



NOTES:

METHOD OF SURVEY ASBUILT INFORMATION:
 CROSS SECTION EVERY 25m
 CROSS SECTION PLOTTED AT 200m INTERVAL
 PROFILE PLOTTED AT 20m INTERVAL

AERIAL PHOTO FLOWN:
 MAY 11, 2007

LOCATION FOR GAS, ELECTRICAL, TEL. & CABLE UTILITIES TO BE VERIFIED

NO.	DATE	BY	REVISIONS
1.	JULY 2007	MR AS-BUILT	

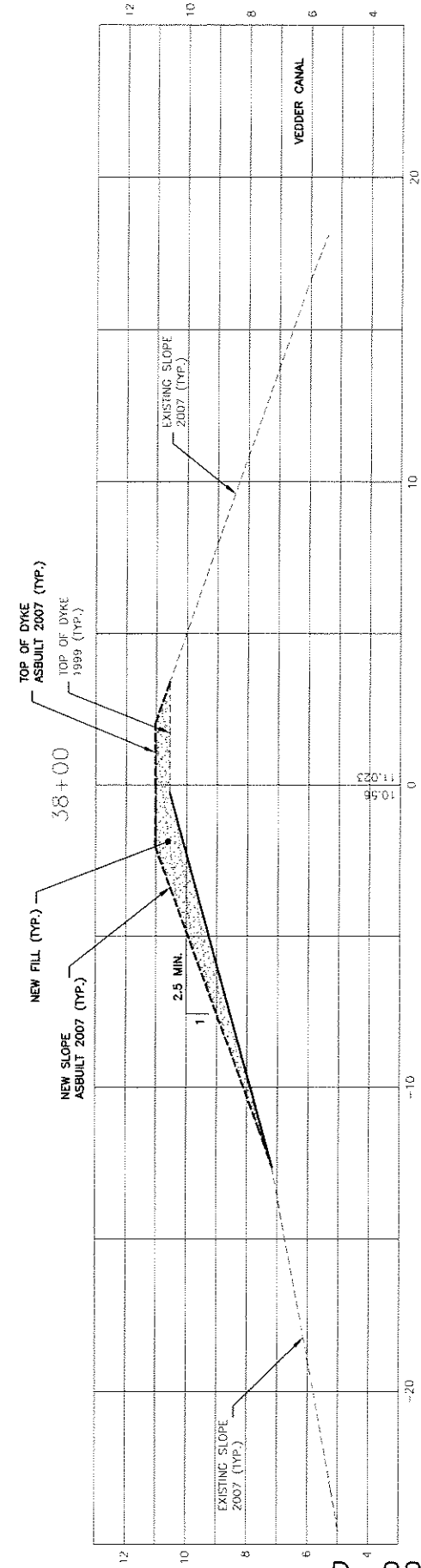
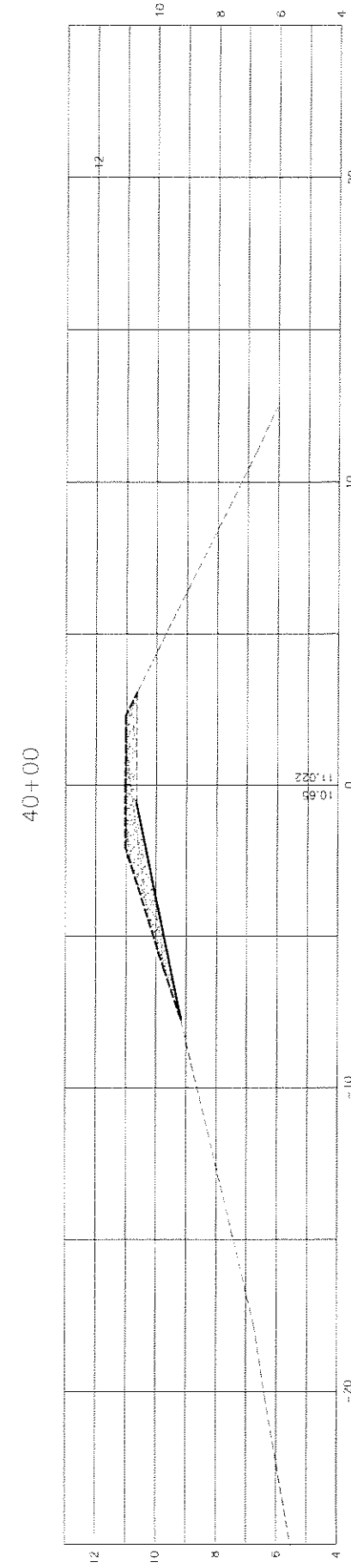
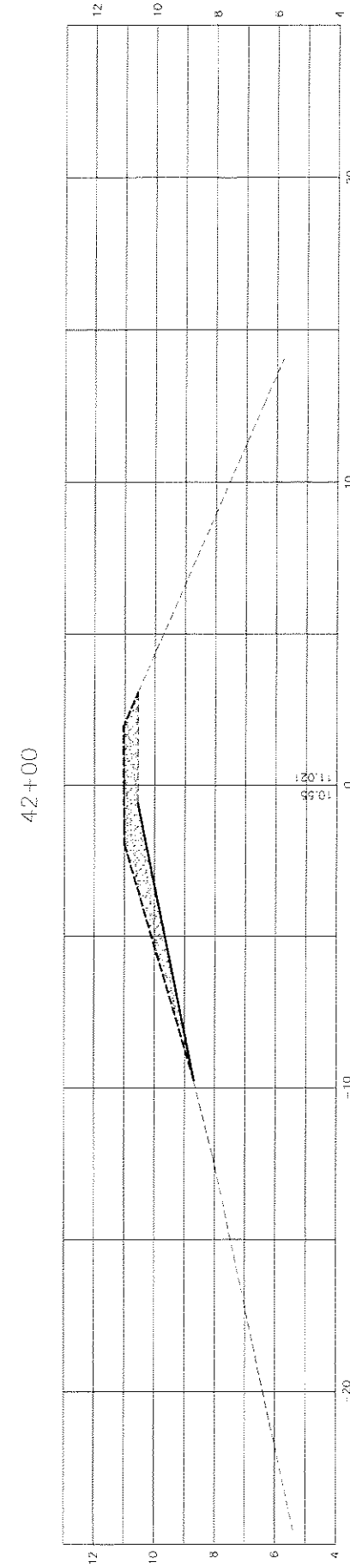
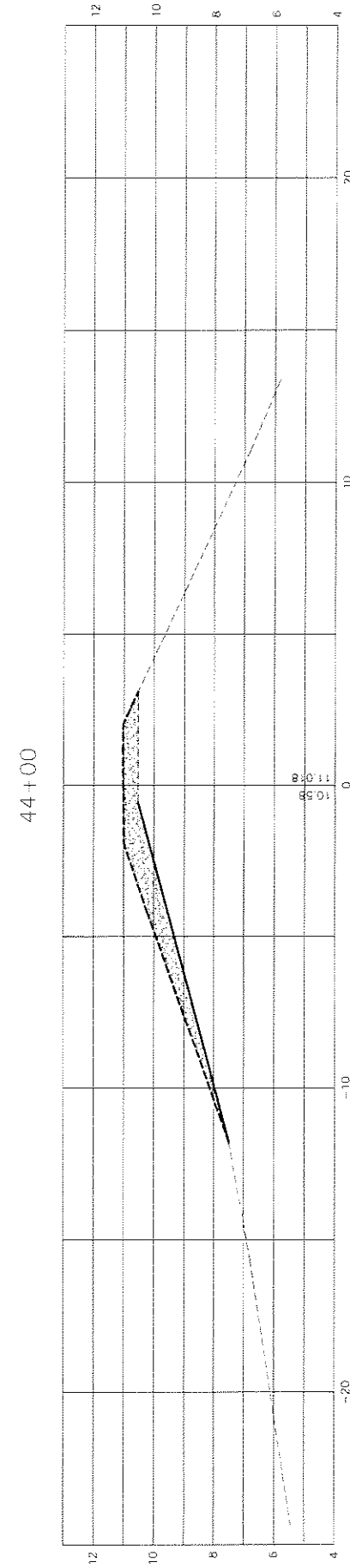
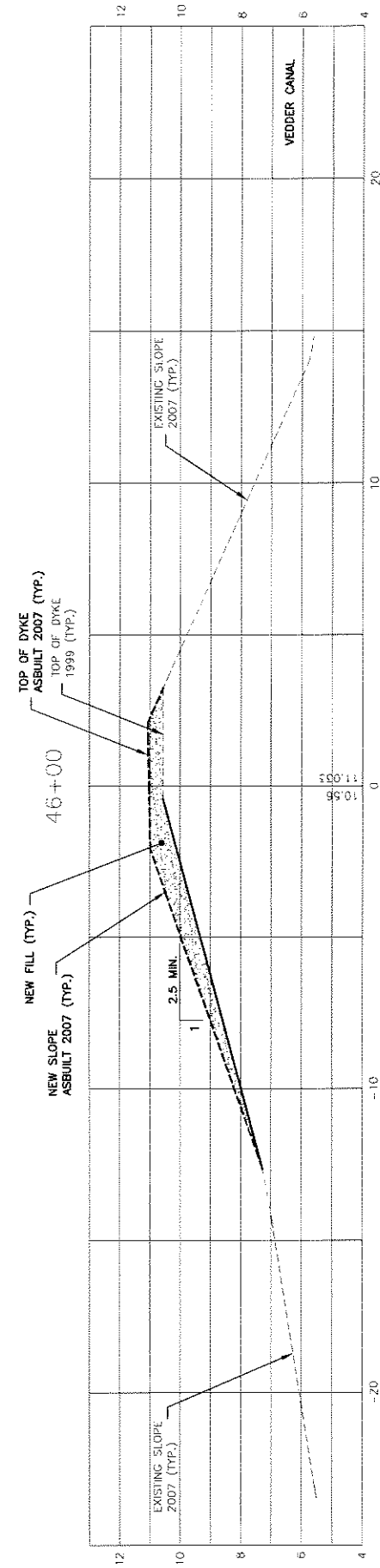
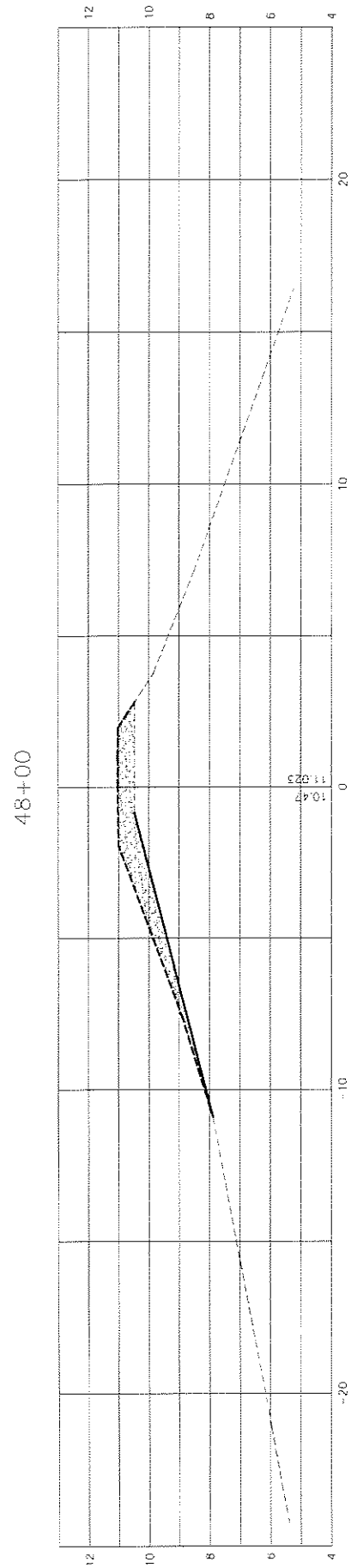
GOLDER ASSOCIATES LTD.
 CITY OF ABBOTSFORD

