CITY OF COLWOOD

PROJECT NAME: ALLANDALE PIT PUMPING SYSTEM

INDICATIVE DESIGN

Sheet List Table	
Allandale Pit Pumping System	
Sheet Number	Sheet Title
0	Cover Page
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8	Proposed Site – Lift Station
9	Site – Piping and Instrumentation Diagram

SURVEY INFORMATION:

1. ALL ELEVATIONS ARE GEODETIC DATUM AND ARE REFERENCED TO MONUMENT 88H39-42 ON ALLANDALE ROAD. ELEVATION = 75.944

LOCATION PLAN
SCALE: 1:3,000m

CONSTRUCTION NOTES:

1.0 GENERAL CONSTRUCTION NOTES:

1. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO CONTRACT DOCUMENT, MASTER MUNICIPAL CONSTRUCTION DOCUMENTS (MMCD), MMCD SUPPLEMENTS.
2. REPAIR AND/OR REPLACE ALL INFRASTRUCTURE/PRIVATE PROPERTY DAMAGED OR REMOVED DURING CONSTRUCTION, TO BETTER THAN, OR EQUAL TO PRE-CONSTRUCTION CONDITION AND TO THE SATISFACTION OF THE CITY ENGINEER.
3. RESTRICT ALL WORK TO CITY OF COLWOOD RIGHT-OF-WAY. NO ENCROACHMENT ONTO PRIVATE PROPERTY IS PERMITTED.
4. CONTACT BC1CALL AT 1-800-474-6886 FOR EXTERNAL UTILITY LOCATIONS AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION. CONTACT ALL OTHER RELEVANT SERVICE PROVIDERS FOR UTILITY LOCATIONS AT LEAST 72 HOURS PRIOR TO START OF CONSTRUCTION. NOT ALL UTILITIES MAY BE SHOWN, IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION AT NO EXTRA COST TO THE CONTRACT. EXISTING GAS AND WATER MAINS ARE UNDER PRESSURE AND THE CONTRACTOR IS TO TAKE ALL PRECAUTIONS TO PROTECT AND MAINTAIN ALL EXISTING ACTIVE UTILITIES DURING CONSTRUCTION.
5. BC HYDRO, TELUS, SHAW CABLE AND FORTISBC FACILITIES ARE SHOWN SCHEMATICALLY ON THESE DRAWING. ACTUAL LOCATION MAY DIFFER. REFER TO UTILITY COMPANY DRAWINGS (BC1 CALL) FOR CONSTRUCTION DETAILS.
6. EXCAVATE AND CONFIRM LOCATION AND ELEVATION OF EXISTING SEWER, DRAIN AND WATER MAINS AND UTILITIES AT ALL CROSSINGS AND CONNECTION POINTS A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION. WHERE INFORMATION DOES NOT MEET REQUIREMENTS OF CONTRACT, CONTACT CONTRACT ADMINISTRATOR. ENSURE THAT NEW UTILITIES CAN BE TIED INTO EXISTING UTILITIES FOR STRAIGHT TIE-IN AT EXISTING ELEVATION.
7. ENSURE ALL EXISTING SERVICES STAY IN OPERATIONAL CONDITION DURING CONSTRUCTION. PROVIDE BYPASS PUMPING AS REQUIRED TO CONSTRUCT WORKS.
8. BACKFILL SEWER, DRAIN AND WATER MAINS AND UTILITY TRENCH AS PER MMCD STD. DWG. G4 IN ACCORDANCE WITH MMCD SECTION 31 23 01. BED ALL PIPE USING CLASS 'B' BEDDING. IN ROAD, PIPES TO HAVE CLASS B BEDDING WITH FULL DEPTH GRAVEL BACKFILL.
9. WHERE A TRENCH IS UNDER OR WITHIN 1.00m OF THE EDGE OF A ROAD OR DRIVEWAY, USE IMPORTED GRANULAR BACKFILL FROM THE TOP OF THE PIPE BEDDING TO THE TOP OF THE ROAD, PARKING OR DRIVEWAY SUBGRADE.
10. ALL UNUSED EXCAVATED TRENCH AND SUB-EXCAVATION MATERIALS MAY BE DISPOSED IN THE RIGHT-OF-WAY.
11. ALL SURVEY LAYOUT SHALL BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.
12. BE RESPONSIBLE FOR AND PAY FOR ALL TRENCH DE-WATERING.
13. REMOVE AND REPLACE MONUMENTS AS NECESSARY FOR CONSTRUCTION OF WORK AT NO COST TO THE OWNER. REPLACEMENT MONUMENTS SHALL BE SURVEYED BY A LICENSED BCLS.
14. ACQUIRE CITY OF COLWOOD PERMIT TO ALTER OR CONSTRUCT ON CITY RIGHT-OF-WAY AS PER CONTRACT DOCUMENTS.
15. MAINTAIN VEHICULAR, CYCLIST AND PEDESTRIAN ACCESS THROUGH THE SITE DURING CONSTRUCTION.
16. PROVIDE SECURITY FENCING AND BARRICADES DURING CONSTRUCTION TO DELINEATE PROJECT SITE AS REQUIRED TO PROTECT PEDESTRIAN TRAFFIC.

