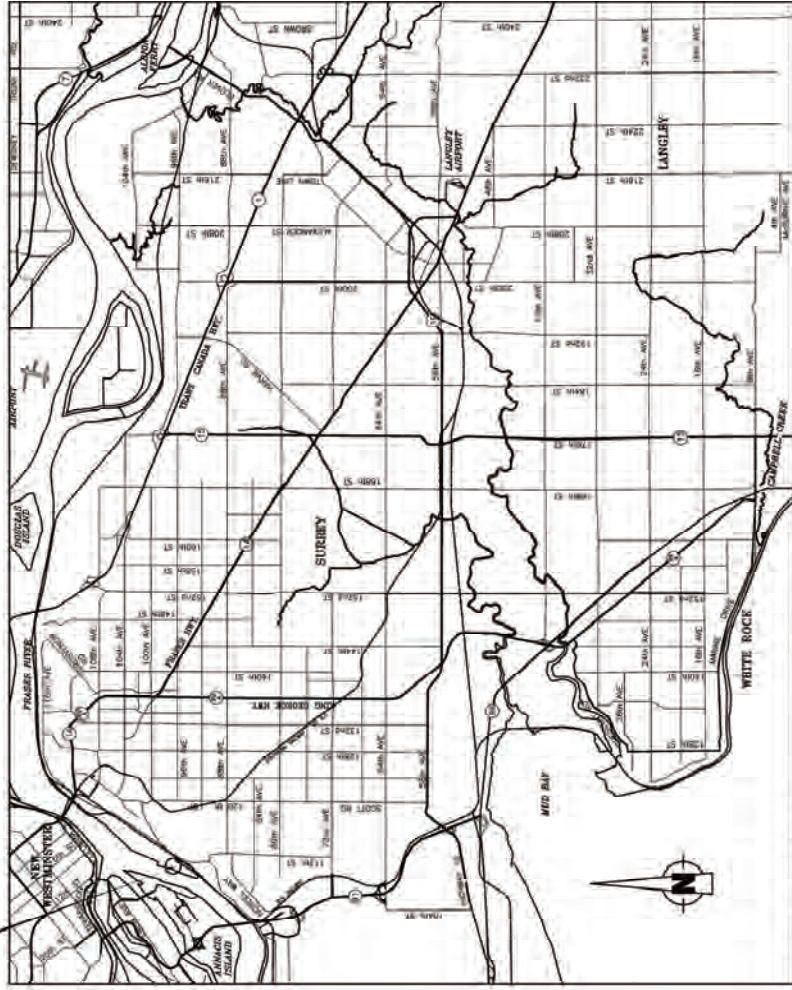


**APPENDIX D**  
**ISL Drawings**

# FRASER GRAIN TERMINAL

## 11041 ELEVATOR ROAD, SURREY

PROJECT LOCATION



SITE LOCATION PLAN

DRAWING SCHEDULE

DRAWING SHEET NUMBER

DRAWING SHEET NUMBER	DRAWING TITLE
1 OF 29	COVER SHEET AND GENERAL NOTES
2 OF 29	NORTH GRADING PLAN
3 OF 29	CENTRAL GRADING PLAN
4 OF 29	SOUTH GRADING PLAN
5 OF 29	ACCESS ROAD - PLAN & PROFILE
6 OF 29	ACCESS ROAD - CROSS SECTIONS
7 OF 29	NORTH CUT/FILL PLAN
8 OF 29	SOUTH CUT/FILL PLAN
9 OF 29	NORTH DRAINAGE PLAN
10 OF 29	SOUTH DRAINAGE PLAN
11 OF 29	ACCESS ROAD DRAINAGE - PLAN & PROFILE
12 OF 29	STORM WATER MANAGEMENT PLAN
13 OF 29	EXISTING IMPERVIOUS AREA
14 OF 29	PROPOSED IMPERVIOUS AREA
15 OF 29	NORTH SANITARY & WATERMAIN PLAN
16 OF 29	CENTRAL SANITARY & WATERMAIN PLAN
17 OF 29	SOUTH SANITARY & WATERMAIN PLAN
18 OF 29	WATERMAIN ON PLAYWOOD ROAD PLAN & PROFILE
19 OF 29	MISCELLANEOUS DETAILS 1
20 OF 29	MISCELLANEOUS DETAILS 2
21 OF 29	SOUTH EROSION & SEDIMENT CONTROL PLAN
22 OF 29	ESC DETAILS
23 OF 29	REMOVALS AND ABANDONMENT PLAN NORTH
24 OF 29	REMOVALS AND ABANDONMENT PLAN SOUTH
25 OF 29	EMERGENCY ACCESS ROUTING
26 OF 29	NORTH UTILITY COORDINATE TABLE PLAN
27 OF 29	SOUTH UTILITY COORDINATE TABLE PLAN
28 OF 29	FIRE LOOP PLAN
29 OF 29	

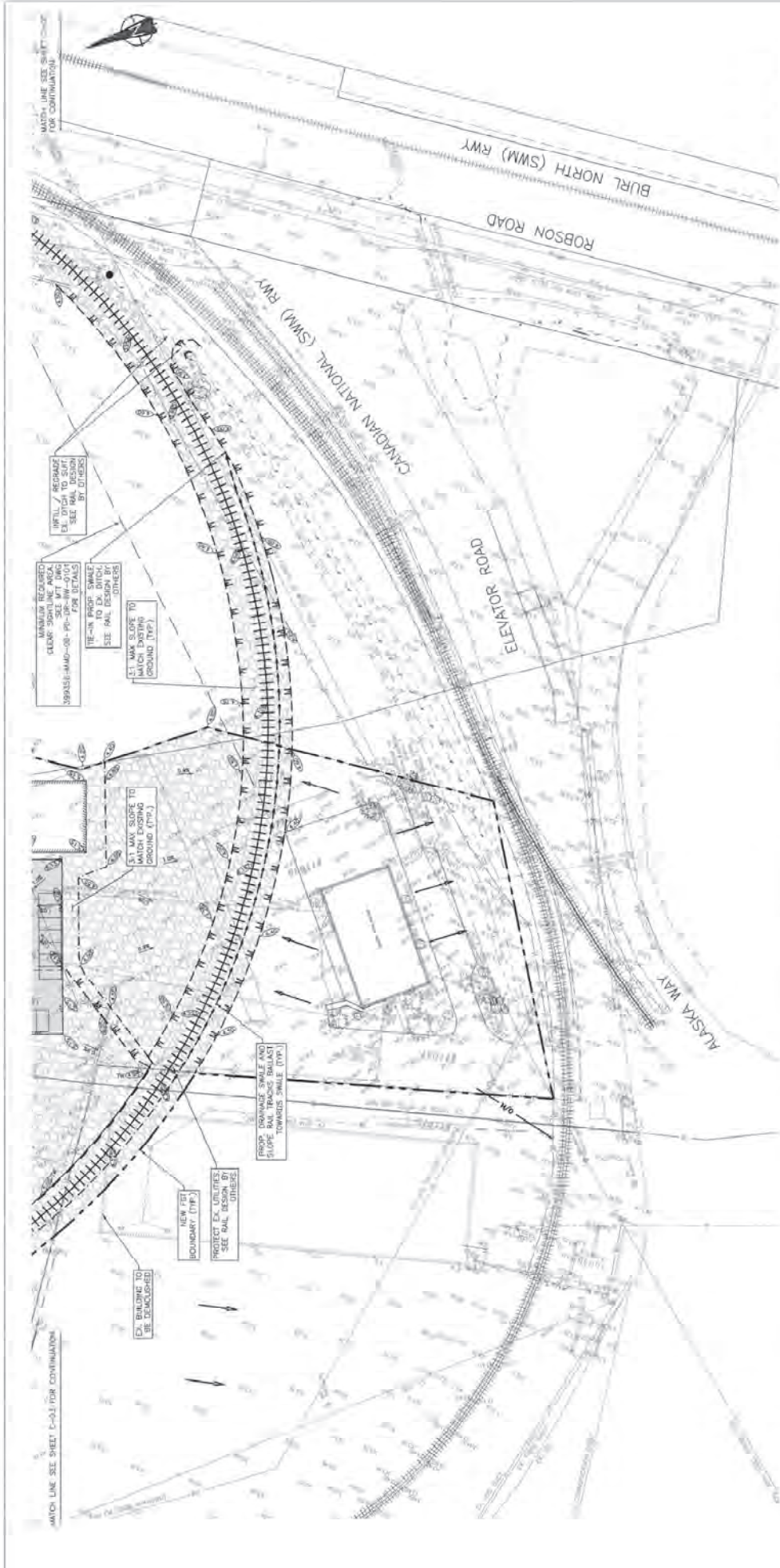
GENERAL NOTES

1. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH:
  - A. THE NATIONAL BUILDING CODE OF CANADA 2010 AND THE LATEST EDITION OF THE ALUMINUM CODE.
  - B. THE BRITISH COLUMBIA ELECTRICAL CODE (B.C. ELECTRICITY SAFETY ACT) AND THE LATEST EDITION OF THE CANADIAN ELECTRIC CODE.
  - C. THE BRITISH COLUMBIA FIRE CODE AND THE LATEST EDITION OF THE CANADIAN FIRE CODE.
  - D. THE BRITISH COLUMBIA GAS CODE AND THE LATEST EDITION OF THE CANADIAN GAS CODE.
  - E. THE BRITISH COLUMBIA PLUMBING CODE AND THE LATEST EDITION OF THE CANADIAN PLUMBING CODE.
  - F. THE BRITISH COLUMBIA WOOD PRESERVATION ACT AND THE LATEST EDITION OF THE CANADIAN WOOD PRESERVATION CODE.
  - G. THE BRITISH COLUMBIA SAFETY CODE AND THE LATEST EDITION OF THE CANADIAN SAFETY CODE.
  - H. THE BRITISH COLUMBIA TRAFFIC CONTROL MANUAL FOR WORK ON HIGHWAYS, LATEST EDITION, AET.
  - I. THE BRITISH COLUMBIA MUNICIPALITY OF SURREY STANDARD SPECIFICATIONS FOR ROADWORK, LATEST EDITION.
2. ALL EXISTING SHOPS ARE CRACKED.
3. ALL EXISTING UTILITIES ARE SHOWN ACCORDING TO AVAILABLE RECORD DRAWINGS. IN ACCORDANCE WITH THE ABOVE NOTES, THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS.
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9. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS.
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11. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES BY OBTAINING INFORMATION AS TO EXISTING UTILITIES AND SERVICE CONNECTIONS.

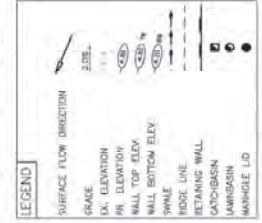








DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015



**PAVEMENT LEGEND**

- 50mm - HOT MIX ASPHALT CONCRETE (HMA)
- 100mm - HOT MIX ASPHALT CONCRETE (HMA)
- 200mm - RECYCLED CONCRETE AGGREGATE MATERIAL (RCAM)
- ACCESS ROAD, SUBJECTED TO LOADS - BLOCKS
- 100mm - HOT MIX ASPHALT CONCRETE (HMA)
- 150mm - HOT GRADED BASE COURSE (HGB)
- 200mm - RECYCLED CONCRETE AGGREGATE MATERIAL (RCAM)
- ACCESS ROAD, SUBJECTED TO LOADS - BLOCKS
- 125mm - HOT MIX ASPHALT CONCRETE (HMA)
- 150mm - WELL GRADED BASE COURSE (WGB)
- 300mm - SELECT GRANULAR SUBBASE (SGS)

**NOTE:**

- TRUCK TRAIL GEORGD SHOULD BE PLACED IN THE WEB OF THE TRACKS WITH A MINIMUM OF 100mm CLEARANCE FROM THE TOP SURFACE OF THE TRACKS. TOPSOIL OR ORGANIC MATERIAL SHOULD NOT BE PRESENT UNDER THE TRACKS. THE PROPOSED SUBGRADE SHOULD BE PROOF-ROLLED TO VERIFY ANY SOFT SPOTS BEFORE THE TRACKS ARE LAYED. THE TRACKS SHOULD BE IDENTIFIED DURING PROOF ROLL SHOULD BE REMOVED OR SUB-EXCAVATED TO A MINIMUM DEPTH OF 300mm AND A MINIMUM OF 10% OF MOISTURE PROCTOR MAXIMUM DRY DENSITY (MPCD). AN INITIAL REPORT PREPARED BY TEMA TECH DATED ON JANUARY 25, 2018.

NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
2	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
3	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
4	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
5	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
6	ISSUED FOR CONSTRUCTION REVIEW	03/28/18

NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
2	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
3	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
4	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
5	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
6	ISSUED FOR CONSTRUCTION REVIEW	03/28/18

NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
2	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
3	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
4	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
5	ISSUED FOR CONSTRUCTION REVIEW	03/28/18
6	ISSUED FOR CONSTRUCTION REVIEW	03/28/18

**FRASER GRAIN TERMINAL**  
**NEW GRAIN EXPORT FACILITY**  
 11041 ELEVATOR ROAD, SURREY

Scale: 1:500

Drawn: 03/18 Design Checker: S.V. Date: MAR 2018  
 Checked: 03/18 Design Review: S.V. Date: MAR 2018

Project No: 1801-0000  
 File No: 1801-0000-0000  
 www.hilltopengineering.com

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 Langley, B.C. V3V 9K1  
 Tel: (604) 271-0200  
 Fax: (604) 271-0200  
 www.hilltopengineering.com

32022  
 C-03A

**SOUTH GRADING PLAN**

FRASER GRAIN TERMINAL  
 NEW GRAIN EXPORT FACILITY  
 11041 ELEVATOR ROAD, SURREY

Scale: 1:500

Drawn: 03/18 Design Checker: S.V. Date: MAR 2018  
 Checked: 03/18 Design Review: S.V. Date: MAR 2018

Project No: 1801-0000  
 File No: 1801-0000-0000  
 www.hilltopengineering.com

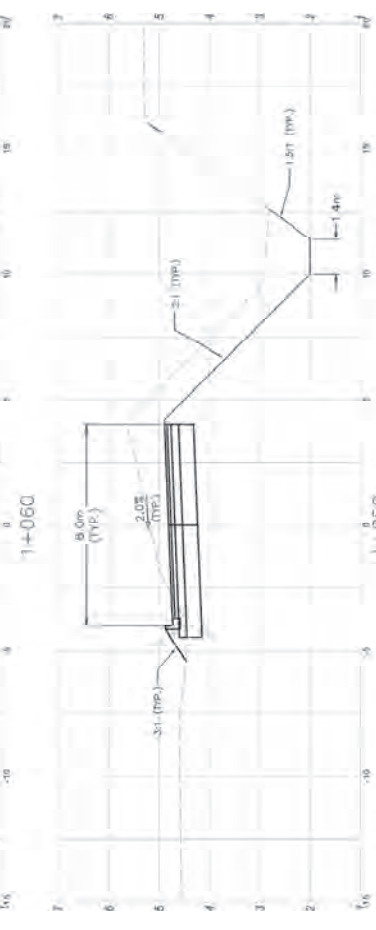
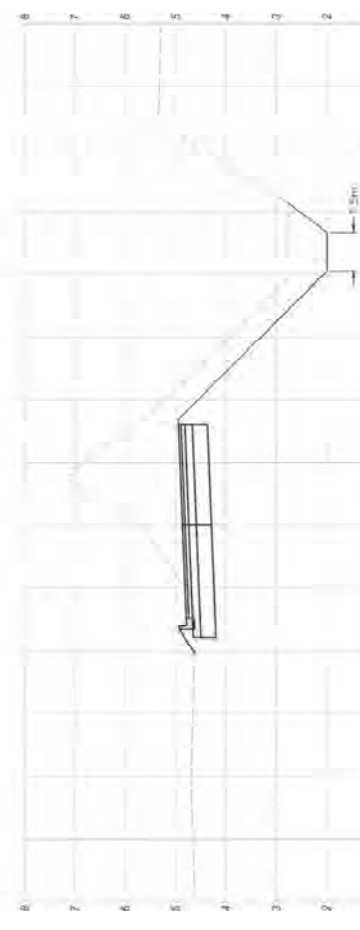
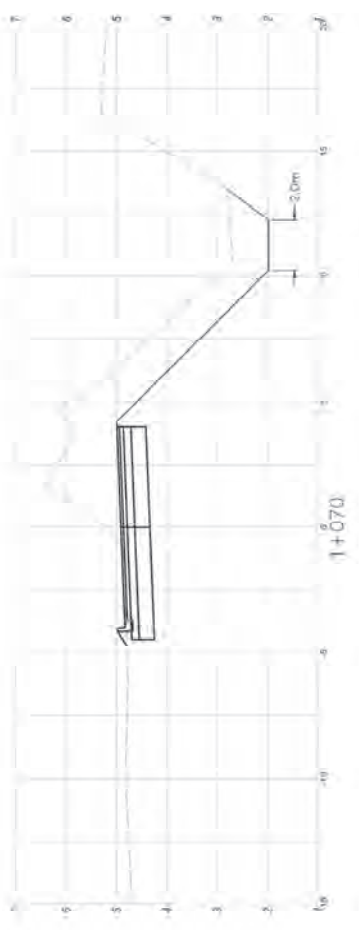
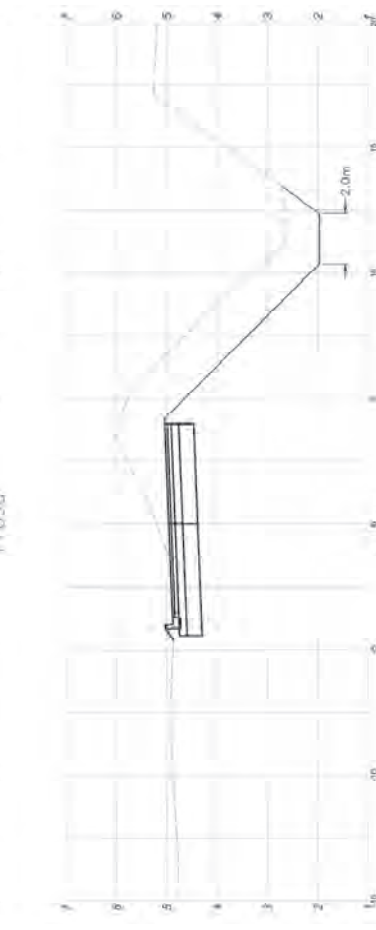
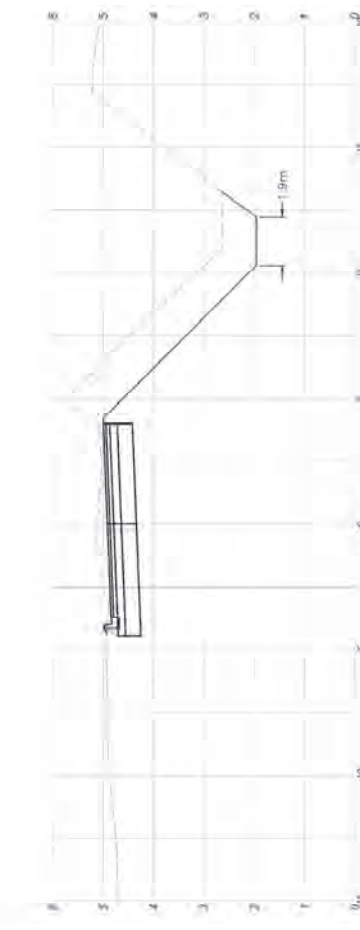
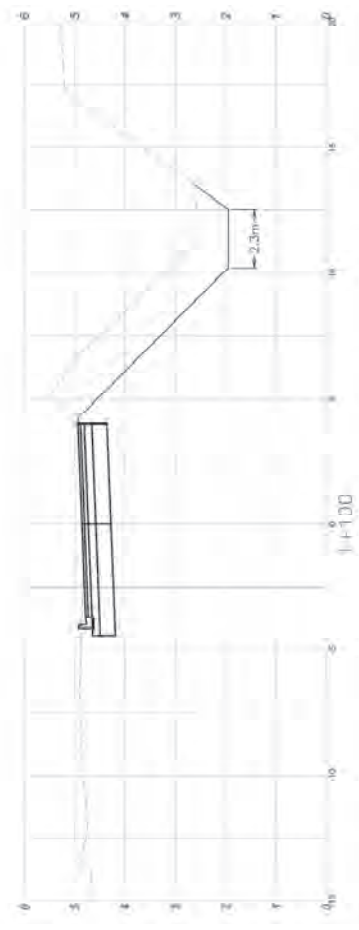
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 and Land Services