DATE: 2007 09 04
 SURVEY JOB NO. 07-061
 SURVEYCREW RB/RG
 DRAWN MR
 DESIGN JL
 WORK ORDER NO. 403485
 SCALE
 HOR. 1 : 1000
 VERT. 1 : 100



GRID NO. H17 SHEET NO. 7 OF 11 ERWG. NO. D-885

**VEDDER DIKE
 BARROWTOWN TO KEITH WILSON RD.
 2007 DYKE UPGRADE**



GRID NO. H17 SHEET NO. 8 OF 11 DRWG. NO. D-885

LOCATION FOR GAS, ELECTRICAL, TEL, & CABLE UTILITIES TO BE VERIFIED

NO.	DATE	BY	REVISIONS	TECH/ENG.
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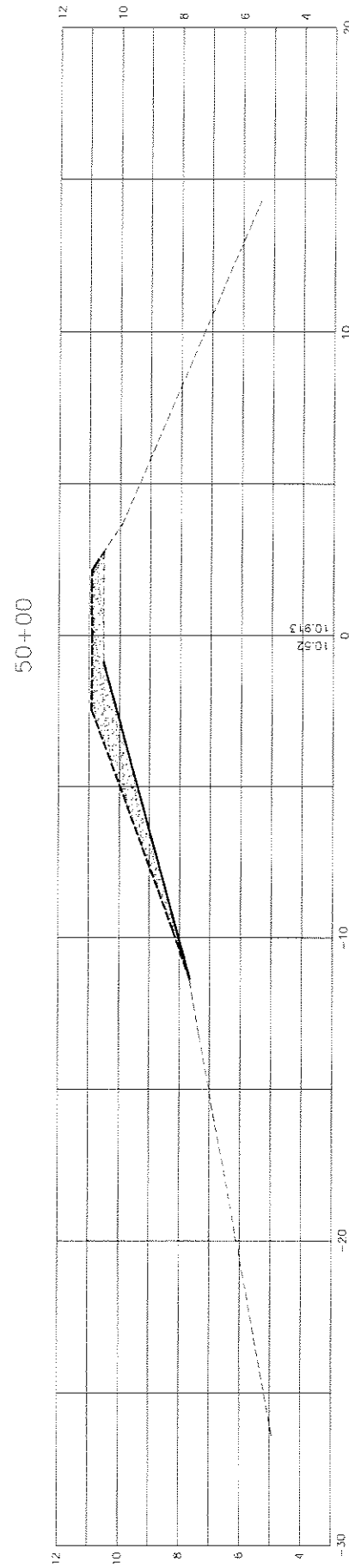
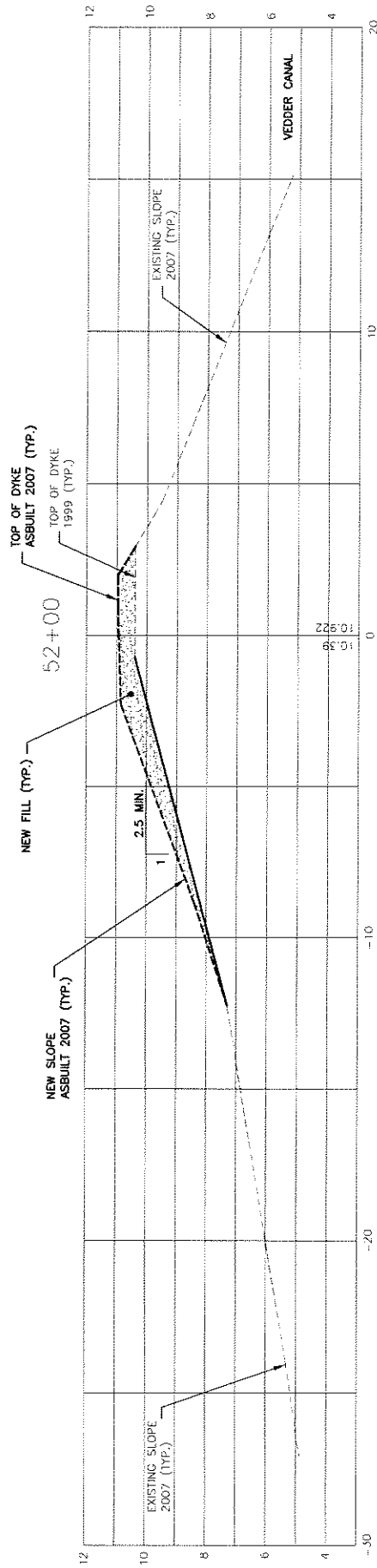
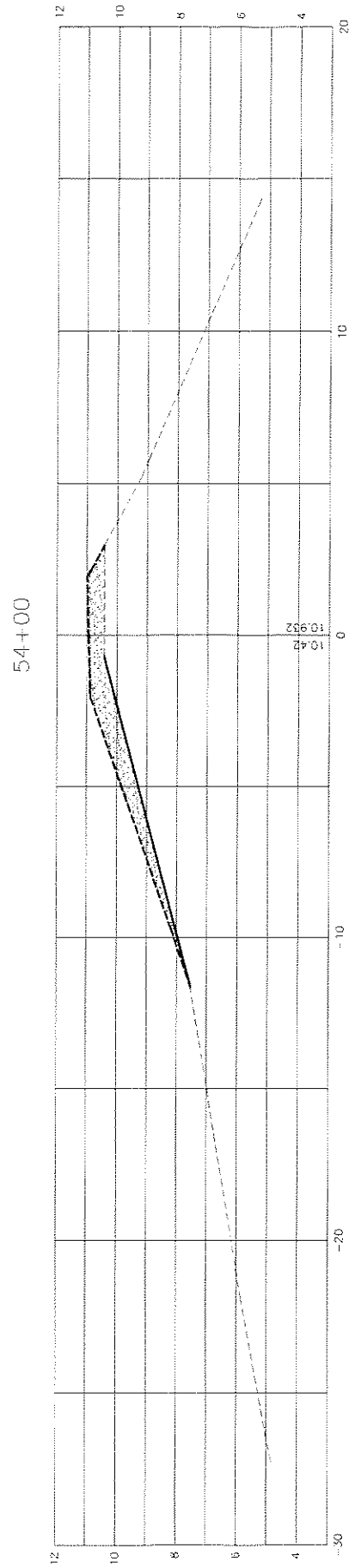