2.0 SEWER NOTES:

1. SEWER PVC PIPE SHALL BE HDPE AS NOTED ON THE DRAWINGS AND CALLED FOR IN THE CONTRACT DOCUMENTS.
2. INSTALL SECONDARY PUMP STATION 75mm FORCE MAIN AS CALLED FOR ON THE DRAWINGS OR ALTERNATIVELY CONNECT THE 75 mm FORCEMAIN TO THE PUMP STATION WET WELL. PROVIDE ALTERNATIVE AND COST IMPLECATIONS IN TO REQUEST FOR PROPOSAL. INSTALL SEWER PIPING IN ACCORDANCE WITH MMCD SECTION 33 30 01 UNLESS OTHERWISE SPECIFIED.
3. EXCAVATION, TRENCHING AND BACKFILL TO BE IN ACCORDANCE WITH MMCD SECTION 33 23 01.
4. DO NOT START ANY BACKFILL OPERATION UNTIL THE WORKS HAVE BEEN INSPECTED BY THE CONTRACT ADMINISTRATOR.
5. THE INTENT IS TO INSTALL THE 150mm FORCE MAIN IN THE EXISTING INACTIVE 300mm DIAMETER SEWER FORCE MAIN IN ACCORDANCE WITH MMCD SECTION 33 05 23, EXCEPT THAT WE ARE NOT BURSTING THE EXISTING PIPE, MEARLY USING IT AS A CASING.
6. SEWER MAINS MUST BE PRESSURE TESTED TO 1.5 TIMES THE WORKING PRESSURE AND VIDEO INSPECTED IN ACCORDANCE WITH MMCD SECTION 33 01 30.1. SUBMIT TEST REPORTS TO CITY OF COLWOOD UPON COMPLETION.
7. ISOLATION OF SEWAGE ENTERING MANHOLE AS REQUIRED TO MAINTAIN OPERATION DURING CONSTRUCTION. LOCATION OF PUMP OUT AND DISPOSAL LOCATION OF SEWAGE IS TO BE REVIEWED WITH THE CITY OF COLWOOD.
8. PROVIDE AND PAY FOR ALL WATER FOR TESTING. OBTAIN AND PAY FOR CITY OF COLWOOD PERMIT TO CONNECT TO CITY FIRE HYDRANT.
9. TENDERERS ARE ENCOURAGED TO REVIEW THE DRAWINGS AND SPECIFICATIONS AND PROVIDE AN ALTERNATIVE TENDER IN ACCORDANCE WITH MMCD INSTRUCTIONS TO TENDERERS – PART II. TENDERERS MAY REQUEST APPROVED EQUALS DURING THE RFP PHASE IN ACCORDANCE WITH MMCD INSTRUCTIONS TO TENDERERS – PART II.

3.0 ENVIRONMENTAL NOTES:

USE BEST MANAGEMENT PRACTICES AND MMCD SECTION 01 57 01 DURING CONSTRUCTION. ADJUST WORK ACTIVITIES DURING PERIODS OF HEAVY RAIN TO MINIMIZE SEDIMENTS ENTERING THE STORM DRAINAGE SYSTEM. SOME BMP'S TO CONSIDER:

1. CHECK ALL EQUIPMENT FOR FLUID LEAKS PRIOR TO ENTERING THE WORK AREA.
2. NO EQUIPMENT RE-FUELING TO OCCUR IN THE WORK AREA UNLESS SPILL PROTECTION MEASURES ARE IN PLACE.
3. A SPILL KIT IS TO BE MAINTAINED ON SITE THROUGHOUT THE CONSTRUCTION PERIOD.
4. COVER EXPOSED SOILS AND GRAVELS IN INCLEMENT WEATHER ie TARP, HYDRO SEED OR ORGANIC LEAF MULCH.
5. STOCKPILE SOILS AND GRAVELS AND ENSURE THEY ARE COVERED IF LEFT FOR MORE THAN 48 HOURS.
6. SURROUND PROTECTED TREES WITH SNOW FENCING AT DRIP LINE OR CRITICAL ROOT ZONE OF TREE DURING CONSTRUCTION.
7. OWNER WILL ENGAGE INDEPENDENT CONSULTANT TO PROVIDE GUIDANCE TO CONTRACTOR IN EXCAVATING, SEGREGATION AND CHARACTERIZATION OF SUSPECT CONTAMINATED SOIL ENCOUNTERED DURING TRENCH EXCAVATION.