32022  
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04





**ACCESS ROAD CROSS SECTIONS**

**FRASER GRAIN TERMINAL**  
**NEW GRAIN EXPORT FACILITY**  
**11041 ELEVATOR ROAD, SURREY**

Scale: **H=1:100**  
**V=1:50**

Author:	DRS	Design Checker:	SNV	Date:	MAR 2018
Drawn by:	DRS	Design Reviewer:	SNV	Date:	MAR 2018

ISSUED FOR BUILDING PERMIT	DATE	APR 2018
ISSUED FOR REVIEW	DATE	MAR 2018
EMERGENCY ACCESS ASSED	DATE	FEB 2018
ISSUED FOR CONSTRUCTION	DATE	JAN 2018

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

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 Tel: (604) 571-2000  
 Fax: (604) 571-0000  
 www.islengineering.com

CUT/FILL VOLUME

LOCATION	CUT (m³)	FILL (m³)	NET (m³)
RAIL TRACKS	1,380	1,030	350
OTHER AREA	9,140	9,560	-420

PAVEMENT STRUCTURE VOLUME

LOCATION	STRUCTURE	AREA (m²)	DEPTH (m)	VOLUME (m³)
PARKING AREA	HOT MIX ASPHALT	2,920	0.050	146
	WGB	2,920	0.150	438
ACCESS ROAD SUBJECT TO EMPTY TRUCKS	RCAM	2,920	0.200	584
	HOT MIX ASPHALT	8,040	0.100	804
ACCESS ROAD SUBJECT TO LOADED TRUCKS	WGB	8,040	0.150	1,206
	RCAM	8,040	0.200	1,608
EMPTY CONTAINER STORAGE YARD	HOT MIX ASPHALT	4,740	0.125	593
	WGB	4,740	0.150	711
FULL CONTAINER STORAGE YARD	SGSB	4,740	0.300	1,422
	DURATOUGH ASPHALT	5,240	0.150	786
ACCESS TO ZOWAMEN LOADING STATION	WGB	5,240	0.350	1,834
	DURATOUGH ASPHALT	4,650	0.150	698
ACCESS TO ZOWAMEN LOADING STATION	WGB	4,650	0.500	2,325
	DURATOUGH ASPHALT	1,300	0.150	195
ACCESS TO ZOWAMEN LOADING STATION	HOT MIX ASPHALT	1,500	0.100	150
	WGB	1,300	0.550	715

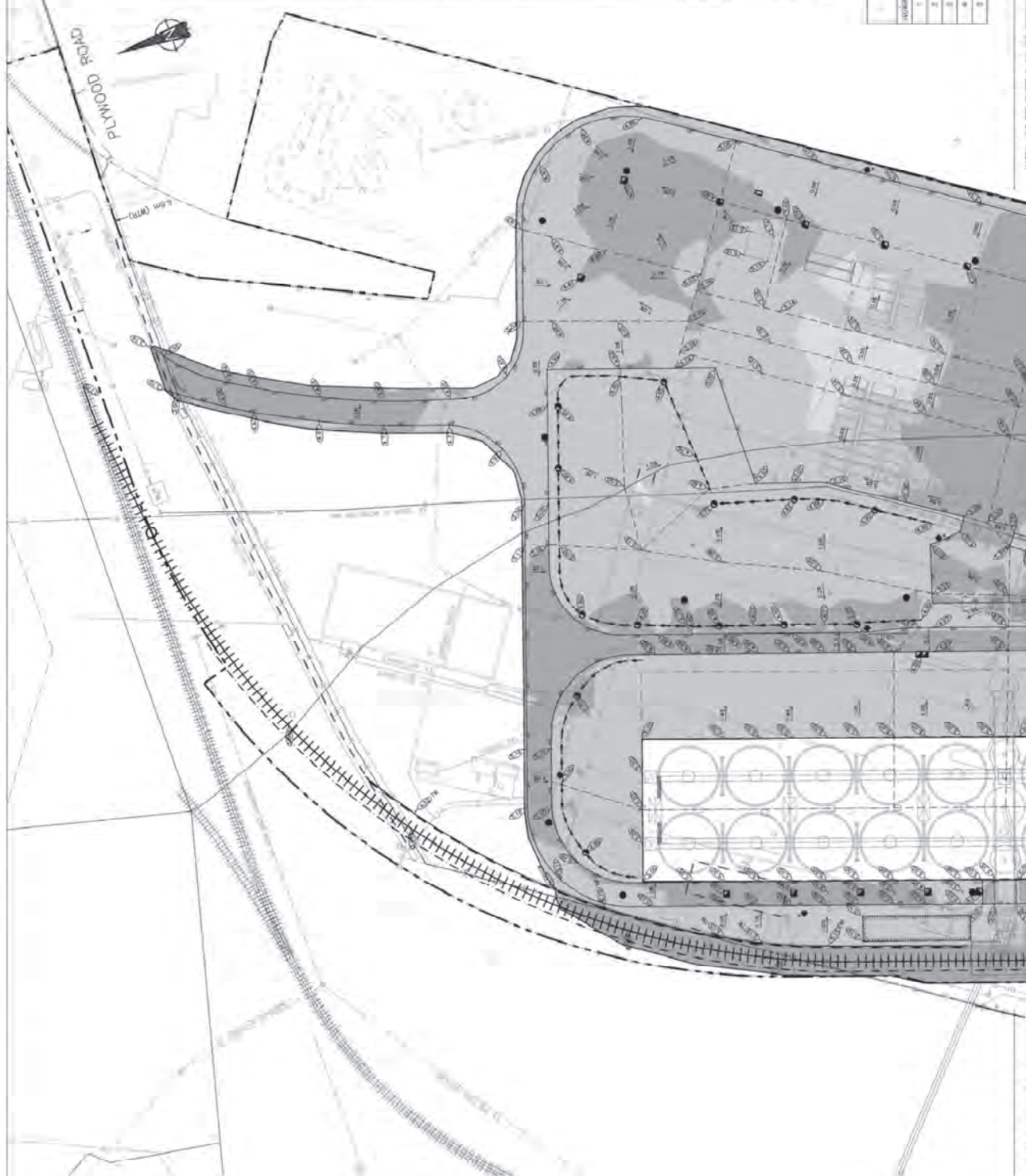
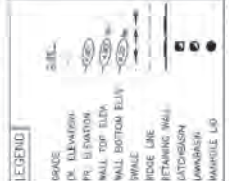
NOTES

- CUT/FILL VOLUME CALCULATION BASED ON THE FOLLOWING ASSUMPTIONS:
  - 1. CONCRETE SLAB AREA FOR DRIVE NOT INCLUDED INTO THIS CALCULATION.
  - 2. SEE SHEET C-02 AND C-03 DRAWING PLAN FOR PAVEMENT STRUCTURE DETAILS AND BOUNDARY.
  - 3. SEE WARE FACILITY STRUCTURE DESIGN DETAILS IN DESIGN REPORT PREPARED BY TETRA TECH DATED ON August 25, 2019.

DESIGNED TO MEET THE NATIONAL BUILDING CODE, 2015

ELEVATIONS TABLE

NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
1	-2.0	-2.0	Blue
2	-3.0	-1.0	Green
3	-1.0	0.0	Yellow
4	0.0	0.0	Red
5	1.0	2.0	Orange



FRASER GRAIN TERMINAL  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

Client: Fraser Grain Terminal  
Project No: 19-001  
Drawing No: C-04  
Scale: 1:500  
Date: MAR 2018

Author: [Name]  
Checked: [Name]  
Designed: [Name]

ISSUED FOR BUILDING PERMIT  
ISSUED FOR CONSTRUCTION

DATE: APR 2018  
DATE: OCT 2018

REVISIONS

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR BUILDING PERMIT	[Name]	APR 2018
2	ISSUED FOR CONSTRUCTION	[Name]	OCT 2018

Match line see sheet C-05 (see continuation)





MATCH LINE SEE SHEET C-04 FOR CONTINUATION

MATCH LINE SEE SHEET C-04 FOR CONTINUATION

**LEGEND**

- GRAIN ELEVATOR
- ACCESS ROAD
- PROPERTY LINE
- EXISTING WALL
- NEW WALL
- EXISTING FENCE LINE
- NEW FENCE LINE
- EXISTING DRIVEWAY
- NEW DRIVEWAY
- EXISTING UTILITY
- NEW UTILITY
- EXISTING PAVED AREA
- NEW PAVED AREA
- EXISTING GRAVEL
- NEW GRAVEL
- EXISTING ASPHALT
- NEW ASPHALT
- EXISTING CONCRETE
- NEW CONCRETE
- EXISTING CURB
- NEW CURB
- EXISTING SIDEWALK
- NEW SIDEWALK
- EXISTING LANDSCAPE
- NEW LANDSCAPE

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

NOTE:  
SEE CUT/FILL AND PAVED/GRIT STRUCTURE VOLUME ON SHEET C-04.

**ELEVATIONS TABLE**

NUMBER	MINIMUM ELEVATION	MAXIMUM ELEVATION	COLOR
1	-1.0	-2.0	Light Blue
2	-2.0	-1.0	Medium Blue
3	-1.0	0.0	Dark Blue
4	0.0	1.0	Light Green
5	1.0	3.0	Dark Green

NO.	DESCRIPTION	DATE
7	ISSUED FOR BUILDING PERMIT	04/20/18
6	EMERGENCY ACCESS	04/19/18
5	SECURITY SERVICES	04/19/18
4	SECURITY SERVICES	04/19/18
3	ISSUED FOR CONSTRUCTION	03/28/18
2	ISSUED FOR CONSTRUCTION	03/28/18
1	ISSUED FOR CONSTRUCTION	03/28/18

**ISL Engineering and Land Services**

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SURREY, B.C. V3T 4M1  
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FAX: (604) 271-2084  
www.islandengineering.com

Scale: **1:500**

Project: FRASER GRAIN TERMINAL  
11041 ELEVATOR ROAD, SURREY

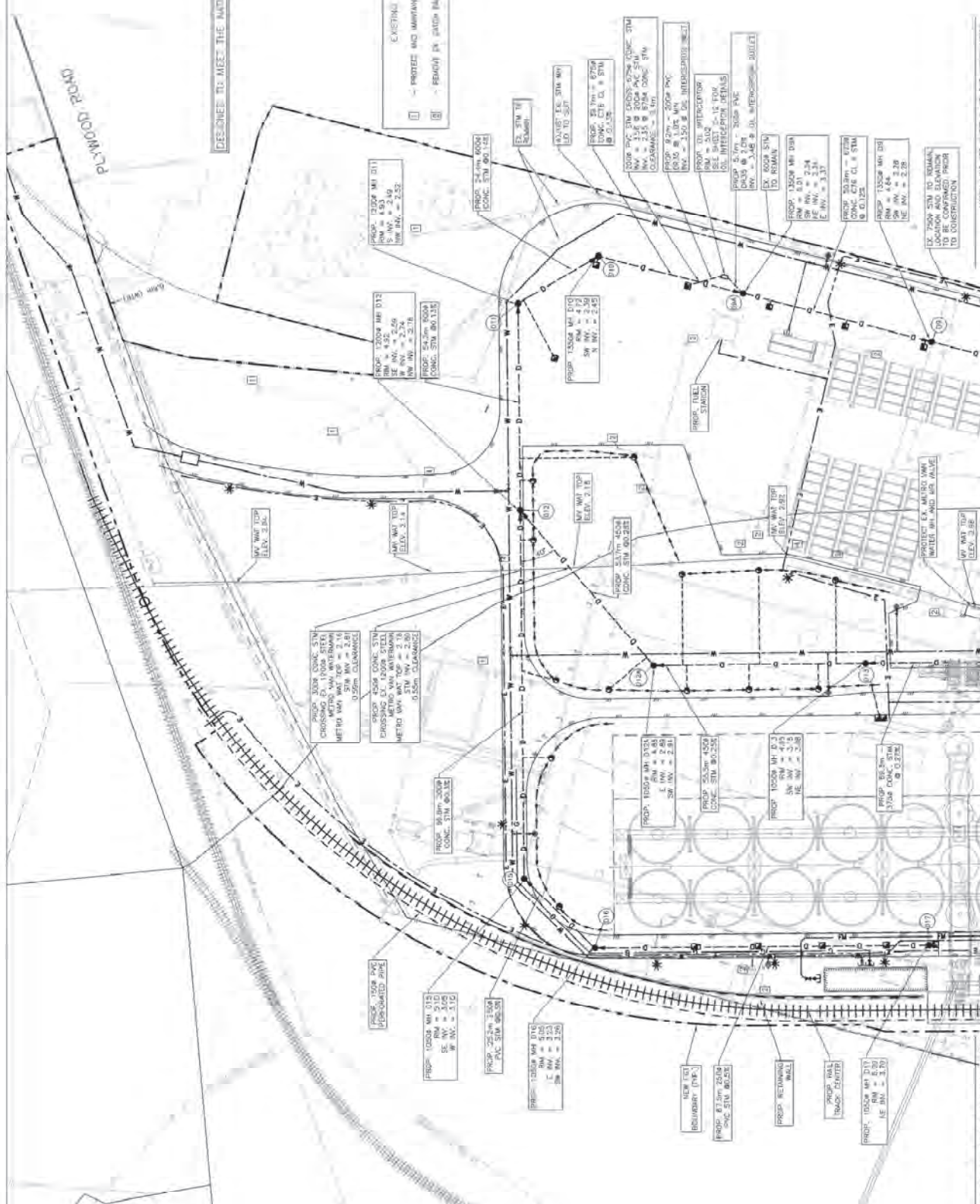
Client: **SNV** Date: **MAR 2018**

Designer: **SNV** Date: **MAR 2018**

**FRASER GRAIN TERMINAL**  
**NEW GRAIN EXPORT FACILITY**  
11041 ELEVATOR ROAD, SURREY

**SOUTH CUT/FILL PLAN**

Revision: 32022  
C-05  
Sheet: 08



DESIGNED TO MEET THE NATIONAL BUILDINGS CODE 2012

FRASER GRAIN TERMINAL  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

32022  
C-06

NORTH  
DRAINAGE PLAN

DATE: MAR 2018  
DRAWN: SVY  
CHECKED: SVY  
DATE: MAR 2018

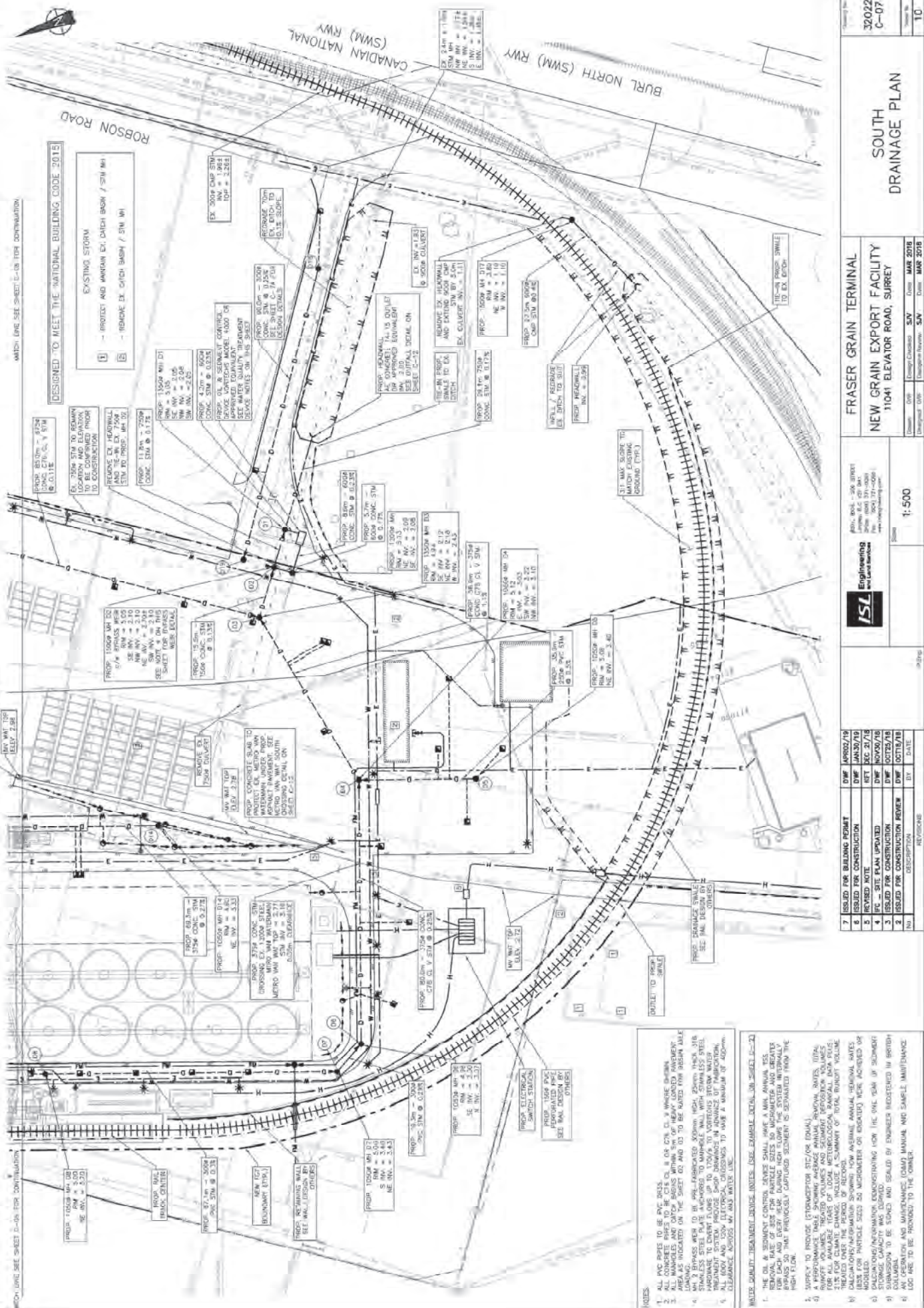
**ISL Engineering**  
INCORPORATED  
12501 136th Street, Surrey, BC V3V 3E9  
Tel: 604.577-0080  
Fax: 604.577-0088  
www.isl-engineering.com

Scale: 1:500

ID	ISSUED FOR	DATE	BY
10	ISSUED FOR BUILDING PERMIT	03/03/18	SVY
9	REVISED FOR COMMENTS	02/25/18	SVY
8	REVISED FOR COMMENTS	02/25/18	SVY
7	REVISED FOR COMMENTS	02/25/18	SVY
6	REVISED FOR COMMENTS	02/25/18	SVY
5	REVISED FOR COMMENTS	02/25/18	SVY
4	REVISED FOR COMMENTS	02/25/18	SVY
3	REVISED FOR COMMENTS	02/25/18	SVY
2	REVISED FOR COMMENTS	02/25/18	SVY
1	REVISED FOR COMMENTS	02/25/18	SVY

- NOTES:
- ALL PIPE TYPES TO BE PVC 1815.
  - ALL MANHOLE TYPES TO BE 1500mm DIA. WITH 1500mm DIA. COVERS.
  - ALL MANHOLE TYPES TO BE 1500mm DIA. WITH 1500mm DIA. COVERS.
  - ALL MANHOLE TYPES TO BE 1500mm DIA. WITH 1500mm DIA. COVERS.
  - ALL MANHOLE TYPES TO BE 1500mm DIA. WITH 1500mm DIA. COVERS.