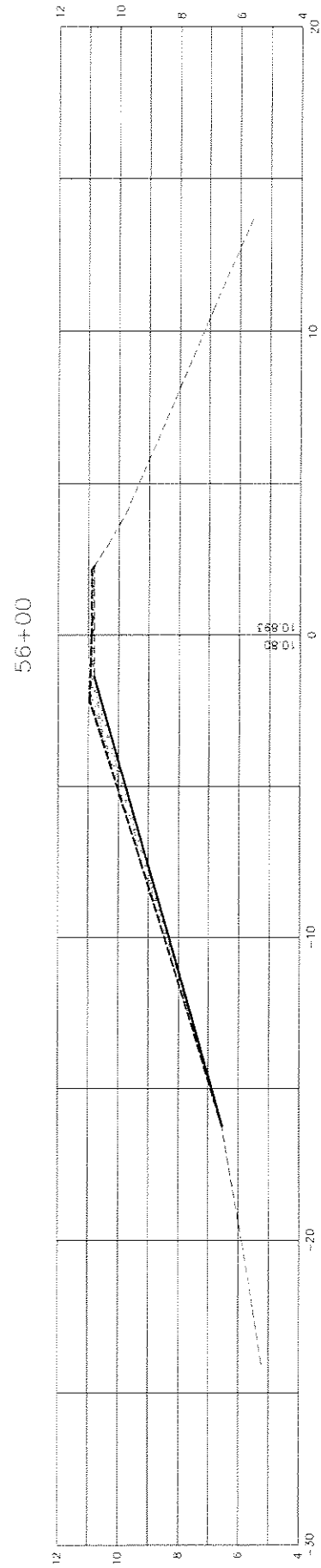
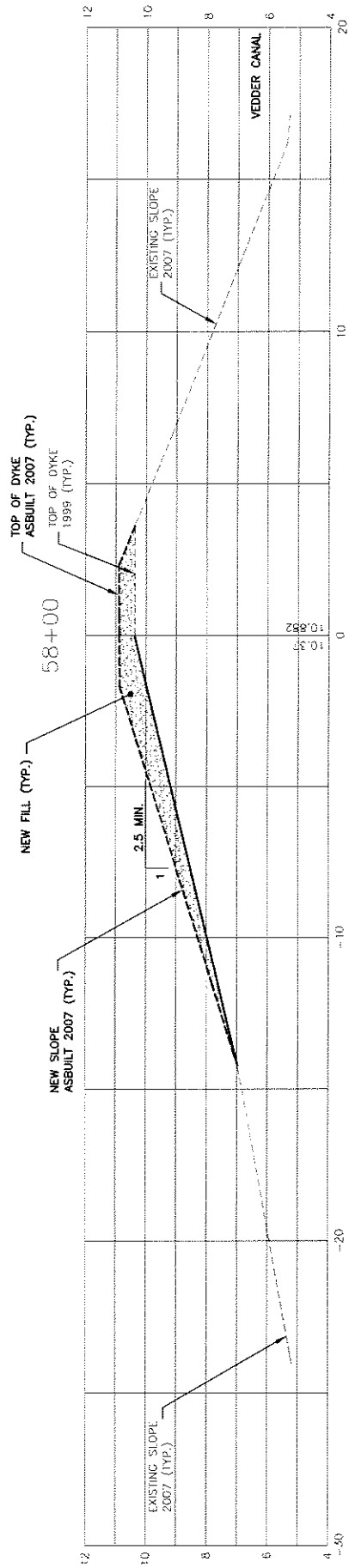
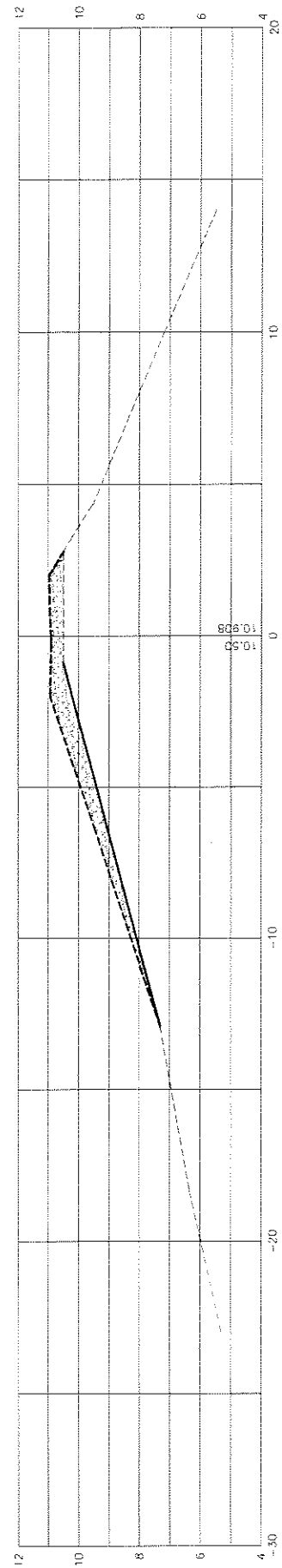
GOLDER ASSOCIATES LTD. CITY OF ABBOTSFORD

DATE 2007 09 04
 DRAWN MR
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SURVEY JOB NO. 07-061
 SURVEYCREW RB/RG
 SCALE
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 VERT. 1 : 100



VEDDER DYKE
 BARROWTOWN TO KEITH WILSON RD.
 2007 DYKE UPGRADE - CROSS SECTIONS



LOCATION FOR GAS, ELECTRICAL, TEL, & CABLE UTILITIES TO BE VERIFIED

NO.	DATE	BY	AS-BUILT	REVISIONS	TECH/ENG.
1	JULY 2007	MR	AS-BUILT		JL

COLDER ASSOCIATES LTD.