Colwood
3300 Wishart Road
Victoria, B.C. V9C 1R1
(250) 478-5999

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING		PROPOSED
	MANHOLE	
	CLEANOUT	
P	LIFT STATION	P
	INSPECTION CHAMBER	
	CATCH BASIN	
	SILT TRAP	
	SEEPAGE PIT	
	CULVERT	
	DITCH	
	HYDRANT	
	WATER VALVE	
	FLUSH VALVE	

EXISTING		PROPOSED
A	AIR VALVE	A
	WATER METER	
IV	IRRIGATION VALVE	IV
U	UTILITY MANHOLE *	U
T	SERVICE BOX *	T
X	LPT	X
PP	UTILITY POLE *	PP
	POLE-MOUNT LS	
	ORNAMENTAL LUMINAIRE	
	TRAFFIC SIGNAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING		PROPOSED
S	SANITARY	S
FM	SANITARY FORCEMAIN	FM
D	STORM DRAIN	D
W	WATER	W
G	GAS	G
	ELECTRICAL	
NMC	ROAD CURB	NMC
	EDGE OF PAVEMENT	
	DRIVEWAY	
	SIDEWALK	
	PROPERTY LINE	
	EASEMENT	

EXISTING		PROPOSED
	FENCE	
	SLOPE – TOP	
	SLOPE – BOTTOM	
	CONTOUR – MAJOR	
	CONTOUR – MINOR	
	BOUNDARY	
N/A	BUILDING ENVELOPE	
	VEGETATION LINE	

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN LS
DRAWN MT
CHECKED DM
ENGINEER LS
SEAL

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM**
OVERALL SITE
PLAN - ORTHO

DATE: 2017-03-21

DRAWING NO. DWG-J0001

COLWOOD FILE NO. RFP-2017-01

COLWOOD CONTRACT NO. RFP-2017-01

SCALE: AS NOTED

SHEET: 1 of 9

REV: INP

FILE LOCATION TBC

Plan VIP68962
LOT C

Plan 986
LOT 18

LIFT STATION
EXISTING MANHOLE
SMH 0173

SECONDARY LIFT STATION

EXISTING MANHOLE
SMH 0172

W1/2 17

Plan 10253
LOT A

ALLANDALE ROAD

LAREN ROAD

FEARKES ROAD

FARGO PLACE

PLAN 986
LOT 25

Plan 986
LOT 24

LOT 23

SEE DRAWING J0003/J0004
FOR GENERAL ARRANGENMENT

NEW 150ø HDPE FORCEMAIN IN
EXISTING 300ø PVC DR 26 PIPE

Plan 986
LOT 22

MONUMENT
88H39-42
N 5363760.387
E 463377.328
ELEV 75.944

EXISTING MANHOLE
SMH 0116

20 0 20 60 METER

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING	PROPOSED
MANHOLE	
CLEANOUT	
LIFT STATION	
INSPECTION CHAMBER	
CATCH BASIN	
SILT TRAP	
SEEPAGE PIT	
CULVERT	
DITCH	
HYDRANT	
WATER VALVE	
FLUSH VALVE	

EXISTING	PROPOSED
AIR VALVE	
WATER METER	
IRRIGATION VALVE	
UTILITY MANHOLE *	
SERVICE BOX *	
LPT	
UTILITY POLE *	
POLE-MOUNT LS	
ORNAMENTAL LUMINAIRE	
TRAFFIC SIGNAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING	PROPOSED
SANITARY	
SANITARY FORCEMAIN	
STORM DRAIN	
WATER	
GAS	
ELECTRICAL	
ROAD CURB	
EDGE OF PAVEMENT	
DRIVEWAY	
SIDEWALK	
PROPERTY LINE	
EASEMENT	

EXISTING	PROPOSED
FENCE	
SLOPE - TOP	
SLOPE - BOTTOM	
CONTOUR - MAJOR	
CONTOUR - MINOR	
BOUNDARY	
N/A	BUILDING ENVELOPE
	VEGETATION LINE