10118



DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

EXISTING STORM  
 1 - PROTECT AND ANCHOR EX. DITCH BANK / STM MH  
 2 - REGRADE EX. DITCH BANK / STM MH

MATCH LINE SEE SHEET 1-08 FOR CONTINUATION

MATCH LINE SEE SHEET 1-09 FOR CONTINUATION

- NOTES**
1. ALL PVC PIPES TO BE PVC DRIVES.
  2. ALL MANHOLES AND DITCH BANKS WITHIN THE "HEAVY" LOADED AVIATION AREA AS INDICATED ON THE SHEET 02 AND TO BE RATED FOR AVIATION LOAD.
  3. ALL MANHOLES AND DITCH BANKS WITHIN THE "HEAVY" LOADED AVIATION AREA TO BE RATED FOR AVIATION LOAD.
  4. 3" BRASS WELD TO BE 304L-FABRICATED 800mm HIGH SPH. HEAVY 316 STAINLESS STEEL PLATE ANCHORS TO MANHOLE WALL WITH 20mm 55% STEEL WELDS TO CONCRETE. SEE 2004-01-01 VARIATION OF DRAWING.
  5. ALL 800mm AND 1000mm ELECTRO-POLYMER CROSSINGS TO HAVE A MINIMUM OF 400mm CLEARANCE ABOVE AND WATER LINE.
  6. SUPPLY TO PROVIDE (STORMWATER STICOR EQUAL).
  7. THE OIL & SEDIMENT CONTROL DEVICE SHALL HAVE A MAX AVIATION TSS CAPACITY OF 1000kg AND SHALL BE RATED FOR AVIATION LOAD. THE DEVICE SHALL BE RATED FOR EACH AND EVERY HOUR DURING HIGH FLOODS. THE SYSTEM INTERNALLY BEYOND THE DEVICE SHALL BE RATED FOR AVIATION LOAD. THE SYSTEM SHALL BE RATED FOR HIGH FLOOD.
  8. CALCULATIONS/INFORMATION SHOWING HOW THE OIL, TSS, OR SEDIMENT STORAGE CAPACITY WAS DETERMINED.
  9. ALL OPERATOR AND MAINTENANCE (OM&M) MANUAL AND SAMPLE AMPLIFIANCE LOG HAS TO BE PROVIDED TO THE OWNER.

NO.	DESCRIPTION	DATE
7	ISSUED FOR BUILDING PERMIT	04/02/2018
8	ISSUED FOR CONSTRUCTION	04/20/2018
9	ISSUED FOR CONSTRUCTION	04/20/2018
10	ISSUED FOR CONSTRUCTION	04/20/2018
11	ISSUED FOR CONSTRUCTION	04/20/2018
12	ISSUED FOR CONSTRUCTION	04/20/2018

**ISL Engineering**  
 11041 ELEVATOR ROAD, SURREY  
 BC V3V 4K6  
 TEL: 604.591.1100  
 FAX: 604.591.1101  
 WWW.ISLENG.COM

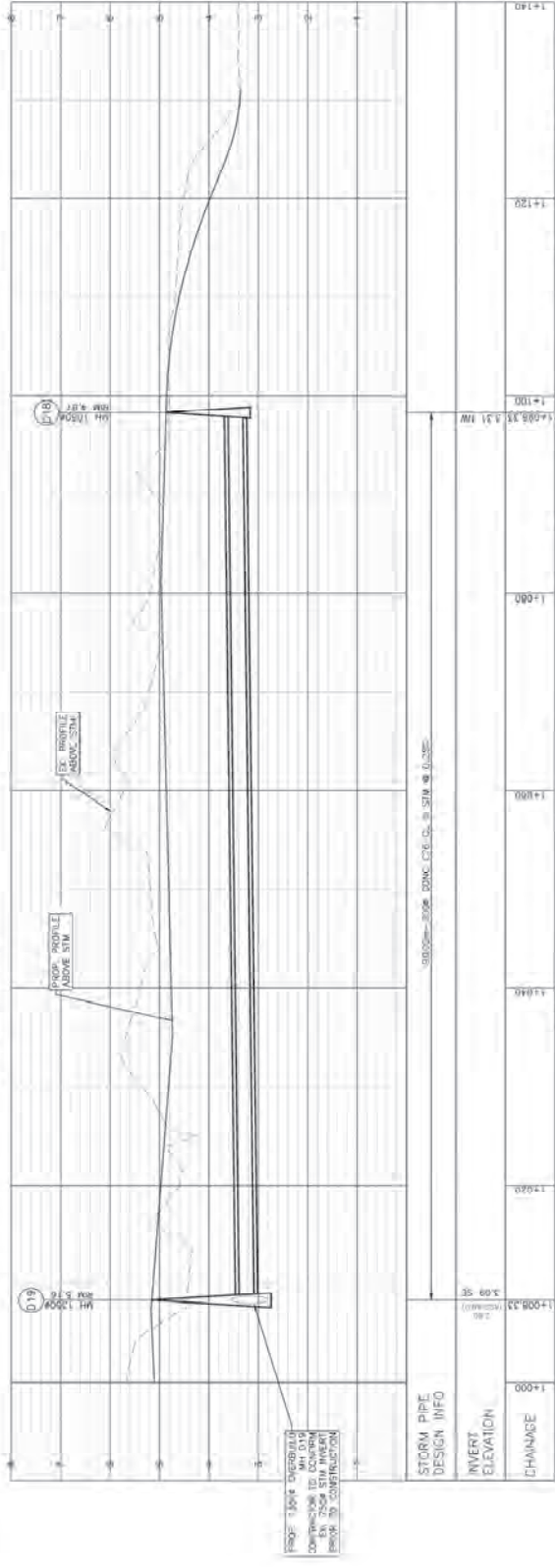
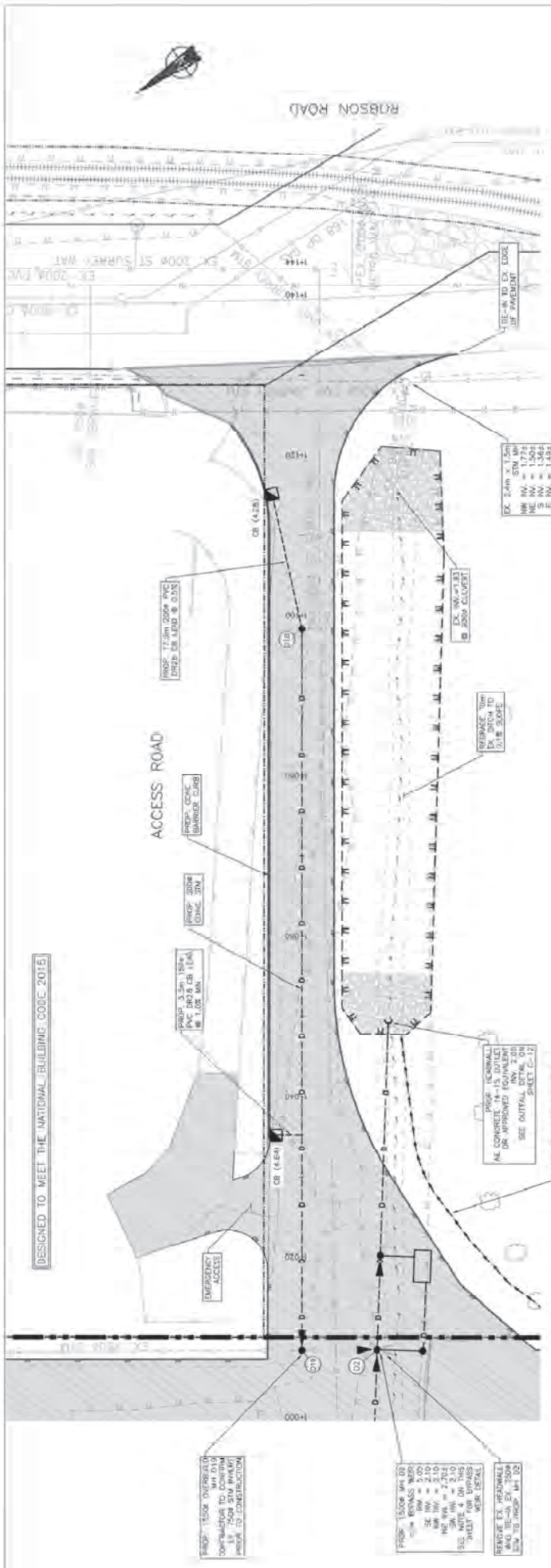
Scale: 1:500

Client: Fraser Grain Terminal  
 Designer: ISL  
 Date: MAR 2018

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

ACCESS ROAD

ROBSON ROAD



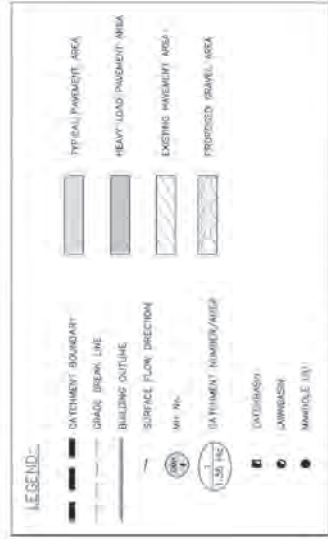
		<b>FRASER GRAIN TERMINAL</b> NEW GRAIN EXPORT FACILITY 11041 ELEVATOR ROAD, SURREY		Project No. 20022 Drawing No. C-7A															
4501, 4502, 4503 STREET SURREY, B.C. V3T 9W1 TEL: (604) 271-2000 FAX: (604) 271-2009 www.islengineering.com		Date: MAR 2018 Design: S.W. Check: S.W. Drawn: M.H. 2018		Scale: H=1:250 V=1:50															
<table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> <th>DATE</th> </tr> <tr> <td>3</td> <td>ISSUED FOR BUILDING PERMIT</td> <td>07F APR 2018</td> <td></td> <td></td> </tr> <tr> <td>1</td> <td>ISSUED FOR REVIEW</td> <td>07F MAR 2018</td> <td></td> <td></td> </tr> </table>		NO.	DESCRIPTION	DATE	BY	DATE	3	ISSUED FOR BUILDING PERMIT	07F APR 2018			1	ISSUED FOR REVIEW	07F MAR 2018			REVISIONS		
NO.	DESCRIPTION	DATE	BY	DATE															
3	ISSUED FOR BUILDING PERMIT	07F APR 2018																	
1	ISSUED FOR REVIEW	07F MAR 2018																	
STORM PIPE DESIGN INFO INVERT ELEVATION CHANNEL																			

**TABLE 1 - DRAINAGE SYSTEM ANALYSIS**  
(10 Year Storm)

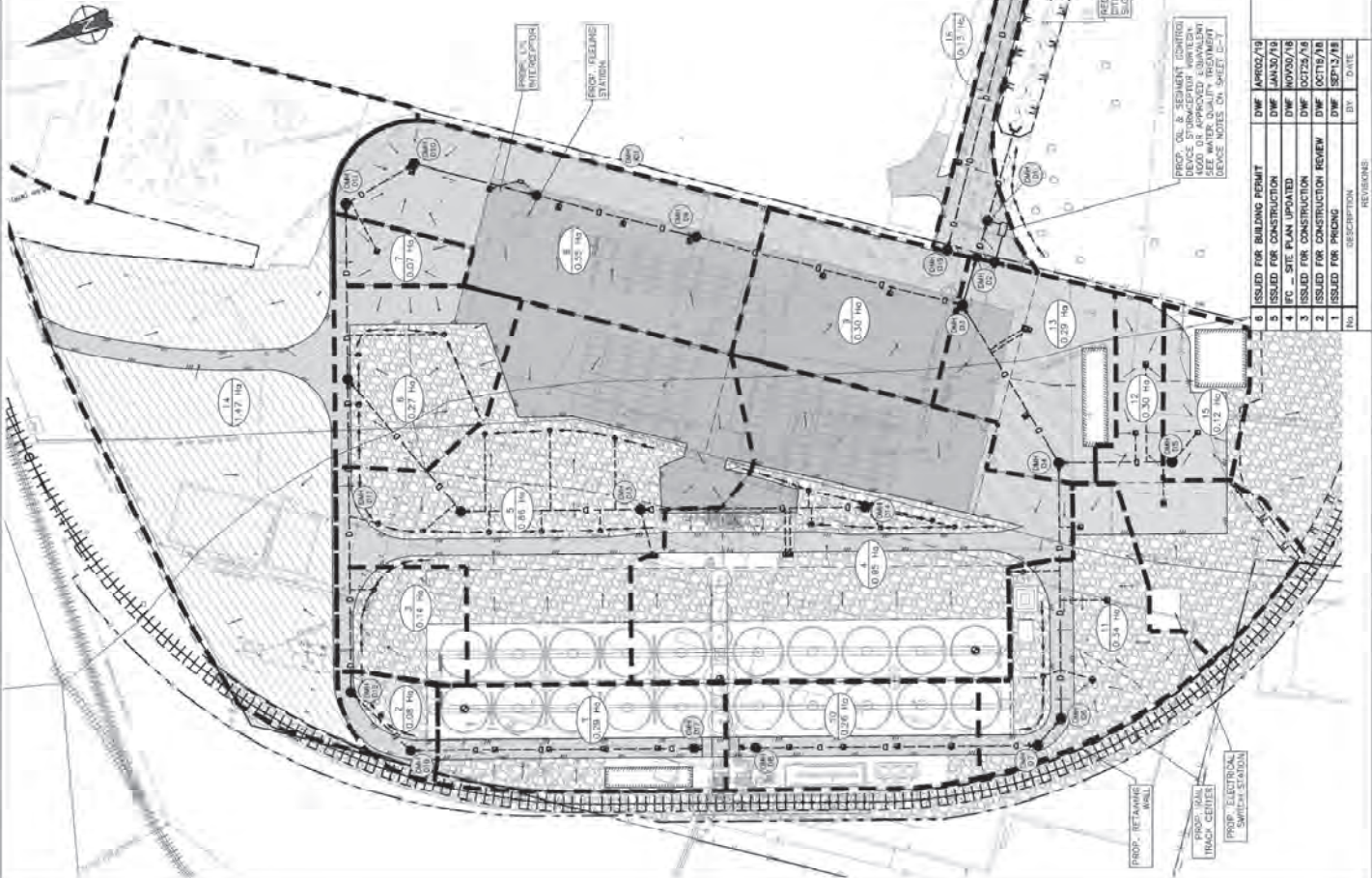
Fraser Grain Terminal  
City of Surrey  
1 Year Return - Metro Vancouver Regional Coastal & 1% for Climate Change

OF CURRENT DATA	
TIME (min)	Flow (mm)
POINT 1	8.1
POINT 2	15.1

PIPE LINE FROM TO	LENGTH (m)	PIPELINE PARAMETERS				NATIONAL METERS				3 Year One Day Precip (mm)	R	REMARKS	
		SLOPE (%)	SA (mm)	Chk. (mm)	Prop. (mm)	AREA (m <sup>2</sup> )	TC (mm)	I (mm)	TC (mm)				
D1E	57.9	1.64	203.4	285	1.14	4.29	0.29	14.90	18.1	0.85	0.026	0.040	Callout No. 1
D1B	21.8	1.94	223.1	256	1.09	10.66	0.37	18.71	18.1	0.79	0.031	0.040	Callout No. 2
D1C	51.5	1.30	208.2	306	1.03	0.75	1.3	1.14	1.19	0.85	0.039	0.052	Callout No. 3
D1D	51.5	1.37	208.2	275	1.03	1.62	1.49	0.86	0.82	0.79	0.031	0.040	Callout No. 4
D1E	50.0	1.42	193.2	405	1.03	1.03	1.46	0.86	1.81	0.82	0.031	0.040	Callout No. 5
D1F	81.3	1.14	203.2	605	1.03	0.76	2.03	1.02	4.38	0.82	0.031	0.040	Callout No. 6
D1G	32.4	1.14	167.2	605	1.03	0.81	0.50	0.07	1.90	0.82	0.031	0.040	Callout No. 7
D1H	50.0	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 8
D1I	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 9
D1J	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 10
D1K	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 11
D1L	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 12
D1M	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 13
D1N	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 14
D1O	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 15
D1P	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 16
D1Q	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 17
D1R	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 18
D1S	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 19
D1T	51.5	1.14	167.2	675	1.03	0.76	1.63	0.35	3.21	0.82	0.031	0.040	Callout No. 20



DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015



PROF. ELECTRICAL CONTROL TRACK CENTERS

PROF. ELECTRICAL CONTROL PANEL

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	APR 2018
2	ISSUED FOR CONSTRUCTION	MAY 2018
3	ISSUED FOR CONSTRUCTION	MAY 2018
4	ISSUED FOR CONSTRUCTION	MAY 2018
5	ISSUED FOR CONSTRUCTION	MAY 2018
6	ISSUED FOR CONSTRUCTION	MAY 2018
7	ISSUED FOR CONSTRUCTION	MAY 2018
8	ISSUED FOR CONSTRUCTION	MAY 2018
9	ISSUED FOR CONSTRUCTION	MAY 2018
10	ISSUED FOR CONSTRUCTION	MAY 2018