CITY OF ABBOTSFORD

DATE 2007 09 04

SURVEY JOB NO. 07-061

DRAWN MR

SURVEYCREW RB/RG

DESIGN JL

SCALE

WORK ORDER NO. 403485

HOR. 1 : 100
VERT. 1 : 100



GRID NO. H17 SHEET NO. 9 OF 11 DRWG. NO.

D-885

VEDDER DYKE
BARROWTOWN TO KEITH WILSON RD.
2007 DYKE UPGRADE - CROSS SECTIONS

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LOCATION FOR GAS, ELECTRICAL, TEL, & CABLE UTILITIES TO BE VERIFIED

NO.	DATE	BY	REVISIONS	TECH/DWG
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GOLDER ASSOCIATES LTD.
CITY OF ABBOTSFORD

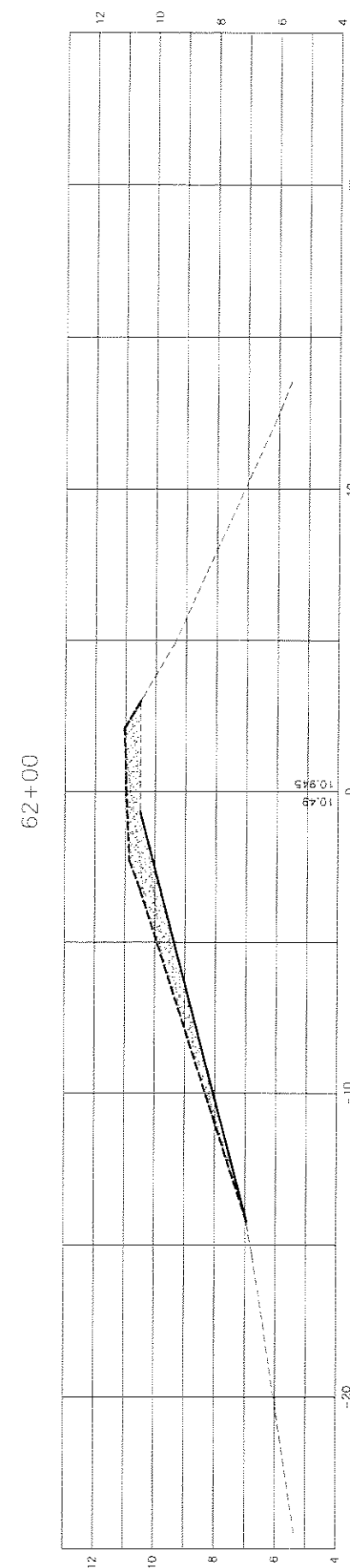
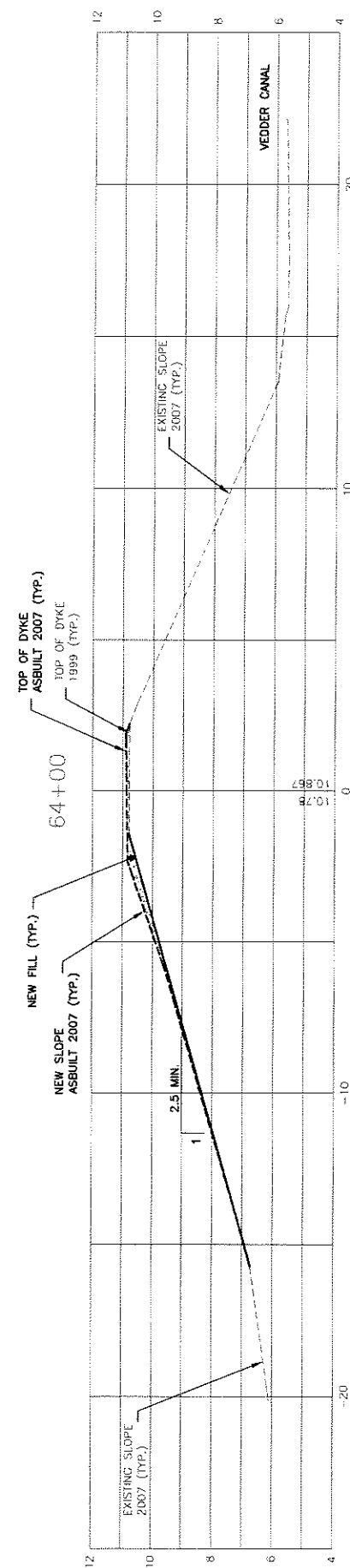
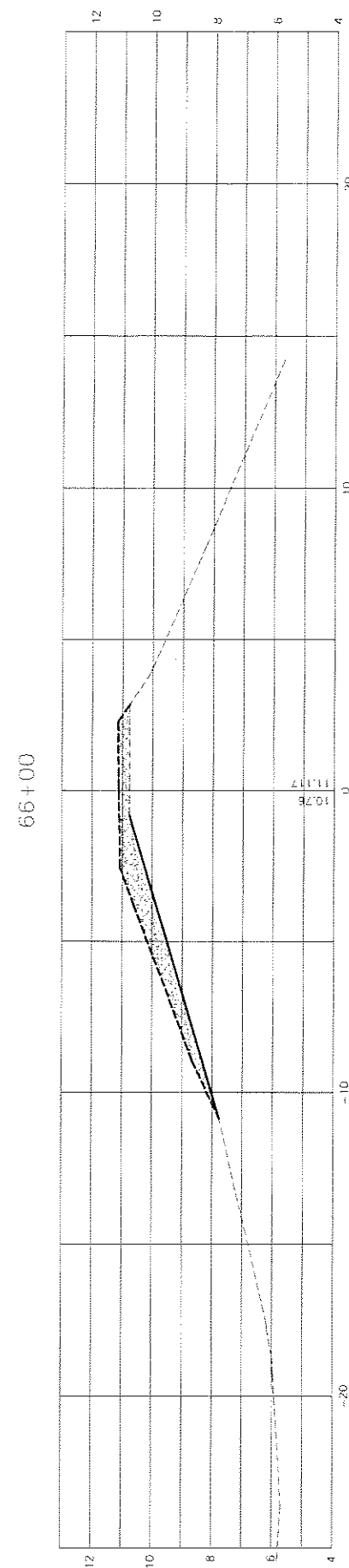
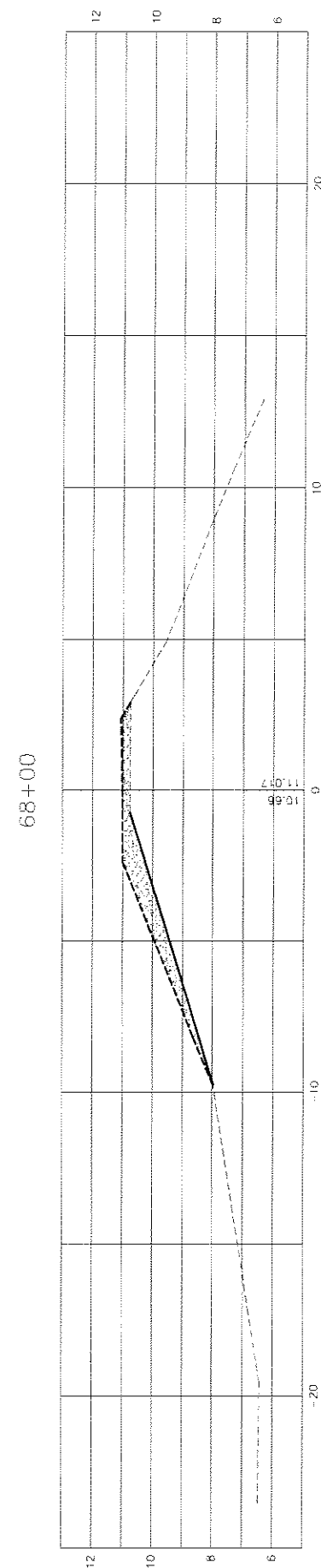
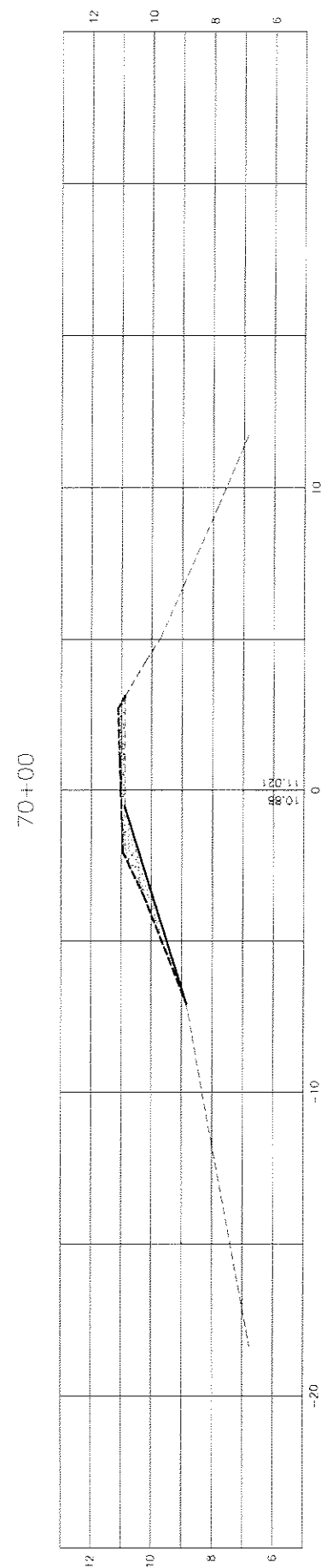
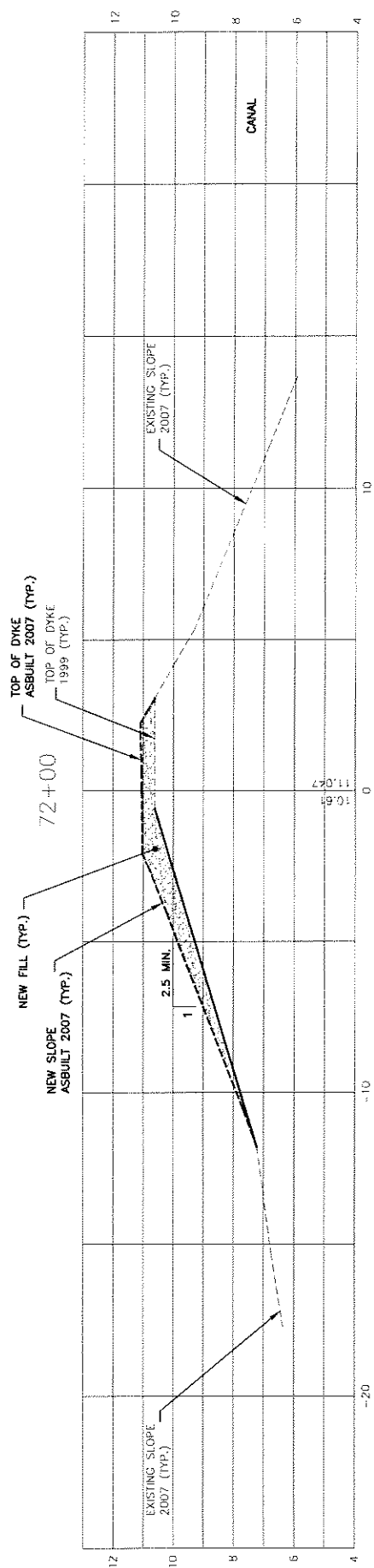
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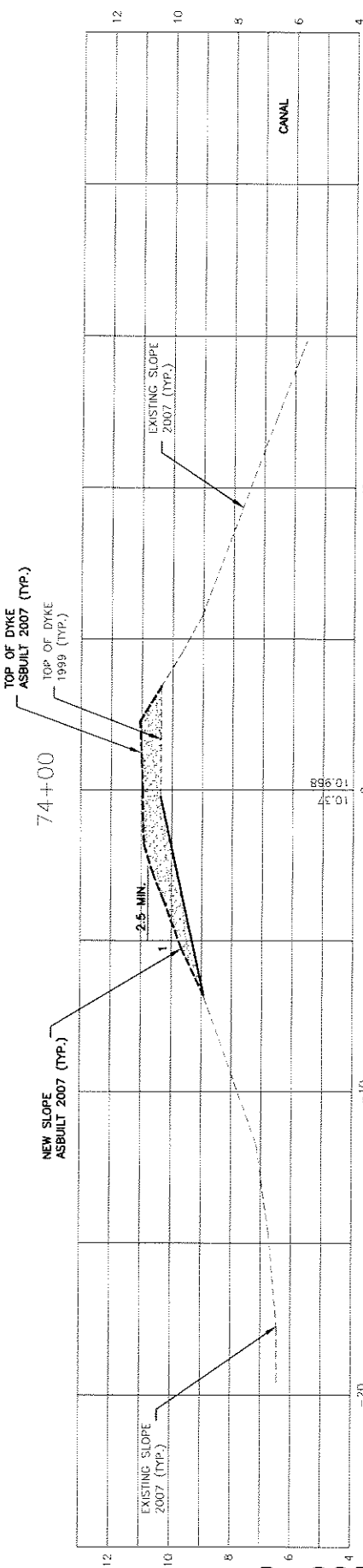