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN LS
DRAWN MT
CHECKED DM
ENGINEER LS
SEAL

PROJECT: ALLANDALE PIT
TITLE: PUMPING SYSTEM OVERALL SITE PLAN
DATE: 2017-03-21
DRAWING NO. DWG-J0002

COLWOOD FILE NO. RFP-2017-01
COLWOOD CONTRACT NO. RFP-2017-01
SCALE: AS NOTED

SHEET: 2 of 9
REV: INP

FILE LOCATION TBC

NOTES FOR INSTALLATION:

1. CUT AND REMOVE AS REQUIRED EXISTING 300ø 160 DR26 TO INSTALL WORK. INSTALL FLANGE (CLASS 150) AND BOLT BLIND FLANGE. REMOVE AND DISPOSE OF PIPE OFFSITE.
2. DISCONNECT/CUT EXISTING 300ø AND OPEN EXISTING SFM 300ø 160 DR26 LINE. CONTRACTOR TO FEED 150ø DR17 HDPE LINE THROUGH EXISTING SANITARY FORCE MAIN TERMINATING AT SMH 0116 LOCATED AT (NW74.053, SE73.889). PROVIDE END SEAL CLOSURES BETWEEN NEW FORCEMAIN AND EXISTING PIPE.
3. LOCATE ENCLOSURE OVER EXISTING MANHOLE. GRADE AND GRUB EXISTING AREA UNDER THE ENCLOSURE AND PLACE LEVELING COURSE OF 19mm CRUSHED BASE MATERIAL. COMPACT SUBGRADE AND SET ENCLOSURE ON LEVEL SUBGRADE.
4. PROVIDE A 900ø DIAMETER SECONDARY LIFT STATION DRILLED TO 12m. WELL TO BE CASED WITH 900mm THICK CONCRETE PLUG AND AS CALLED FOR ON THE DRAWINGS AND CONTRACT DOCUMENTS.
5. TRENCH AND INSTALL 75mmø FORCE MAIN TO CONNECT NEW SECONDARY LIFT STATION TO EXISTING 375mmø LNID_02, OR ALTERNATIVELY TO THE NEW PUMP STATION OR 200ø PVC SDR35. THE PROPOSE PIPING INTERCONNECTION IS AN INDICATIVE DESIGN AND ASSUMES FLEXIBLE SPOOL SECTION WITH FLANGED END CONNECTIONS. SUBMERSIBLE GUIDE RAIL IS ACCEPTABLE IF CONTRACTOR CAN FIT IN PROPOSED WET WELL. ALTERNATIVES THAT CROSS THE WATERMAIN MUST BE IN ACCORDANCE WITH CRD WATER SERVICES ENGINEERING MANUAL.
6. SEE DIAGRAM PID–P0001 FOR LINE IDENTIFICATIONS.
7. A MINIMUM 3.0m HORIZONTAL CLEAR SEPARATION AND 450mm CLEAR VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN WATERMAINS AND ALL SANITARY/SERVICES EXCEPT WHERE NOTED AND APPROVED BY THE CITY OF COLWOOD AND CRD.

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING		PROPOSED
	MANHOLE	
	CLEANOUT	
P	LIFT STATION	P
	INSPECTION CHAMBER	
	CATCH BASIN	
	SILT TRAP	
	SEEPAGE PIT	
	CULVERT	
	DITCH	
	HYDRANT	
	WATER VALVE	
	FLUSH VALVE	

EXISTING		PROPOSED
	AIR VALVE	
	WATER METER	
	IRRIGATION VALVE	
	UTILITY MANHOLE *	
	SERVICE BOX *	
	LPT	
PP	UTILITY POLE *	PP
	POLE–MOUNT LS	
	ORNAMENTAL LUMINAIRE	
	TRAFFIC SIGINAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING		PROPOSED
S	SANITARY	
FM	SANITARY FORCEMAIN	
D	STORM DRAIN	D
W	WATER	W
G	GAS	G
	ELECTRICAL	
NMC	ROAD CURB	NMC
	EDGE OF PAVEMENT	
	DRIVEWAY	
	SIDEWALK	
	PROPERTY LINE	
	EASEMENT	

EXISTING		PROPOSED
	FENCE	
	SLOPE – TOP	
	SLOPE – BOTTOM	
	CONTOUR – MAJOR	
	CONTOUR – MINOR	
	BOUNDARY	
N/A	BUILDING ENVELOPE	
	VEGETATION LINE	