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	APR 2018
2	ISSUED FOR CONSTRUCTION	MAY 2018
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NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	APR 2018
2	ISSUED FOR CONSTRUCTION	MAY 2018
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6	ISSUED FOR CONSTRUCTION	MAY 2018
7	ISSUED FOR CONSTRUCTION	MAY 2018
8	ISSUED FOR CONSTRUCTION	MAY 2018
9	ISSUED FOR CONSTRUCTION	MAY 2018
10	ISSUED FOR CONSTRUCTION	MAY 2018

**ISL Engineering**  
and Architects

1:750

DATE: 2018-03-05  
DRAWN: [Name]  
CHECKED: [Name]  
APPROVED: [Name]

PROJECT: NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

FRASER GRAIN TERMINAL

STORM WATER MANAGEMENT PLAN

32022 C-08

12

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

- EXISTING IMPERVIOUS AREA CALCULATION**
1. IMPERVIOUS AREA A1 = 5.65 Ha, RUNOFF COEFFICIENT R = 0.9
  2. TREES / LANDSCAPING AREA A2 = 0.52 Ha, A3 = 0.40 Ha, A4 = 0.28 Ha, A5 = 1.51 Ha, RUNOFF COEFFICIENT R = 0.35
  3. TOTAL AREA = 6.37 Ha, COMBINED WEIGHTED IMPERVIOUS AREA = 3.59 Ha
  4. OVERALL NET IMPERVIOUS SURFACE RUNOFF COEFFICIENT = 0.66
  5. SEE SHEET C-06B FOR PROPOSED IMPERVIOUS AREA CALCULATION



**LEGEND**

- SURFACE FINISH
- SURFACE / FLOW DIRECTION
- SATURATED AREA

No.	DESCRIPTION	DATE
6	ISSUED FOR BUILDING PERMIT	04/02/16
5	ISSUED FOR CONSTRUCTION	04/02/16
4	ISSUED FOR CONSTRUCTION	04/02/16
3	ISSUED FOR CONSTRUCTION	04/02/16
2	ISSUED FOR CONSTRUCTION REVIEW	04/02/16
1	ISSUED FOR PRICING	04/02/16

No.	DESCRIPTION	DATE
1	ISSUED FOR PRICING	04/02/16
2	ISSUED FOR CONSTRUCTION REVIEW	04/02/16
3	ISSUED FOR CONSTRUCTION	04/02/16
4	ISSUED FOR CONSTRUCTION	04/02/16
5	ISSUED FOR CONSTRUCTION	04/02/16
6	ISSUED FOR BUILDING PERMIT	04/02/16

**ISL Engineering and Land Services**

2701, 40th St., Unit 200  
 Surrey, BC V3T 2M7  
 Tel: (604) 571-0208  
 Fax: (604) 571-0208  
 www.islandengineering.com

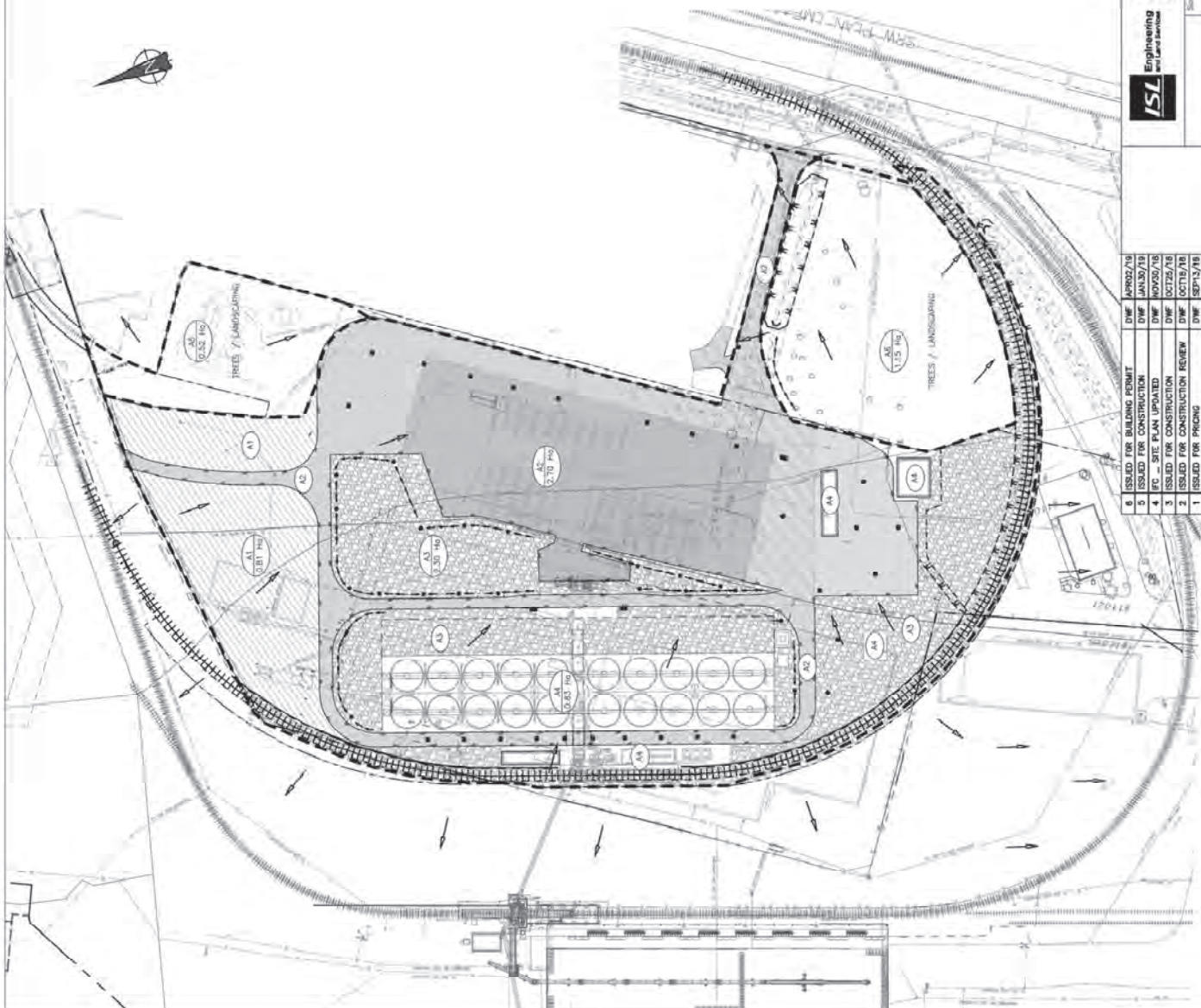
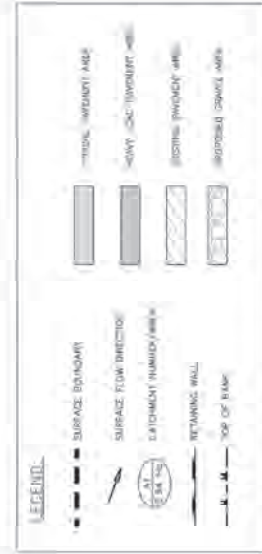
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Drawn: [Name] Date: MAR 2016  
 Checked: [Name] Date: MAR 2016  
 Designated Number: 547

**FRASER GRAIN TERMINAL**  
**NEW GRAIN EXPORT FACILITY**  
 11041 ELEVATOR ROAD, SURREY

DESIGNED TO MEET THE NATIONAL BUILDING CODE, 2015

- PROPOSED IMPERVIOUS AREA CALCULATION:**
- EXISTING PAVEMENT AREA  $A_1 = 0.81 \text{ Ha}$ ,  
RUNOFF COEFFICIENT  $R = 0.9$
  - PROPOSED PAVEMENT AREA  $A_2 = 2.70 \text{ Ha}$ ,  
RUNOFF COEFFICIENT  $R = 0.9$
  - PROPOSED GRAVEL AREA  $A_3 = 2.30 \text{ Ha}$ ,  
RUNOFF COEFFICIENT  $R = 0.6$
  - BUILDING/CONCRETE SLAB AREA  
 $A_4 = 0.83 \text{ Ha}$ , RUNOFF COEFFICIENT  $R = 0.1$
  - TREE/LANDSCAPING AREA  $A_5 = 0.52 \text{ Ha}$ ,  
 $A_6 = 1.15 \text{ Ha}$ , RUNOFF COEFFICIENT  $R = 0.25$
  - TOTAL AREA =  $8.31 \text{ Ha}$ , COMBINED  
WEIGHTED IMPERVIOUS AREA =  $5.70 \text{ Ha}$
  - OVERALL NET IMPERVIOUS SUBGRADE RUNOFF  
COEFFICIENT =  $0.688$
- NOTE: SEE SHEET C-08A FOR EXISTING IMPERVIOUS AREA CALCULATION.



No.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	NOV 2017
2	ISSUED FOR CONSTRUCTION	NOV 2017
3	ISSUED FOR CONSTRUCTION REVIEW	NOV 2017
4	ISSUED FOR PERMIT	NOV 2017

No.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	NOV 2017
2	ISSUED FOR CONSTRUCTION	NOV 2017
3	ISSUED FOR CONSTRUCTION REVIEW	NOV 2017
4	ISSUED FOR PERMIT	NOV 2017

REVISIONS:

**ISL Engineering and Land Services**

1:1000

Scale

FRASER GRAIN TERMINAL  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

**LIST OF SERVICE PROVIDERS AND STATUS OF CONTACT**

Service Type	Authority	Status
Water Supply	City of Surrey	SA has discussed with COS. Per (sanitary and drainage superintendant) and John (waterworks superintendant), with respect to establishing service connections in May, 2018.
Sanitary Sewer	Private Sanitary District Met to Vancouver	Proposed sanitary loading is less than previous tenant. Discussions with MV and FSD started May 31, 2018.
Storm sewer	Vancouver Fire and EMS Authority	PER process has included review of storm sewer loading with VFA. Proposed discharge is slightly less than existing.
Electricity	BC Hydro	Capacity to support project confirmed with PWS and Michael Masouli, Aug 16, 2018.
Phone/Fiber Optic	Telus	Capacity to support project confirmed with Renjita Bava, Aug 6, 2018.
Natural Gas	Enbridge BC Metro Vancouver (MV)	Capacity support project confirmed with Jaso Sidhu, Aug 2, 2018. Meeting between FS and MV to present updated design and submit preliminary design documents held on May 31 <sup>st</sup> , 2018. MV Comments received Aug 8 <sup>th</sup> , 2018 are under review. Follow up meeting to be scheduled as required to discuss design details and provide additional info until work consent is obtained from MV.

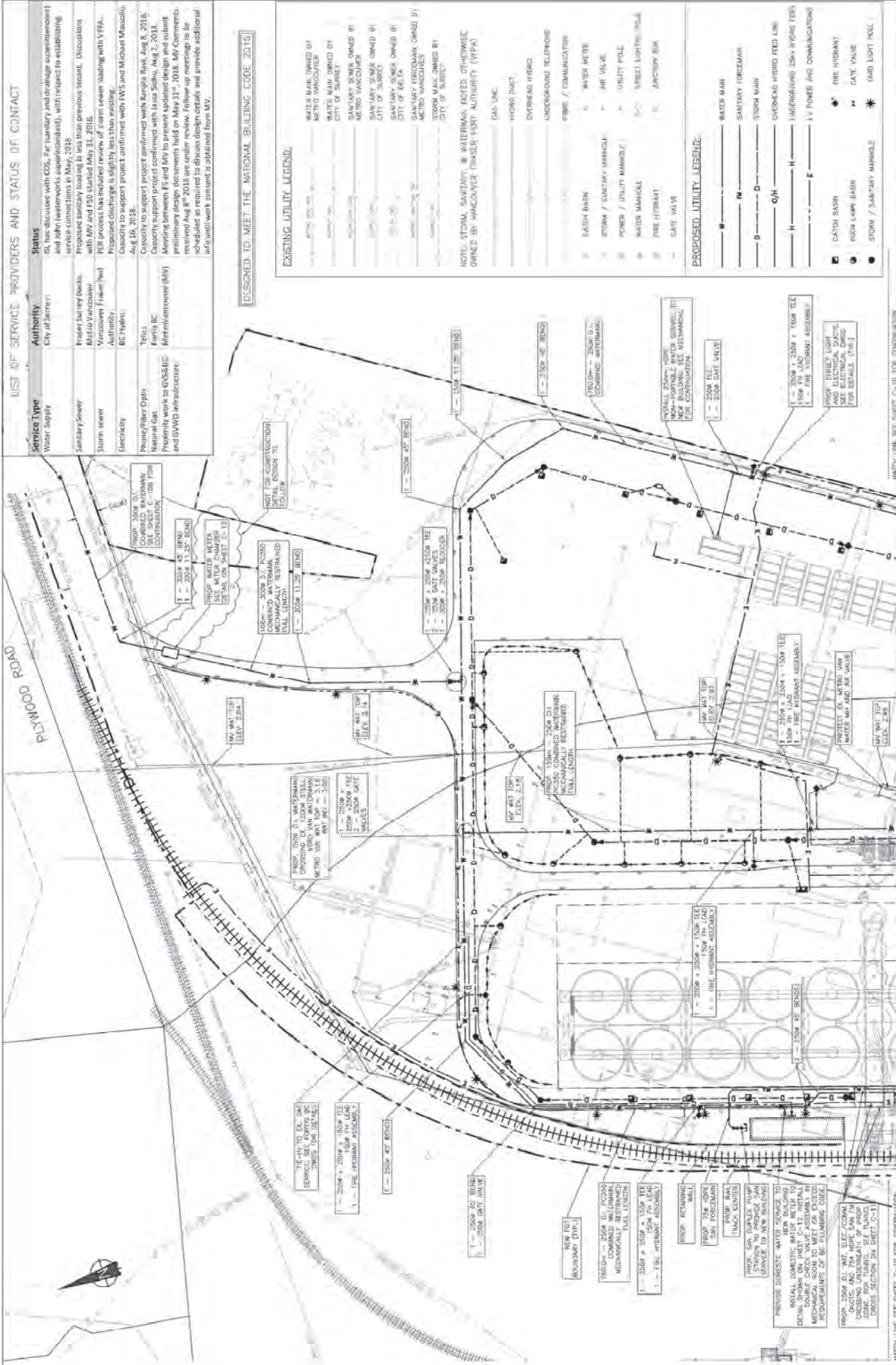
DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

**EXISTING UTILITY LEGEND**

- WATER MAIN OWNED BY METRO VANCOUVER
  - WATER MAIN OWNED BY CITY OF SURREY
  - SANITARY SEWER OWNED BY METRO VANCOUVER
  - SANITARY SEWER OWNED BY CITY OF SURREY
  - SANITARY SINGLE OWNED BY CITY OF DELTA
  - SANITARY TOWER OWNED BY METRO VANCOUVER
  - STORM MAIN OWNED BY CITY OF SURREY
- NOTE: STORM, SANITARY & WATERMAIN NOTED OTHERWISE OWNED BY WHICHAEVER RAISER PORT AUTHORITY (VFA)
- GAS LINE
  - HYDRO DUCT
  - OVERHEAD HYDRO
  - UNDERGROUND TELEPHONE
  - FIBRE / COMMUNICATORY
  - WATER METER
  - AIR VALVE
  - UTILITY POLE
  - STREET LIGHTING POLE
  - FIRE HYDRANT
  - GATE VALVE

**PROPOSED UTILITY LEGEND**

- WATER MAIN
- SANITARY FORCEMAIN
- STORM MAIN
- OVERHEAD HYDRO FEED LINE
- UNDERGROUND 200A HYDRO FEED
- 1. V. POWER AND COMMUNICATION
- 2. FIRE HYDRANT
- 3. GATE VALVE
- 4. (M) LIGHT POLE



MATCH LINE SEE SHEET C-10 FOR CONTINUATION

7 ISSUED FOR BUILDING PERMIT DWF APR03/19

6 REVISED WEST WATERMAIN DWF MAR03/19

5 ISSUED FOR CONSTRUCTION DWF JAN05/19

4 PFC - SITE PLAN UPDATED DWF NOV05/19

3 ISSUED FOR CONSTRUCTION DWF OCT05/19

2 ISSUED FOR CONSTRUCTION REVIEW DWF OCT05/19

1 ISSUED FOR CONSTRUCTION REVIEW DWF OCT05/19

Scale: 1:500

Design/Drawn: SV Date: MAR 2019

Check/Revised: SV Date: MAR 2019

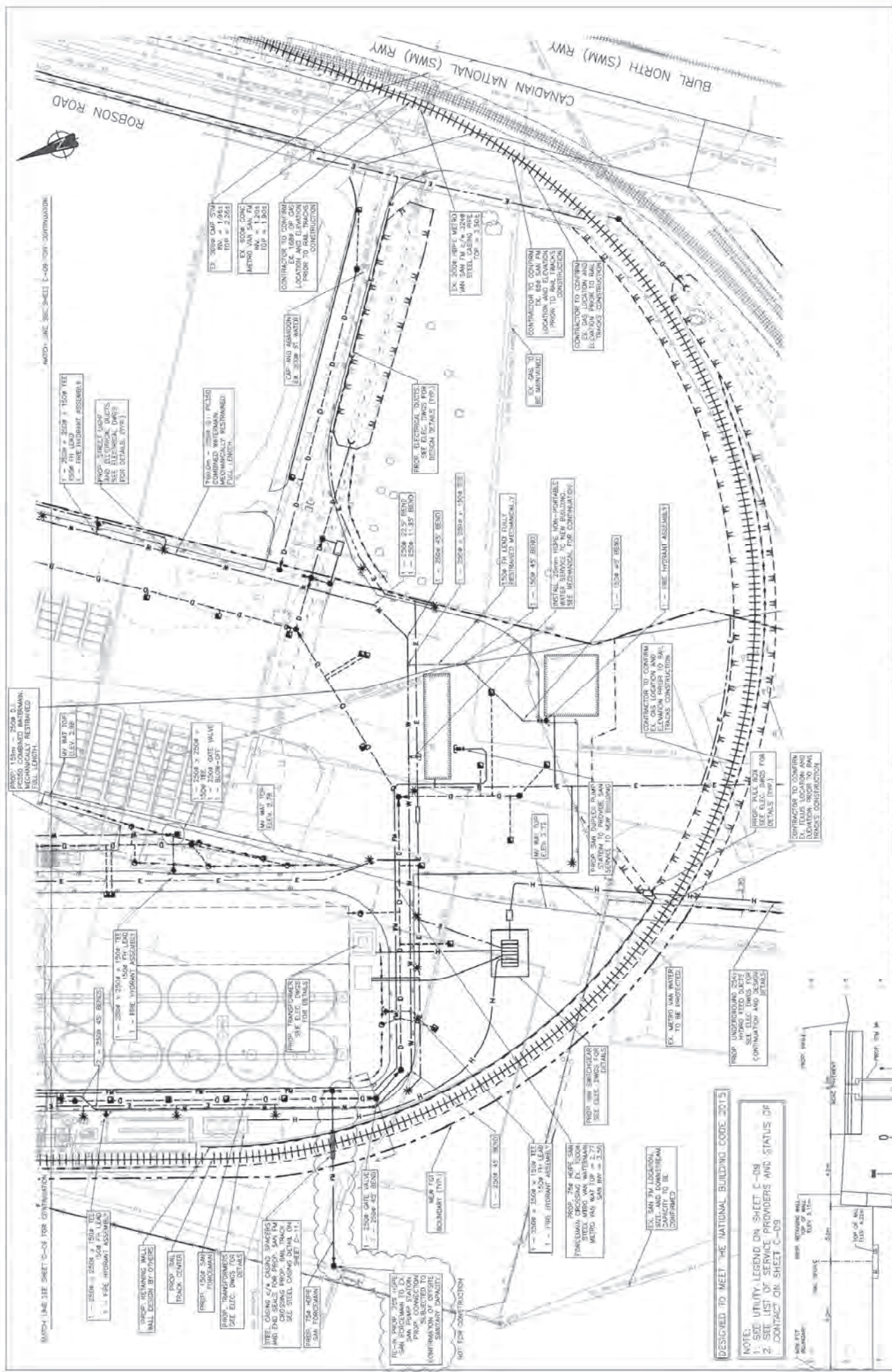
Project: FRASER GRAIN TERMINAL  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