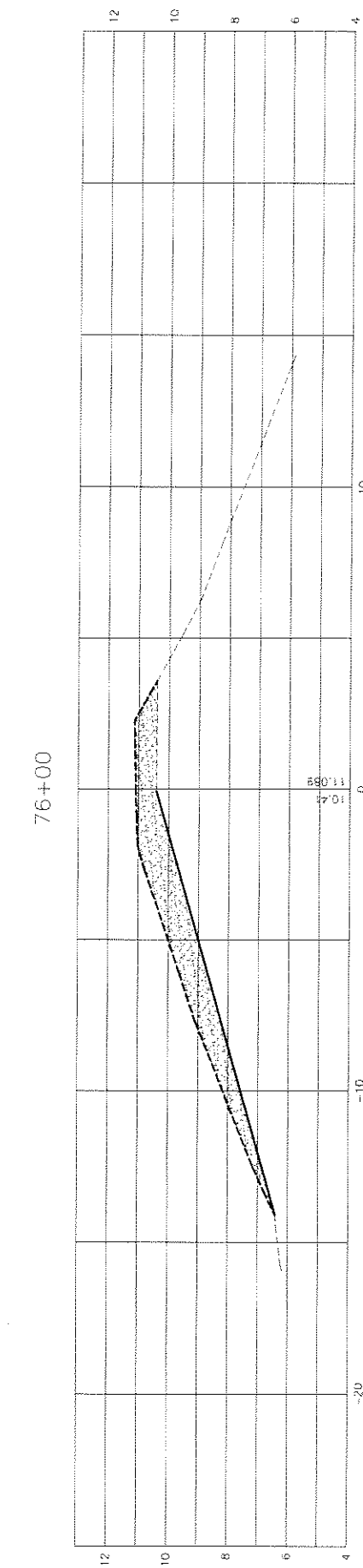
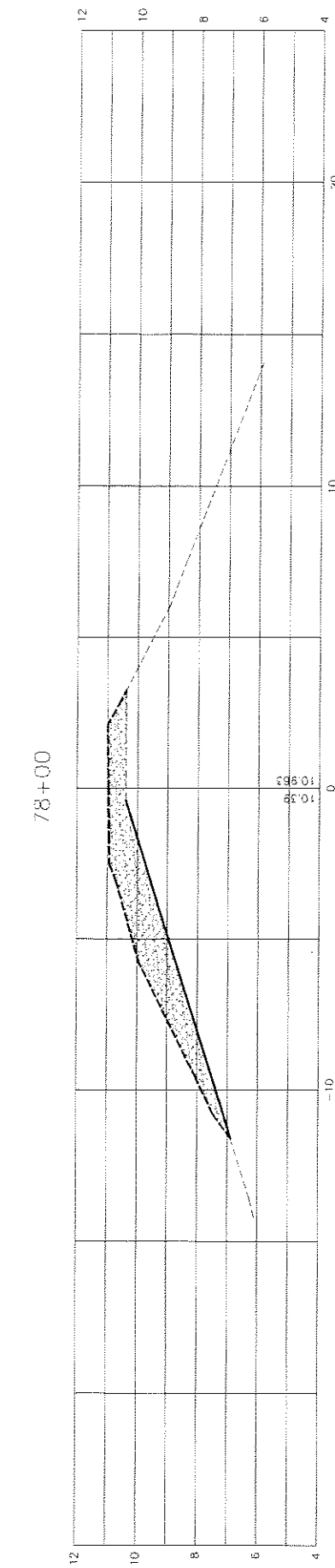
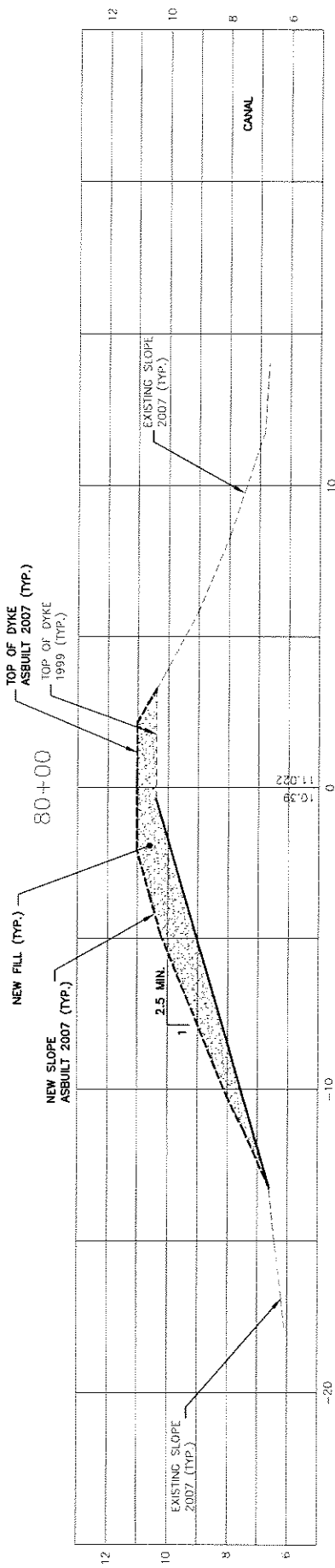
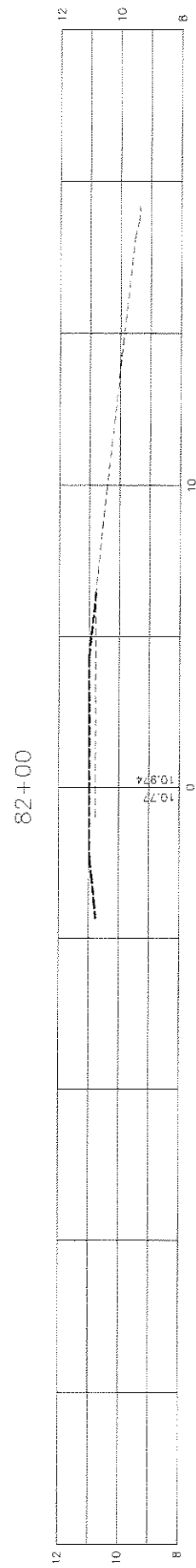
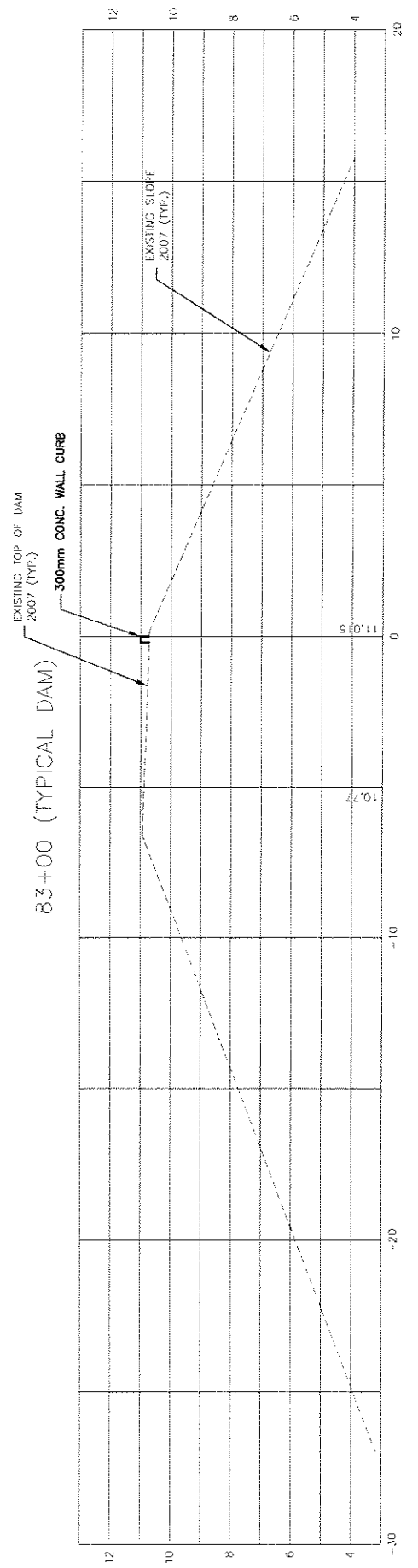
SURVEY JOB NO. 07-061
SURVEYCREW RB/RG
SCALE 1 : 100
VERT. 1 : 100



GRID NO. H17 SHEET NO. 10 OF 11 DRWG. NO. D-885

VEDDER DYKE
BARROWTOWN TO KEITH WILSON RD.
2007 DYKE UPGRADE - CROSS SECTIONS





LOCATION FOR GAS, ELECTRICAL, TEL. & CABLE UTILITIES TO BE VERIFIED

NO.	DATE	BY	REVISIONS	TECH. ENG.
1.	JULY 2007	MR	AS-BUILT	JL

GOLDER ASSOCIATES LTD. CITY OF ABBOTSFORD

DATE 2007 09 04
DRAWN MR
DESIGN JL
WORK ORDER NO. 403465

SURVEY JOB NO. 07-061
SURVEYCREW RB/RG
SCALE
HOR. 1 : 100
VERT. 1 : 100



GRID NO. H17 SHEET NO. 11 OF 11 DRWG. NO. D-885

VEDDER DYKE
BARROWTOWN TO KEITH WILSON RD.
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