Client: ISL Engineering  
11041 Elevator Road, Surrey, BC V4A 4K9  
www.isl-engineering.com

North  
NORTH  
SANITARY & WATERMAIN  
PLAN

Sheet No: 15





DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

NOTE:  
 1. SEE UTILITY LEGEND ON SHEET C-08  
 2. SEE LIST OF SERVICE PROVIDERS AND STATUS OF CONTRACT ON SHEET C-03

<b>FRASER GRAIN TERMINAL</b> <b>NEW GRAIN EXPORT FACILITY</b> <b>11041 ELEVATOR ROAD, SURREY</b> <b>SANITARY &amp; WATERMAIN PLAN</b>		County No. <b>32022 C-1D</b> Sheet No. <b>16</b>
<p><b>ISL Engineering</b>          and Land Services</p> <p>Project No. <b>15-008</b>          Drawing No. <b>SW</b>          Date: <b>MAY 2018</b>          Revision: <b>SW</b></p>	<p>Scale: <b>1:500</b></p> <p>Contractor: <b>SW</b>          Date: <b>MAY 2018</b></p>	
<p>7. ISSUED FOR BUILDING PERMIT          6. REVISIONS          5. REVISED WATERMAIN          4. REVISIONS          3. REVISIONS          2. ISSUED FOR CONSTRUCTION REVIEW          1. ISSUED FOR CONSTRUCTION</p>		
SECTION A-A SCALE: 1:100		



MATCH LINE SEE SHEET E-10 FOR CONTINUATION

MATCH LINE SEE SHEET C-10 FOR CONTINUATION

PROP. UNDERGROUND 150V AIRCRAFT POWER POLE TO EXISTING POWER POLE TO BE LOCATED IN CONFORMANCE WITH LOCAL REGULATIONS. SEE ELECTRICAL SPECIFICATIONS FOR DETAILS.

PROP. UNDERGROUND 150V AIRCRAFT POWER POLE TO EXISTING POWER POLE TO BE LOCATED IN CONFORMANCE WITH LOCAL REGULATIONS. SEE ELECTRICAL SPECIFICATIONS FOR DETAILS.

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

**EXISTING UTILITY LEGEND:**

- WATER MAIN OWNED BY METRO VANCOUVER
- WATER MAIN OWNED BY CITY OF SURREY
- SANITARY SEWER OWNED BY METRO VANCOUVER
- SANITARY SEWER OWNED BY CITY OF SURREY
- SANITARY SEWER OWNED BY CITY OF POKELONG
- STORM MAIN OWNED BY METRO VANCOUVER
- STORM MAIN OWNED BY CITY OF SURREY

NOTE: STORM, SANITARY, & WATERMAIN NOTED OTHERWISE OWNED BY VANCOUVER FRASER PORT AUTHORITY (VFPA)

- 64S LINE
- HYDRO DUCT
- OVERHEAD HYDRO
- UNDERGROUND TELEPHONE
- FIBRE / COMMUNICATION
- ELECTRICAL
- WATER METER
- STORM / SANITARY MANHOLE
- POWER / UTILITY MANHOLE
- WATER MANHOLE
- FIRE HYDRANT
- AIR VALVE
- UTILITY POLE
- STREET LIGHTING POLE
- BARJON BOX

**PROPOSED UTILITY LEGEND:**

- WATER MAIN
- SANITARY FORCE MAIN
- STORM MAIN
- OVERHEAD HYDRO FEED LINE
- UNDERGROUND 150V HYDRO FEED
- LV POWER AND COMMUNICATIONS
- CATCH BASIN
- WATER VALVE
- STORM / SANITARY MANHOLE
- FIRE HYDRANT
- GATE VALVE
- WATER LIGHT POLE

**REVISONS**

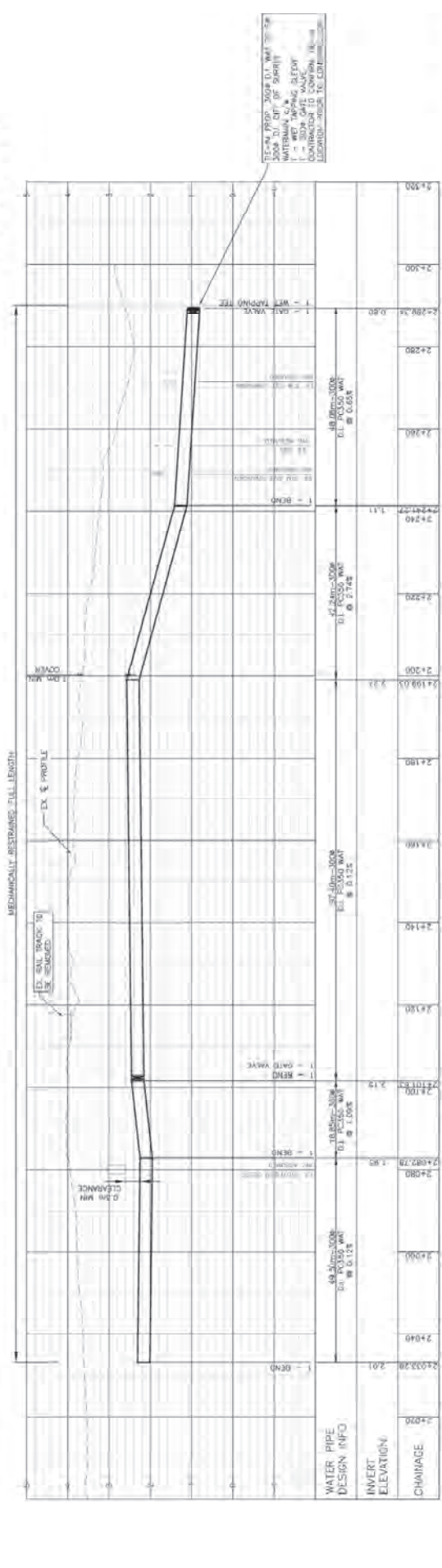
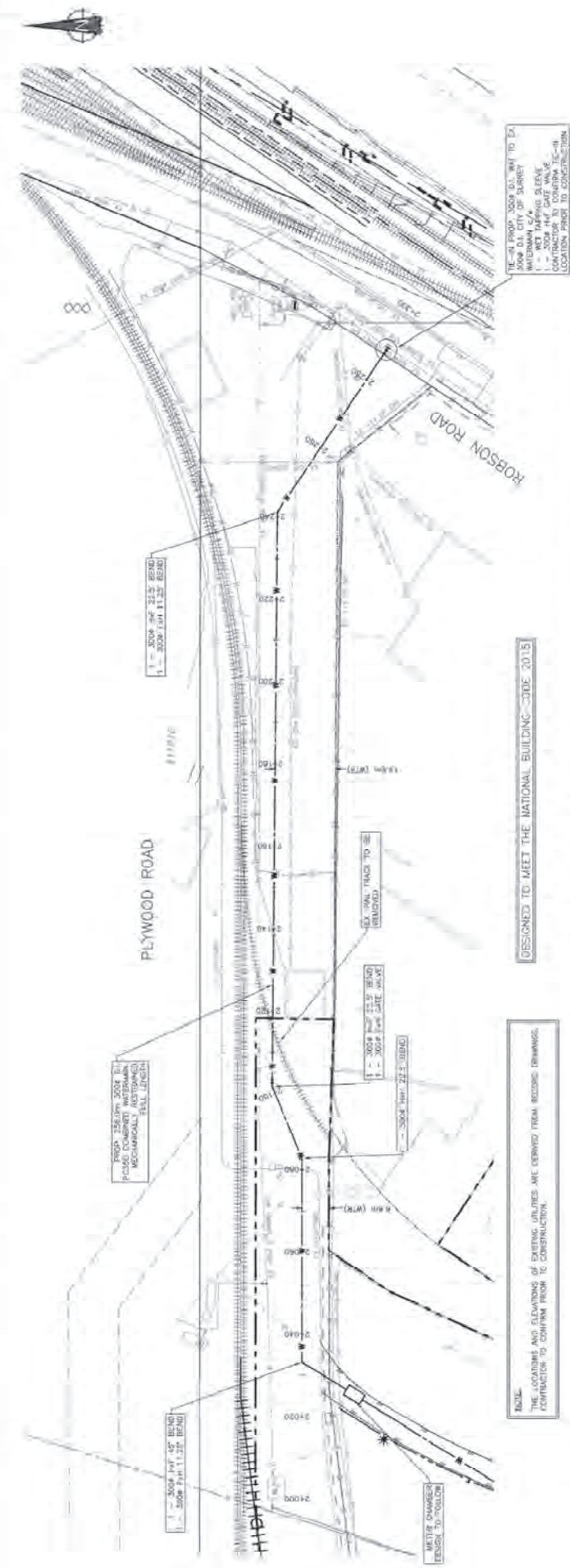
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2	ISSUED FOR CONSTRUCTION	DM	MAR/20/18
3	REV. SITE PLAN UPDATED	DM	MAR/20/18
4	ISSUED FOR CONSTRUCTION	DM	OCT/18/18
5	ISSUED FOR CONSTRUCTION	DM	OCT/18/18

**ISL Engineering**  
 4571, 40th - 200 STREET  
 LANGLEY, B.C. V4Y 1A1  
 TEL: (604) 571-1000  
 FAX: (604) 571-0000  
 www.isl-engineering.com

Scale: **1:500**

**FRASER GRAIN TERMINAL**  
**NEW GRAIN EXPORT FACILITY**  
**11041 ELEVATOR ROAD, SURREY**

Issued: 09/18  
 Prepared: 09/18  
 Energy Consultant: ISL  
 Design Review: ISL  
 Date: MAR 2018  
 Date: MAR 2018



NO.	REVISION	DATE
1	ISSUED FOR CONSTRUCTION	09F MAR 2018
2	ISSUED FOR BUILDING PERMIT	09F APR 2018

DESIGNED BY	CHKD BY	DATE
DESIGNED BY	CHKD BY	DATE

SCALE	1:500
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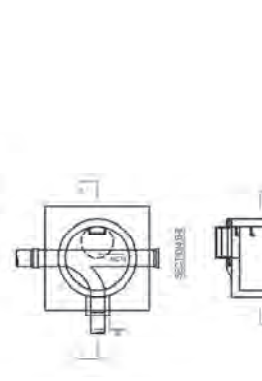
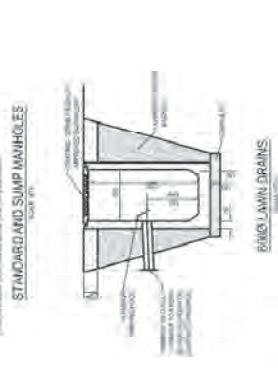
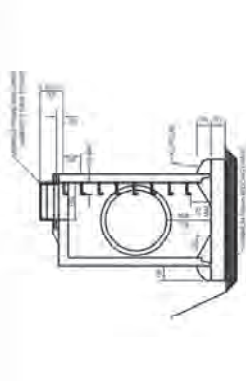
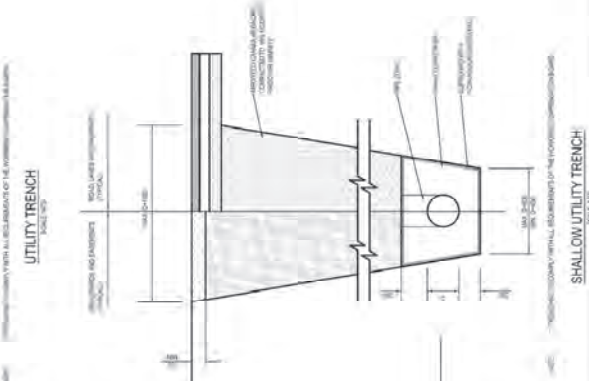
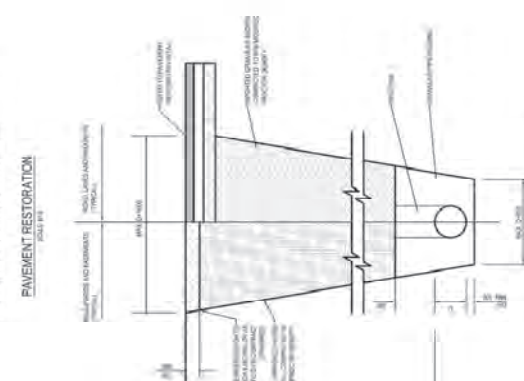
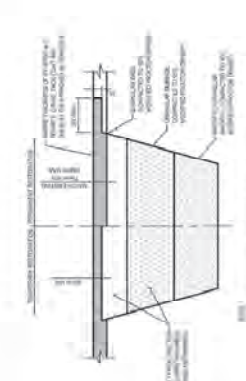
  

PROJECT NO.	32022
PROJECT NAME	FRASER GRAIN TERMINAL
CLIENT	NEW GRAIN EXPORT FACILITY
LOCATION	11041 ELEVATOR ROAD, SURREY

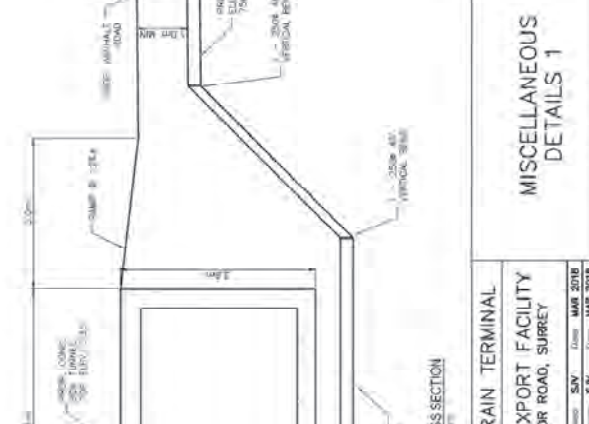
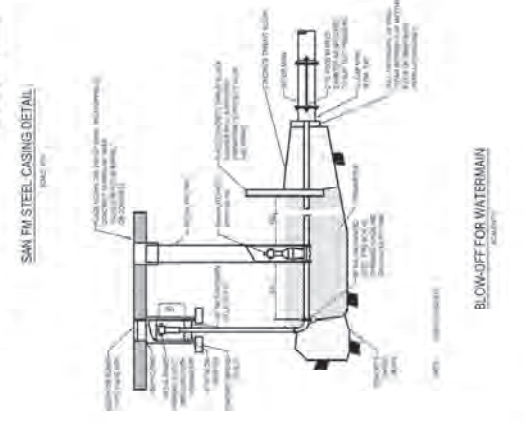
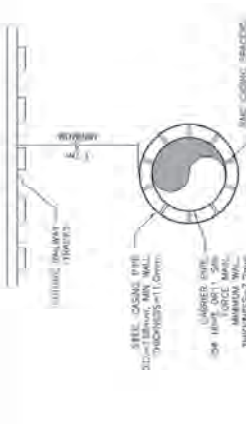
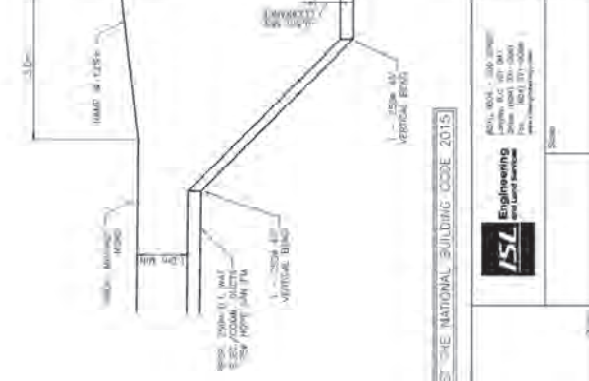
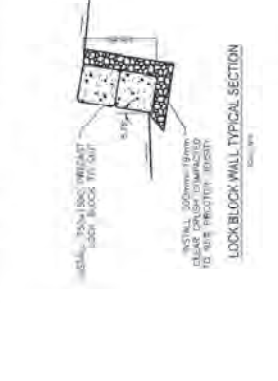
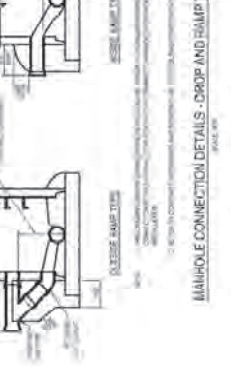
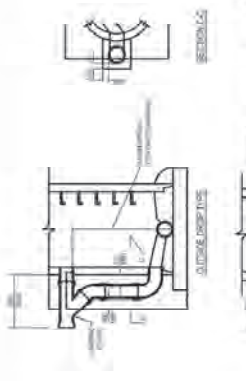
  

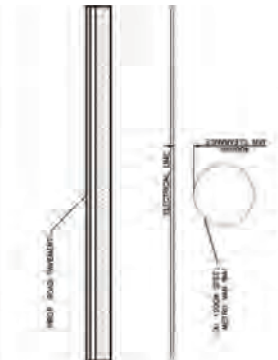
DATE	MAR 2018
DATE	MAR 2018

WATERMAIN ON  
PLYWOOD RD  
PLAN & PROFILE

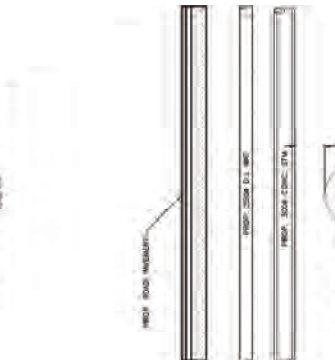


NO.	REVISIONS	DATE
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2	ISSUED FOR CONSTRUCTION	2018/03/15
3	ISSUED FOR CONSTRUCTION	2018/03/15
4	ISSUED FOR CONSTRUCTION	2018/03/15
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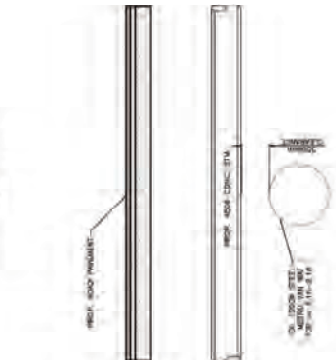




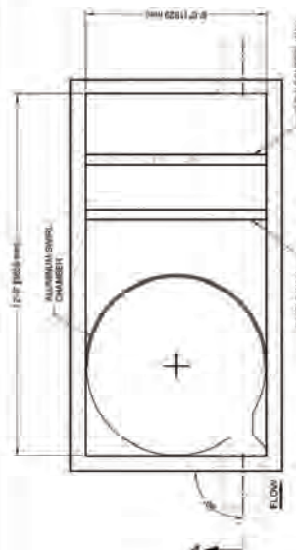
**TYPICAL ELECTRICAL CROSSING DETAIL**  
SCALE: 1/8" = 1'-0"



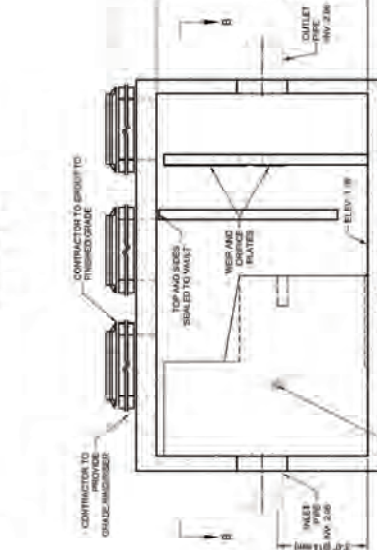
**METRO VAN WAT NORTH CROSSING 1 DETAIL**  
SCALE: 1/8" = 1'-0"



**METRO VAN WAT NORTH CROSSING 2 DETAIL**  
SCALE: 1/8" = 1'-0"

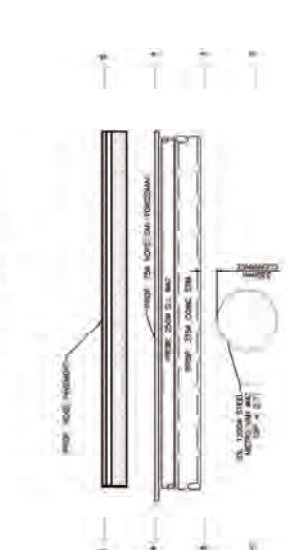


**SECTION B-B**

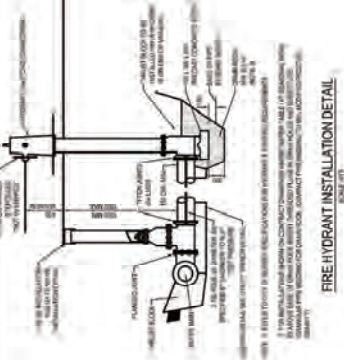


**SECTION A-A**

NOTES:  
1. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR APPROVAL PRIOR TO CONSTRUCTION.  
(CORRECS MODEL 4.000 DETAILS)  
SCALE: 1/8" = 1'-0"



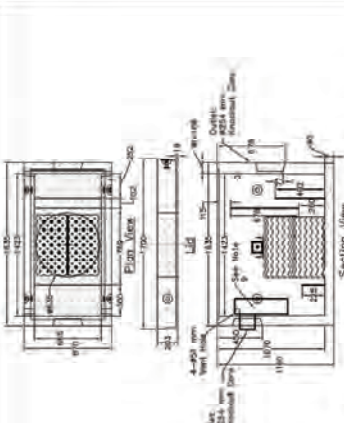
**METRO VAN WAT SOUTH CROSSING DETAIL**  
SCALE: 1/8" = 1'-0"



**PRE-HYDRANT INSTALLATION DETAIL**  
SCALE: 1/8" = 1'-0"



**GATE VALVE INSTALLATION DETAIL**  
SCALE: 1/8" = 1'-0"



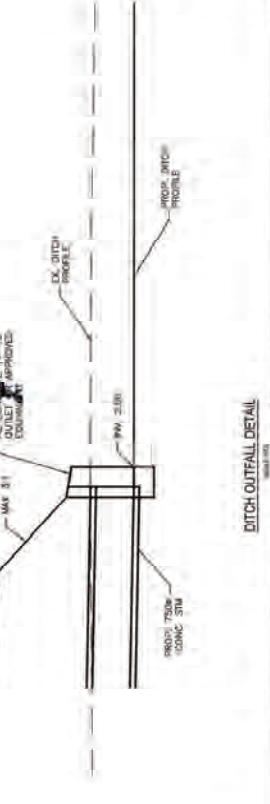
**OIL INTERCEPTOR DETAIL**  
TYPE 1 COALESCING PLATE OIL INTERCEPTOR 8 MM SPACING  
SCALE: 1/8" = 1'-0"



**15000 MH D/L LAYOUT**



**15000 MH D/L LAYOUT**



**DITCH OUTFALL DETAIL**  
SCALE: 1/8" = 1'-0"

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

No.	DESCRIPTION	BY	DATE
7	ISSUED FOR BUILDING PERMIT	DMF	APR/2015
6	ISSUED FOR CONSTRUCTION	DMF	JAN/2015
5	REVISED CROSS SECTIONS	RFI	DEC/2015
4	IFC - SITE PLAN UPDATED	DMF	NOV/2015
3	ISSUED FOR CONSTRUCTION REVIEW	DMF	OCT/2015
2	ISSUED FOR CONSTRUCTION REVIEW	DMF	OCT/2015

**ISL Engineering**  
Civil and Structural  
1501, Bldg - 200 SW 11th  
Lansdale, BC V7Y 1M1  
Tel: (604) 371-0088  
Fax: (604) 371-0088  
www.islengineering.com

**FRASER GRAIN TERMINAL**  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

Drawn: DMF  
Checked: DMF  
Designed: DMF

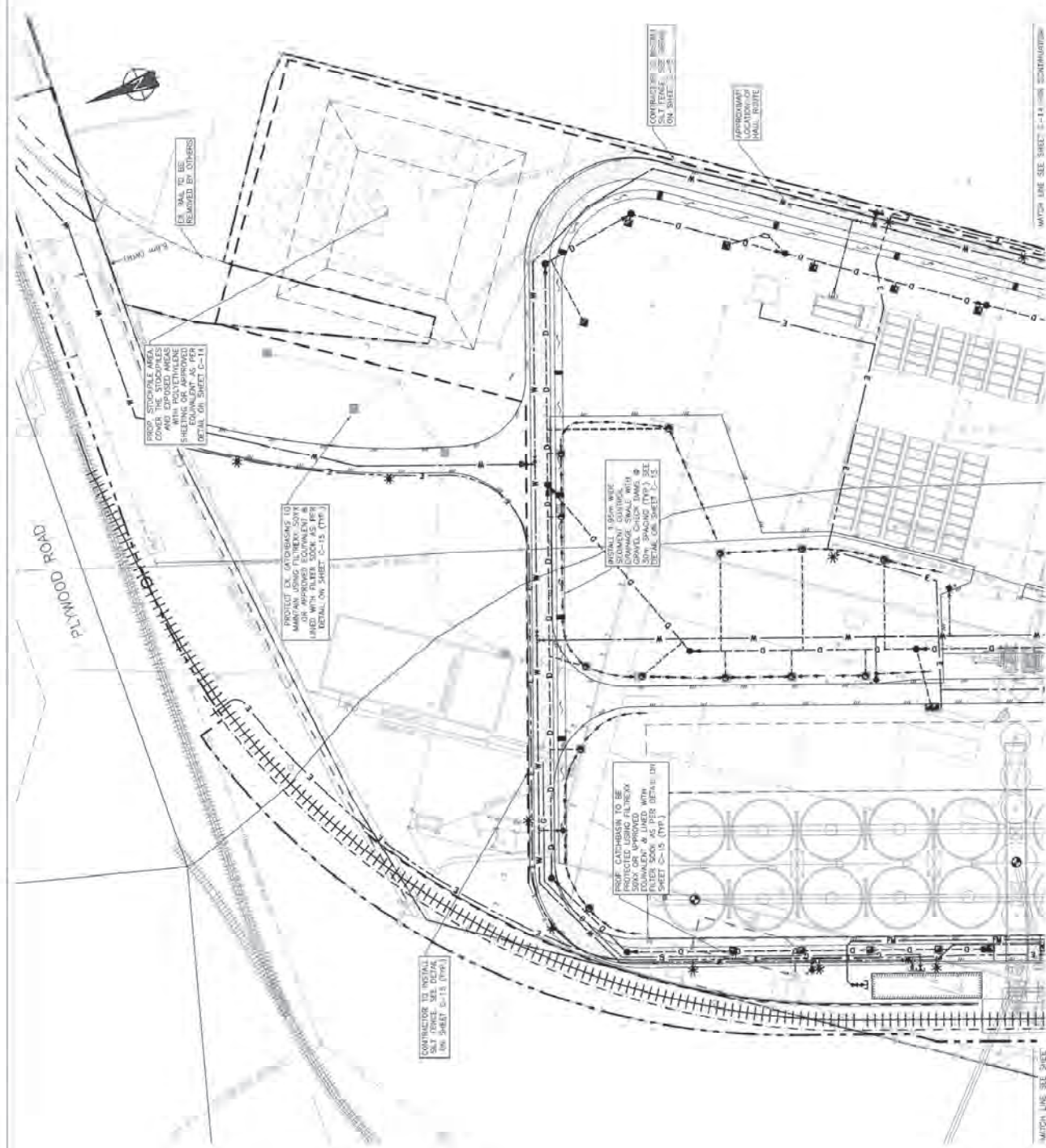
Scale: 1/8" = 1'-0"

Date: MAR 2015  
Date: MAR 2015

**EROSION & SEDIMENT CONTROL (ES&S) GENERAL NOTES**

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CURRENT NATIONAL BUILDING CODE AND THE NATIONAL FIRE MARSHAL SERVICE.
2. EROSION & SEDIMENT CONTROL MEASURES SHALL BE DESIGNED TO PREVENT EROSION AND SEDIMENTATION FROM OCCURRING ON THE CONSTRUCTION SITE. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE DESIGNED TO PREVENT EROSION AND SEDIMENTATION FROM OCCURRING ON THE CONSTRUCTION SITE. ALL EROSION & SEDIMENT CONTROL MEASURES SHALL BE DESIGNED TO PREVENT EROSION AND SEDIMENTATION FROM OCCURRING ON THE CONSTRUCTION SITE.
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DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015



MATCH LINE SEE SHEET C-14 (TYP) CONTINUATION

<p><b>FRASER GRAIN TERMINAL</b>  <b>NEW GRAIN EXPORT FACILITY</b>          11041 ELEVATOR ROAD, SURREY</p>		<p><b>NORTH</b>  <b>EROSION &amp; SEDIMENT</b>  <b>CONTROL PLAN</b></p>
<p>Scale: <b>1:500</b></p>		
<p>DATE: <b>MAR 2018</b></p>		<p>Sheet No. <b>21</b></p>
<p>DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015</p>		

MATCH LINE SEE SHEET C-14 FOR CONTINUATION

MATCH LINE SEE SHEET E-13 FOR CONTINUATION

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2012

INSTALL 50MM WIDE DRAINAGE SWALE WITH PERFORATED PLASTIC LINER (SEE DETAIL ON SHEET C-15)

INSTALL 50MM WIDE DRAINAGE SWALE WITH PERFORATED PLASTIC LINER (SEE DETAIL ON SHEET C-15)

CONTRACTOR TO INSTALL EXCESS FLOW ACCESS VALVE (SEE DETAIL ON SHEET E-13)

INSTALL 50MM WIDE DRAINAGE SWALE WITH PERFORATED PLASTIC LINER (SEE DETAIL ON SHEET C-15)

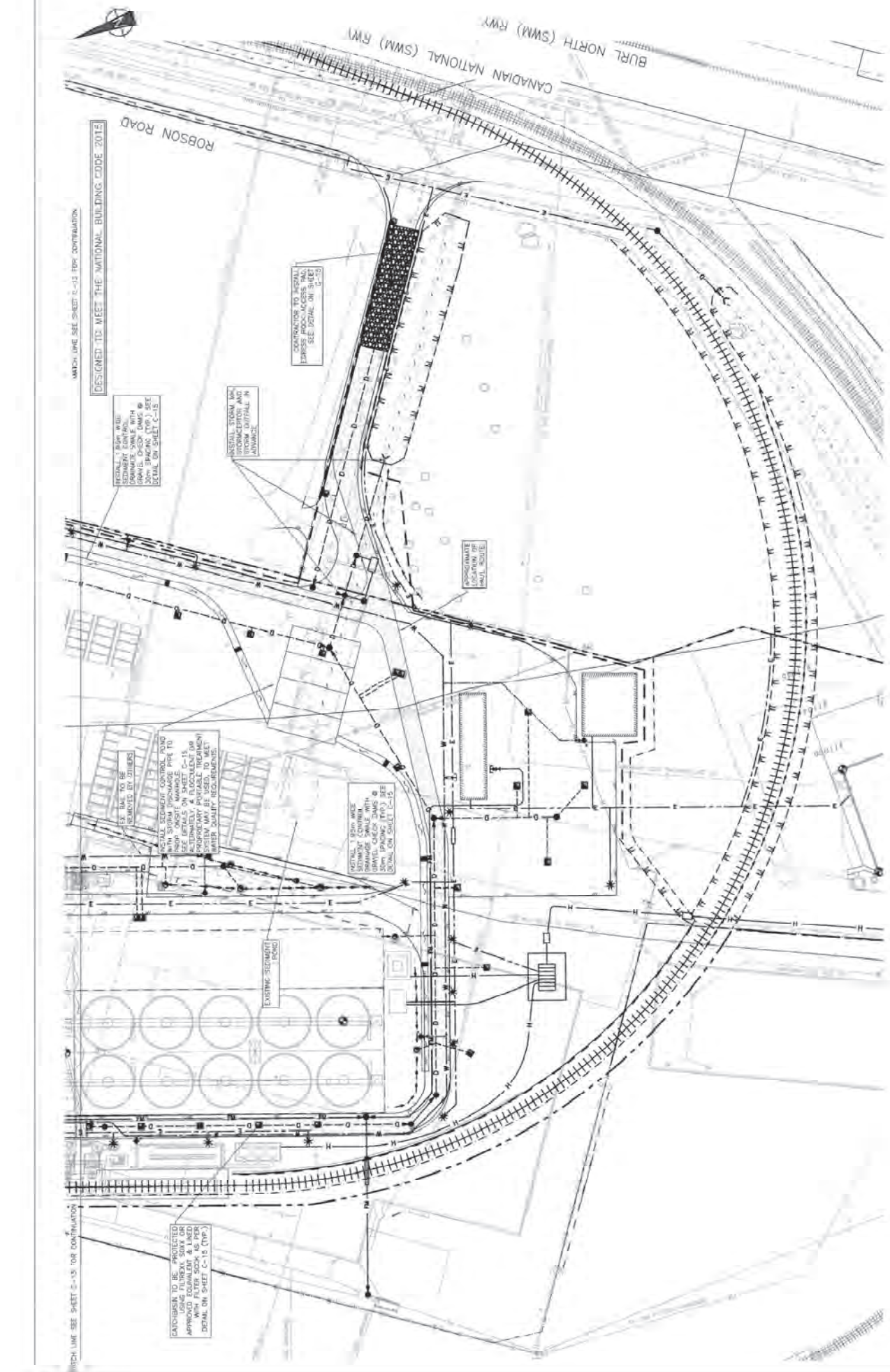
CONTRACTOR TO INSTALL EXCESS FLOW ACCESS VALVE (SEE DETAIL ON SHEET E-13)

INSTALL 50MM WIDE DRAINAGE SWALE WITH PERFORATED PLASTIC LINER (SEE DETAIL ON SHEET C-15)

EXISTING SEWAGE PUMP

EXISTING SEWAGE PUMP

EXISTING SEWAGE PUMP



NO.	ISSUED FOR BUILDING PERMIT	DWG.	APPROVED BY	DATE
1	ISSUED FOR CONSTRUCTION	SWP	MAR 2018	
2	ISSUED FOR CONSTRUCTION	SWP	MAR 2018	
3	ISSUED FOR CONSTRUCTION	SWP	MAR 2018	
4	ISSUED FOR CONSTRUCTION	SWP	MAR 2018	
5	ISSUED FOR PROGRESS	SWP	SEP 2017	



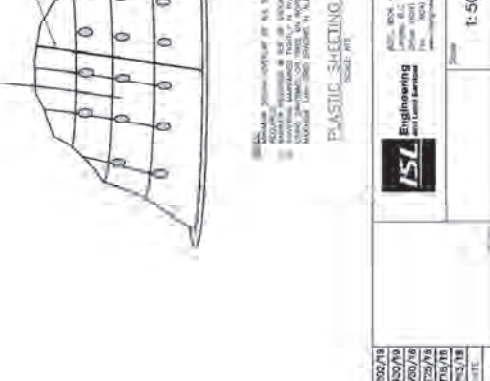
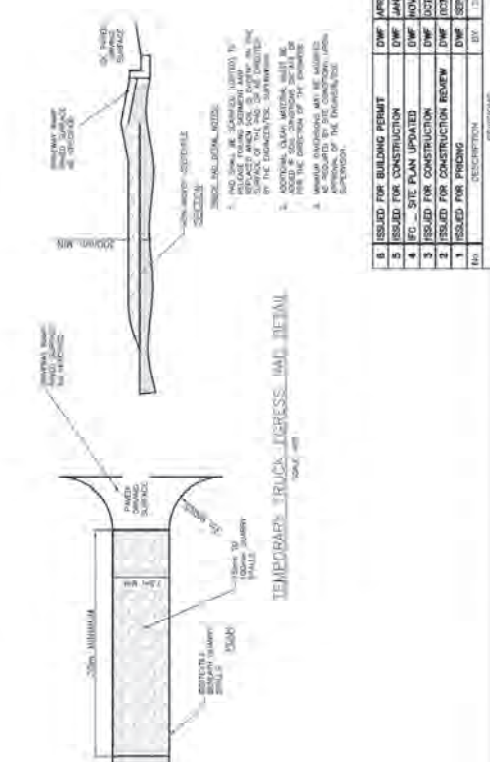
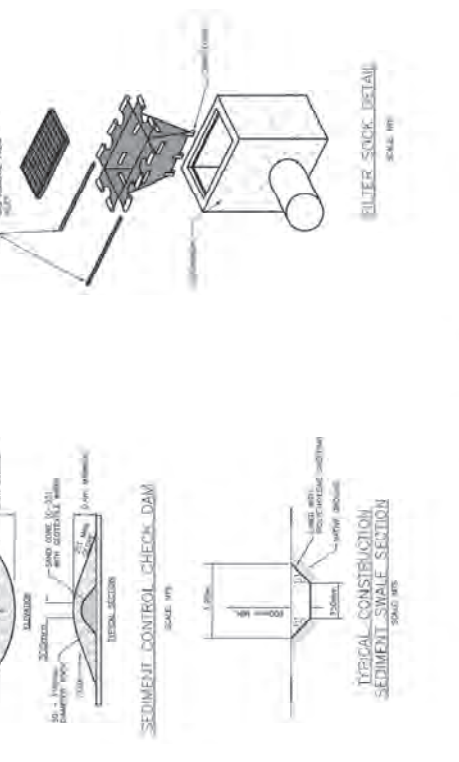
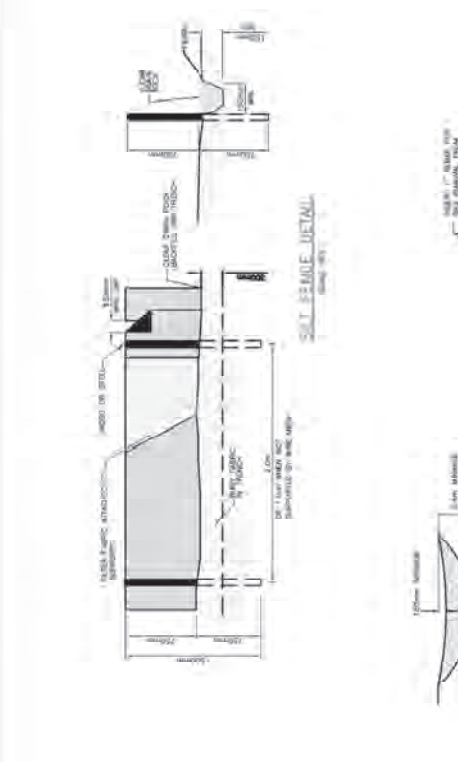
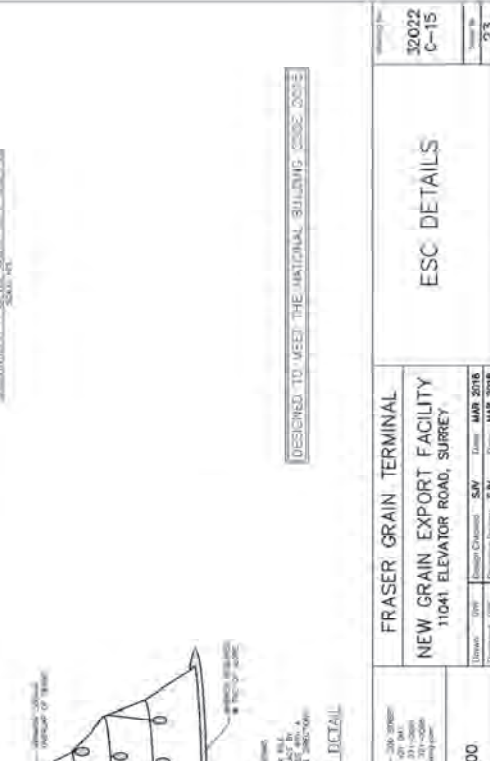
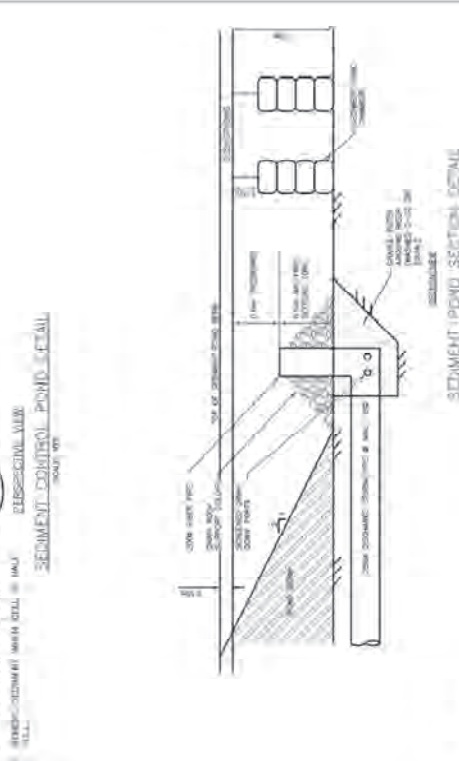
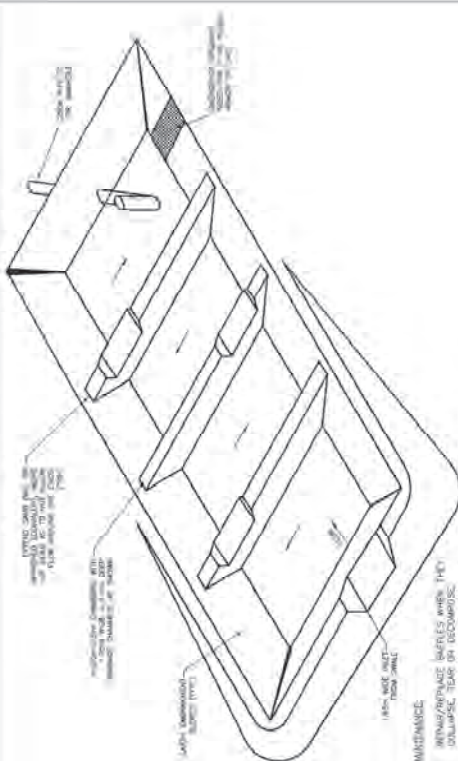
1:500

DATE: MAR 2018  
DRAWN: SVK  
CHECKED: SVK  
DESIGNED: SVK  
PROJECT: NEW GRAIN EXPORT FACILITY

FRASER GRAIN TERMINAL  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

32022  
C-14  
22

DATE: MAR 2018  
DRAWN: SVK  
CHECKED: SVK  
DESIGNED: SVK  
PROJECT: NEW GRAIN EXPORT FACILITY



DESIGNED TO MEET THE NATIONAL BUILDING CODE 2002

<b>FRASER GRAIN TERMINAL</b> <b>NEW GRAIN EXPORT FACILITY</b> 11041 ELEVATOR ROAD, SURREY		Project No: <b>SW-2018-001</b> Date: <b>MAR 2018</b>
Drawn: <b>SW</b> Checked: <b>SW</b> Design/Reviewed: <b>SW</b>	Scale: <b>1:500</b>	Sheet No: <b>23</b>
<b>ISL Engineering</b> 11000 151st Street, Surrey, BC V3R 4K1 Tel: 604.591.1000 Fax: 604.591.1001 www.isl-engineering.com		
<b>REVISIONS</b>	<b>DATE</b>	<b>DESCRIPTION</b>
1	02/20/18	ISSUED FOR PERMIT
2	03/05/18	ISSUED FOR CONSTRUCTION
3	03/05/18	ISSUED FOR CONSTRUCTION
4	03/05/18	ISSUED FOR CONSTRUCTION
5	03/05/18	ISSUED FOR CONSTRUCTION
6	03/05/18	ISSUED FOR CONSTRUCTION
7	03/05/18	ISSUED FOR CONSTRUCTION
8	03/05/18	ISSUED FOR CONSTRUCTION
9	03/05/18	ISSUED FOR CONSTRUCTION
10	03/05/18	ISSUED FOR CONSTRUCTION





**REMOVALS LEGEND**

- 1 REMOVE EXISTING UTILITY FROM THE SITE (TO BE ABANDONED) BY A LATER DATE (TO BE DETERMINED BY THE CLIENT AND THE CONTRACTOR)
- 2 REMOVE EXISTING UTILITY FROM THE SITE (TO BE ABANDONED) BY A LATER DATE (TO BE DETERMINED BY THE CLIENT AND THE CONTRACTOR) AND REPAIR EXISTING UTILITY
- 3 REMOVE EXISTING UTILITY FROM THE SITE (TO BE ABANDONED) BY A LATER DATE (TO BE DETERMINED BY THE CLIENT AND THE CONTRACTOR) AND REPAIR EXISTING UTILITY AND REPAIR EXISTING UTILITY
- 4 REMOVE EXISTING UTILITY FROM THE SITE (TO BE ABANDONED) BY A LATER DATE (TO BE DETERMINED BY THE CLIENT AND THE CONTRACTOR) AND REPAIR EXISTING UTILITY AND REPAIR EXISTING UTILITY AND REPAIR EXISTING UTILITY

UTILITY TO BE ABANDONED IN THIS LOCATION (TO BE DETERMINED BY THE CLIENT AND THE CONTRACTOR)

UTILITY TO BE ABANDONED IN THIS LOCATION (TO BE DETERMINED BY THE CLIENT AND THE CONTRACTOR)

NOTE: ADDITIONAL REMOVAL MAY BE REQUIRED WHERE NEW UTILITIES CROSSING EXISTING UTILITIES TO BE ABANDONED DURING UTILITY INSTALLATION.

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

**LEGEND:**

- WATER MAIN
- SEWER
- STORM / SANITARY SEWER
- STORM / UTILITY MAIN
- POWER / UTILITY MAIN
- FIRE HYDRANT
- PIPE VALVE
- WATER METER
- AIR VALVE
- UTILITY POLE
- STREET LIGHTING POLE
- JUNCTION BOX
- UNDERGROUND TELEPHONE
- WIRE / COMMUNICATION
- RETAINING WALL
- WALDRY WALL
- FENCE
- RAILWAY TRACKS



**FRASER GRAIN TERMINAL**  
NEW GRAIN EXPORT FACILITY  
11041 ELEVATOR ROAD, SURREY

Project: 2015-0015  
Design: 2015-0015  
Date: MAR 2015  
Scale: 1:750

ISL Engineering and Land Services  
4801, Bldg. 200, Street  
London, B.C. V2T 9M1  
Tel: (604) 271-5000  
www.isl-engineering.com

**REMOVALS AND ABANDONMENT PLAN NORTH**

Sheet No: 24

NO.	DESCRIPTION	DATE	BY	DATE
7	ISSUED FOR BUILDING PERMIT	2015	APR 2015	APR 2015
6	ISSUED FOR UTILITY PERMIT	2015	MAY 2015	MAY 2015
5	ISSUED FOR UTILITY PERMIT	2015	MAY 2015	MAY 2015
4	ISSUED FOR CONSTRUCTION	2015	JUN 2015	JUN 2015
3	ISSUED FOR CONSTRUCTION	2015	JUL 2015	JUL 2015
2	ISSUED FOR CONSTRUCTION	2015	OCT 2015	OCT 2015
1	ISSUED FOR CONSTRUCTION	2015	DEC 2015	DEC 2015



NOTE: ALL CABLES SHOULD BE VERIFIED DEAD (NO VOLTAGE) BEFORE FOLLOWING.

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2016.

LEGEND:

WATER MAIN	CATCH BASIN
SEWER / SANITARY MAIN	STORM / SANITARY MANHOLE
SEWER / SANITARY FOREMAN	POND / UTILITY MANHOLE
STORM MAIN	SPR. HEADWAY
DITCH CENTERLINE	GATE VALVE
GAS LINE	WATER METER
HYDRO DUCT	AIR VALVE
OVERHEAD HYDRO	UTILITY POLE
UNDERGROUND TELEPHONE	STREET LIGHTING TRUSS
FIBRE / COMMUNICATION	JUNCTION BOX
RETAINING WALL	BUILDING WALL
FENCE	RAILWAY TRACKS

FRASER GRAIN TERMINAL  
 NEW GRAIN EXPORT FACILITY  
 11041 ELEVATOR ROAD, SURREY

Scale: 1:750

Drawn: DJF Date: MAR 2018  
 Checked: DPF Design Review: SV Date: MAR 2018

Project No: 32022  
 Sheet No: 0-17  
 Total Sheets: 25

ISL Engineering and Land Services  
 4801, BOULDER STREET  
 SURREY, B.C. V2Z 9M1  
 Phone: (604) 271-4000  
 Fax: (604) 271-4006  
 www.isl-engineering.com

NO.	DESCRIPTION	DATE
1	ISSUED FOR BUILDING PERMIT	08F APR03/18
2	FOR UTILITY REMOVAL	08F JUN20/18
3	FOR UTILITY RELOCATION	08F NOV20/18
4	FOR UTILITY ADDITION	08F OCT22/18
5	FOR UTILITY PROTECTION	08F OCT22/18
6	FOR UTILITY PROTECTION	08F OCT22/18
7	FOR UTILITY PROTECTION	08F OCT22/18

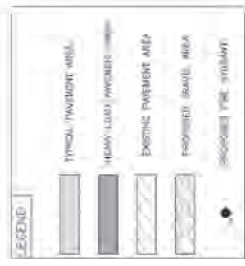
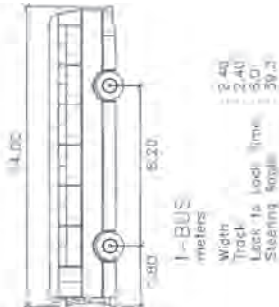
REMOVALS LEGEND

- REMOVE EXISTING UTILITY CATCHER OR LAMP BURNER. IF BURNER IS TO BE REMOVED, IT MUST BE RELOCATED TO ANOTHER LOCATION. REMOVE BURNER AND BURNER HOUSING.
- REMOVE EXISTING UTILITY CATCHER OR LAMP BURNER. IF BURNER IS TO BE REMOVED, IT MUST BE RELOCATED TO ANOTHER LOCATION. REMOVE BURNER AND BURNER HOUSING.
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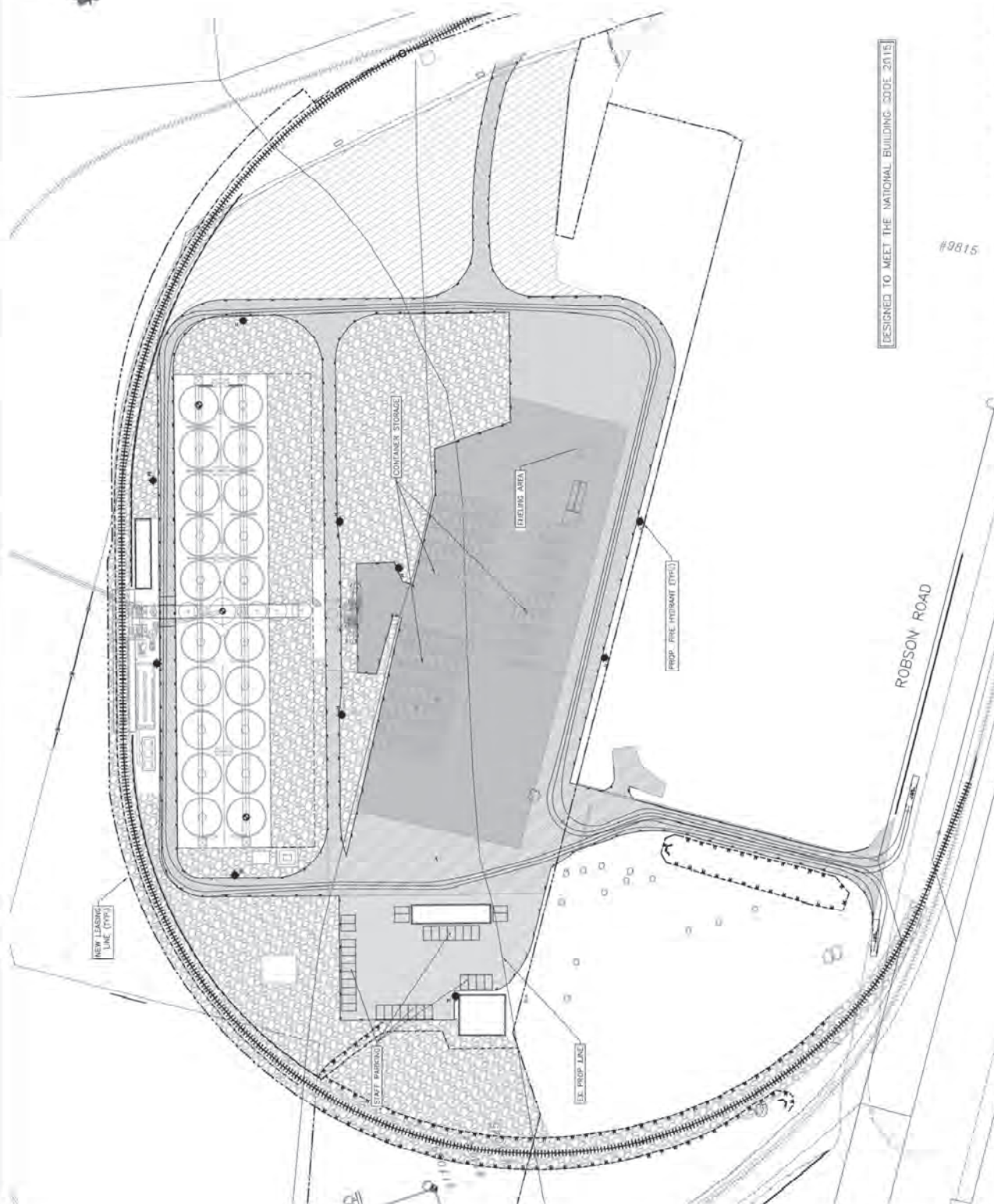
NOTE: ADDITIONAL REMOVAL MAY BE REQUIRED WHERE NEW UTILITIES CROSSING EXISTING UTILITIES TO BE ABANDONED DURING UTILITY INSTALLATION.

FOR THE REMOVAL OF UTILITY CATCHER OR LAMP BURNER, CONTRACTOR TO FOLLOW THE FOLLOWING:

- REMOVE EXISTING UTILITY CATCHER OR LAMP BURNER.
- REMOVE EXISTING UTILITY CATCHER OR LAMP BURNER.
- REMOVE EXISTING UTILITY CATCHER OR LAMP BURNER.
- REMOVE EXISTING UTILITY CATCHER OR LAMP BURNER.



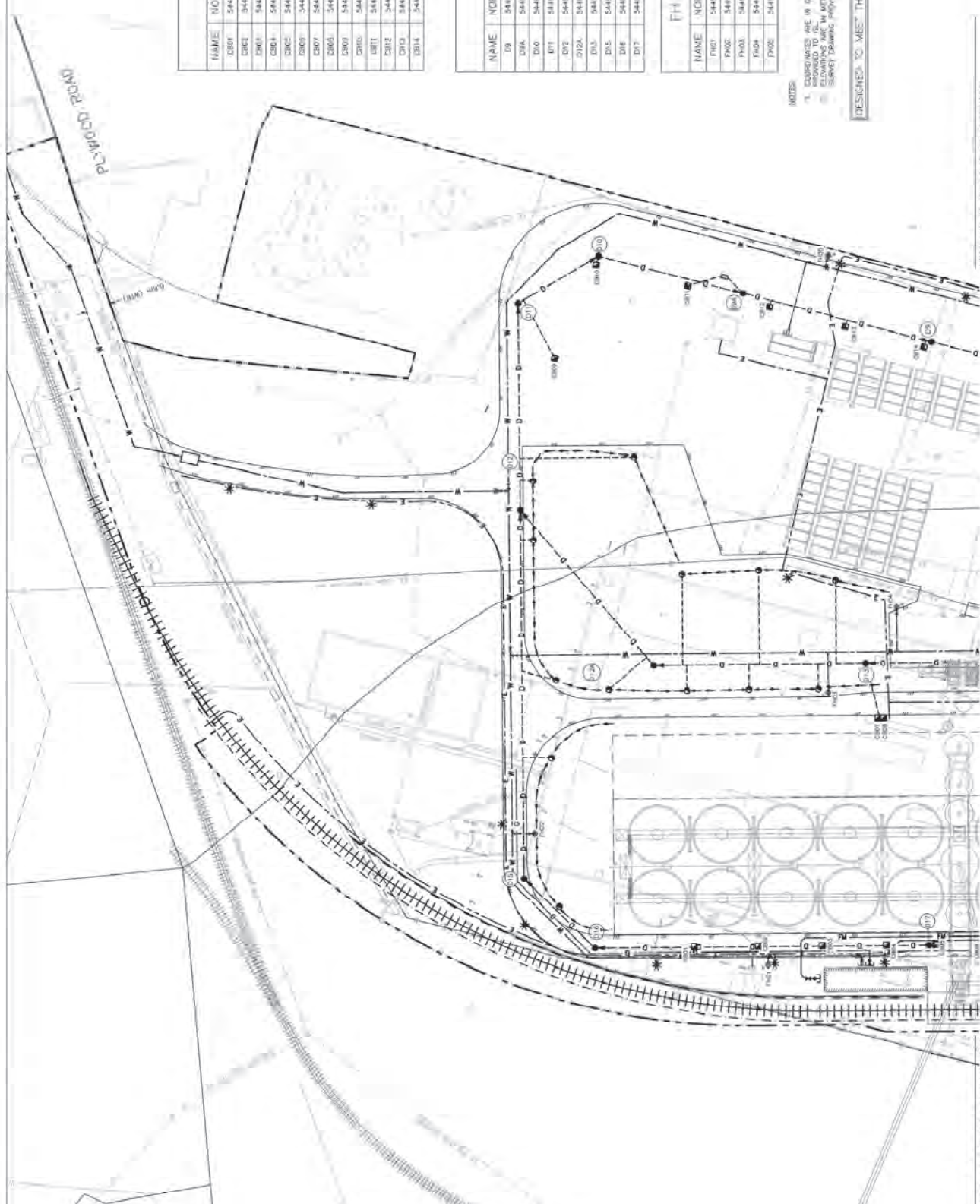
DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015



#9815

ROBSON ROAD

		<b>FRASER GRAIN TERMINAL</b> <b>NEW GRAIN EXPORT FACILITY</b> 11041 ELEVATOR ROAD, SURREY		Project No. <b>2022</b> Drawing No. <b>C-1B</b> Sheet No. <b>25</b>																					
4701, 806 - 206 STREET Langley, B.C. V2Y 9K1 Tel: (604) 371-2088 Fax: (604) 371-2089 www.isl-engineering.com		Scale: <b>1:750</b>		Date: <b>MAR 2018</b> Design: <b>SW</b> Check: <b>SW</b> Drawn: <b>SW</b>																					
<table border="1"> <thead> <tr> <th>No.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>ISSUED FOR BUILDING PERMIT</td> <td>SW</td> <td>APR 03/18</td> </tr> <tr> <td>3</td> <td>ISSUED FOR CONSTRUCTION</td> <td>SW</td> <td>MAY 30/18</td> </tr> <tr> <td>2</td> <td>SEC. SITE PLAN UPDATED</td> <td>SW</td> <td>NOV 20/18</td> </tr> <tr> <td>1</td> <td>ISSUED FOR CONSTRUCTION</td> <td>SW</td> <td>NOV 20/18</td> </tr> </tbody> </table>		No.	DESCRIPTION	BY	DATE	4	ISSUED FOR BUILDING PERMIT	SW	APR 03/18	3	ISSUED FOR CONSTRUCTION	SW	MAY 30/18	2	SEC. SITE PLAN UPDATED	SW	NOV 20/18	1	ISSUED FOR CONSTRUCTION	SW	NOV 20/18	#9815		#9815	
No.	DESCRIPTION	BY	DATE																						
4	ISSUED FOR BUILDING PERMIT	SW	APR 03/18																						
3	ISSUED FOR CONSTRUCTION	SW	MAY 30/18																						
2	SEC. SITE PLAN UPDATED	SW	NOV 20/18																						
1	ISSUED FOR CONSTRUCTION	SW	NOV 20/18																						



**CB TABLE**

NAME	NORTHING	EASTING	RIM ELEV.
CB01	5449785.974	6171.640	4.98
CB02	5449776.176	6166.169	4.96
CB03	5449734.977	6160.737	4.96
CB04	5449735.428	6155.285	4.96
CB05	5449726.249	6151.004	4.97
CB06	5449714.946	6146.605	4.95
CB07	5449720.675	6142.108	4.90
CB08	5449715.235	6137.702	4.91
CB09	5449718.988	6133.174	4.91
CB10	5449725.606	6128.654	4.70
CB11	5449728.866	6124.149	4.80
CB12	5449711.433	6119.186	5.00
CB13	5449694.635	6114.671	5.10
CB14	5449676.937	6109.766	5.10

**MH TABLE**

NAME	NORTHING	EASTING	RIM ELEV.
D08	5449774.649	6300.366	6.84
D09	5449716.923	6308.828	6.01
D10	5449749.338	6330.037	4.72
D11	5449773.237	6345.970	4.83
D12	5449787.464	6344.606	4.89
D13	5449783.589	6344.728	4.98
D14	5449718.908	6325.646	4.95
D15	5449822.007	6335.305	5.10
D16	5449810.257	6330.949	5.02
D17	5449787.812	6332.480	5.00

**FH TABLE**

NAME	NORTHING	EASTING
FH01	5449769.285	6164.656
FH02	5449815.410	6215.484
FH03	5449730.731	6222.674
FH04	5449708.331	6237.780
FH05	5449892.468	6330.789

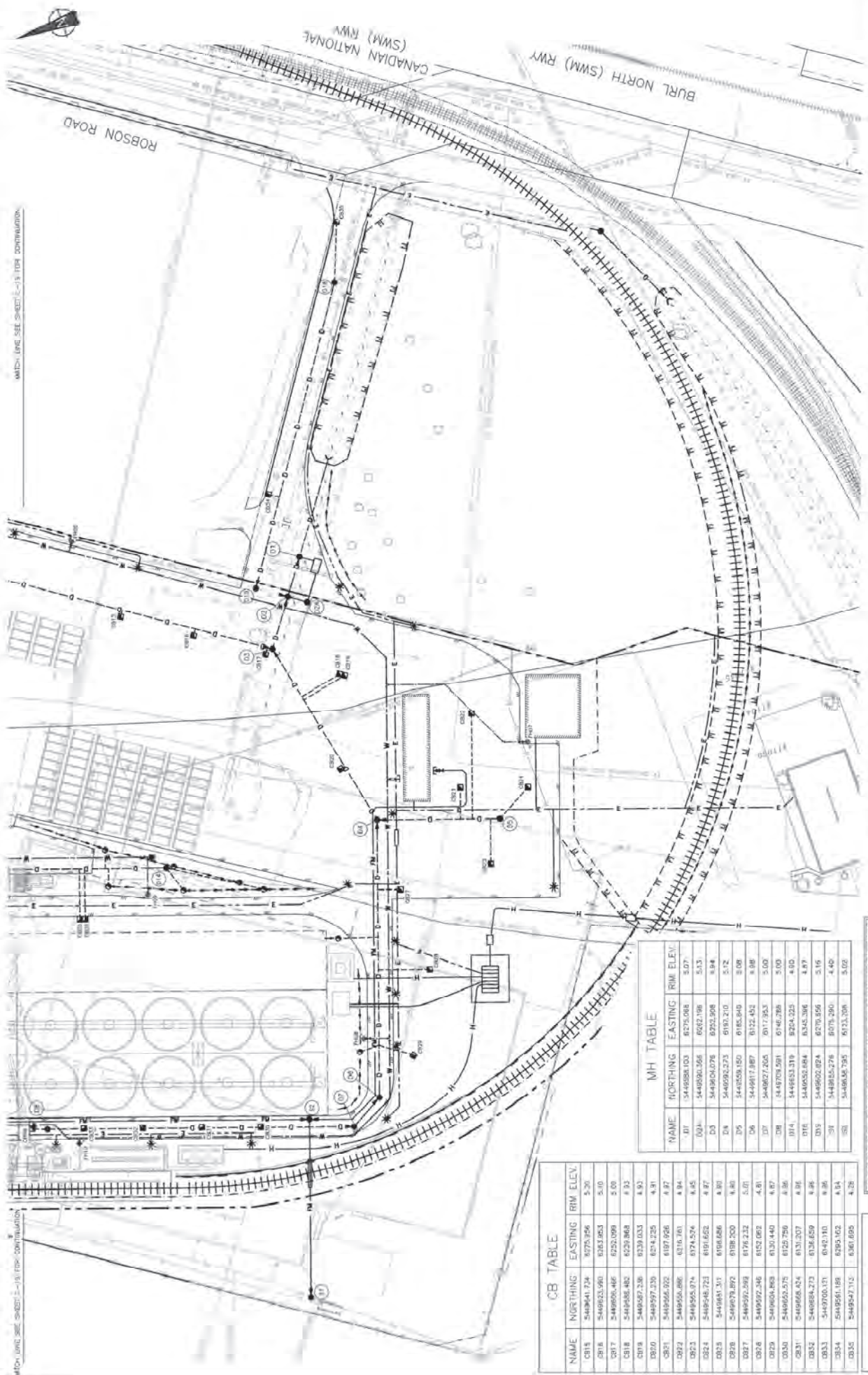
NOTES:  
 1. ELEVATIONS ARE IN GROUND LEVEL BASED ON SURVEY'S DATUM.  
 2. ELEVATIONS ARE IN METERS AND TO BE USED ONLY FOR CONSTRUCTION.  
 3. SURVEY DRAWING PROVIDED TO ISL.

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2010

WATER LINE SEE SHEET C-20 FOR CONTINUATION

WATER LINE SEE SHEET C-20 FOR CONTINUATION

		Fraser Grain Terminal NEW GRAIN EXPORT FACILITY 11041 ELEVATOR ROAD, SURREY		Drawing No. <b>32022 C-19</b>
License: 009 Registration No.: 547	Design Chartered: 547 Date: MAR 2018	Design Chartered: 547 Date: MAR 2018	Design Chartered: 547 Date: MAR 2018	Drawing No. <b>32022 C-19</b>
4251, 4048 - 200 STREET Langley, B.C. V2Y 9A1 Tel: (604) 881-1234 Fax: (604) 881-1235 www.isl-engineering.com		Scale: <b>1:500</b>		Drawing No. <b>32022 C-19</b>
3 ISSUED FOR BUILDING PERMIT DATE: APR 20/18		1 ISSUED FOR CONSTRUCTION DATE: MAY 30/18		Drawing No. <b>32022 C-19</b>
101 DESCRIPTION:		101 DATE:		Drawing No. <b>32022 C-19</b>
REFERENCES:		REFERENCES:		Drawing No. <b>32022 C-19</b>



MATCH LINE SEE SHEET C-13 FOR CONTINUATION

MATCH LINE SEE SHEET C-13 FOR CONTINUATION

CB TABLE		
NAME	NORTHING	EASTING
CB15	5449641.724	6375.256
CB16	5449653.980	6383.853
CB17	5449666.466	6392.099
CB18	5449678.482	6399.868
CB19	5449690.236	6407.033
CB20	5449702.236	6414.225
CB21	5449714.022	6421.426
CB22	5449725.986	6428.616
CB23	5449737.974	6435.784
CB24	5449749.723	6442.932
CB25	5449761.313	6450.066
CB26	5449772.872	6457.186
CB27	5449784.298	6464.292
CB28	5449795.586	6471.384
CB29	5449806.803	6478.462
CB30	5449817.846	6485.526
CB31	5449828.624	6492.576
CB32	5449839.151	6499.612
CB33	5449849.418	6502.624
CB34	5449859.426	6509.612
CB35	5449864.172	6516.586

MH TABLE		
NAME	NORTHING	EASTING
MH10	5449888.103	6525.088
MH11	5449900.356	6532.196
MH12	5449912.076	6539.298
MH13	5449923.273	6546.384
MH14	5449934.150	6553.456
MH15	5449944.787	6560.514
MH16	5449955.064	6567.558
MH17	5449965.084	6574.588
MH18	5449974.824	6581.604
MH19	5449984.276	6588.606
MH20	5449993.356	6595.594

DESIGNED TO MEET THE NATIONAL BUILDING CODE 2015

NOTES

1. COORDINATES ARE IN CANADIAN LEVEL BASED ON SURVEY DRAWING APPROVED TO DATE.
2. ELEVATIONS ARE IN METRES AND TO PROPOSED DATUM BASED ON SURVEY DRAWING APPROVED TO DATE.

FH TABLE		
NAME	NORTHING	EASTING
FH06	5449643.744	6380.688
FH07	5449654.619	6387.832
FH08	5449665.373	6394.976
FH09	5449676.199	6402.120
FH10	5449687.000	6409.264

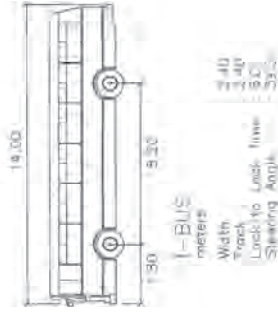
NO.	DESCRIPTION	DATE
1	ISSUED FOR CONSTRUCTION	MAR 2018
2	ISSUED FOR BIDDING PERMIT	APR 2018

**ISL Engineering**  
INCORPORATED  
2000 WEST 10TH AVENUE  
SUITE 100  
VANCOUVER, BC V6P 3C1  
TEL: 604-271-1000  
WWW.ISLENG.COM

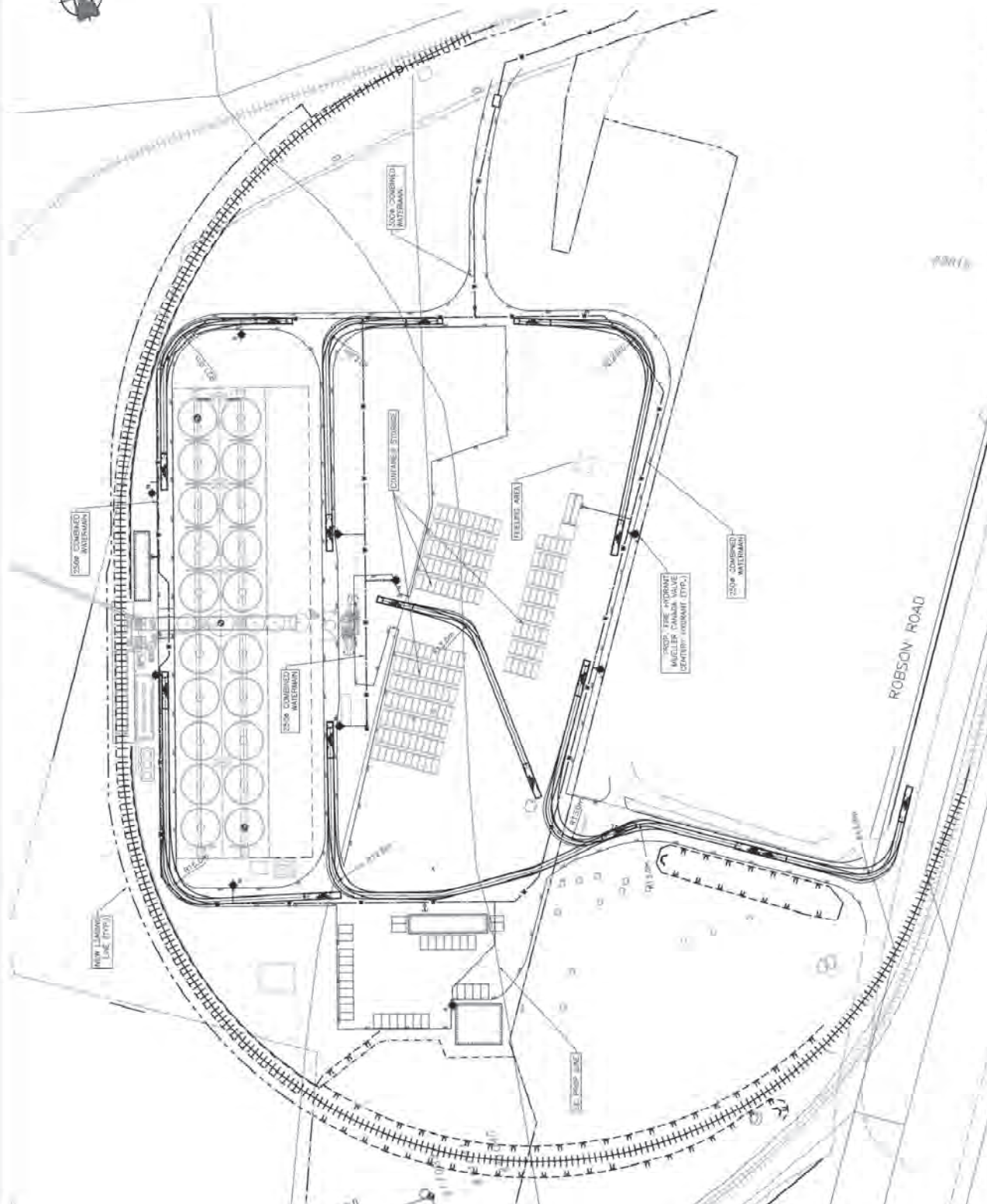
Scale: **1:500**

Client: Fraser Grain Terminal  
Project: New Grain Export Facility  
11041 Elevator Road, Surrey  
Design Period: 5.0Y  
Design Review: 5.0Y

**FRASER GRAIN TERMINAL**  
**NEW GRAIN EXPORT FACILITY**  
11041 ELEVATOR ROAD, SURREY



DESIGN FIRE FLOW  
 = 225  $\frac{1}{s}$   
 MIN. FIRE FLOW PRESSURE  
 = 20  $\frac{m}{s^2}$



<b>FRASER GRAIN TERMINAL</b> <b>NEW GRAIN EXPORT FACILITY</b> 11041 ELEVATOR ROAD, SURREY		Project No. <b>32022</b> C-21 Sheet No. <b>29</b>
<b>ISL Engineering</b> and Land Services 415-504-2000 415-504-2001 415-504-2002 415-504-2003 415-504-2004 415-504-2005	Scale: <b>1:750</b>	Date: <b>MAR 2018</b> Design Period: <b>5M</b> Date: <b>MAR 2018</b>
ISSUED FIRE BUILDING PERMIT 144 REC'D BY: _____ DATE: _____	D.M. APPROVED BY DATE: _____	PERFORMED BY: _____