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN LS	SEAL
DRAWN MT	
CHECKED DM	
ENGINEER LS	

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM GENERAL ARRANGEMENT PLAN - ORTHO**

DATE: 2017–03–21

DRAWING NO. DWG–J0003

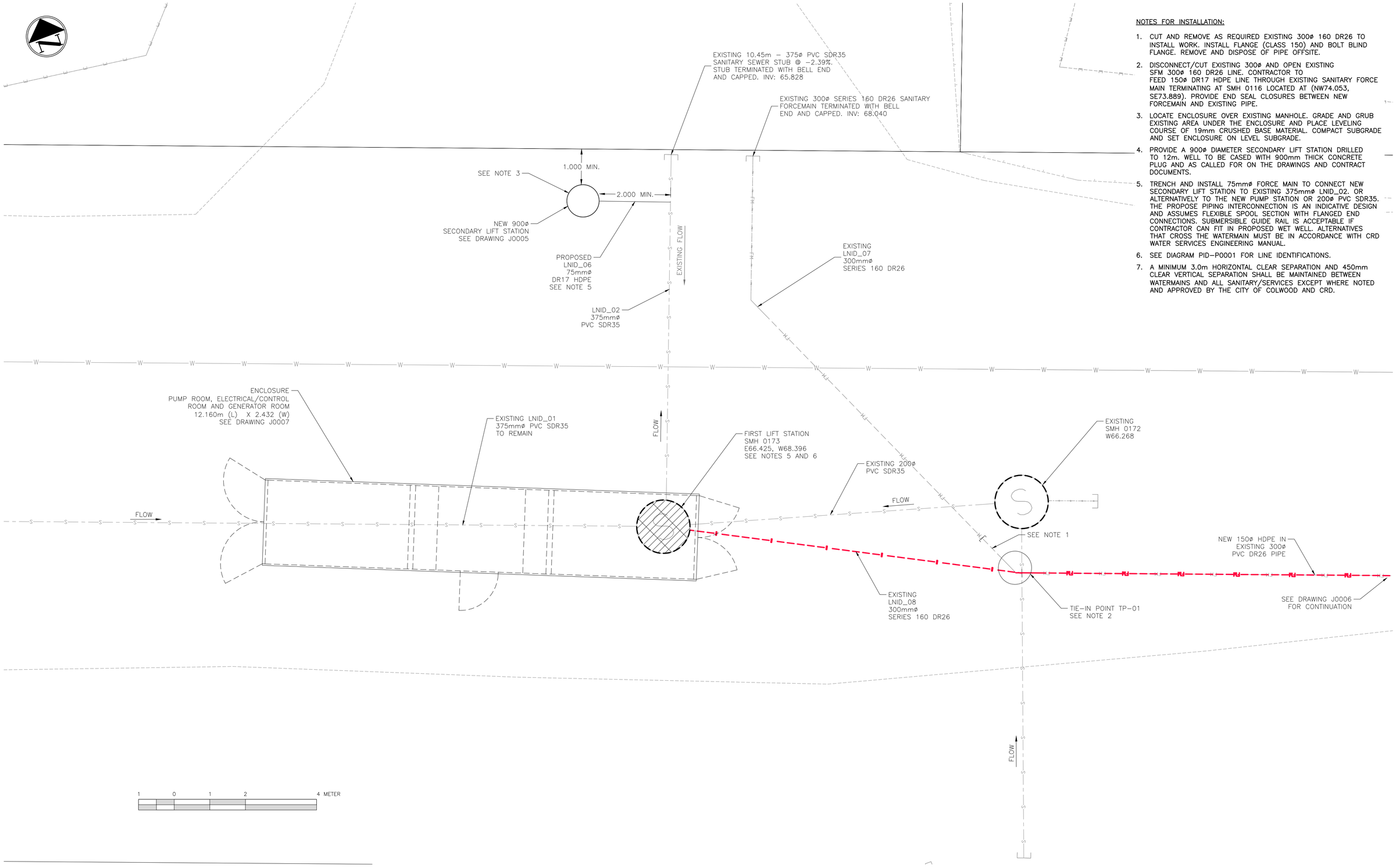
COLWOOD FILE NO. RFP–2017–01

COLWOOD CONTRACT NO. RFP–2017–01

SCALE: AS NOTED

SHEET: 3 of 9 REV: INP

FILE LOCATION TBC



NOTES FOR INSTALLATION:

1. CUT AND REMOVE AS REQUIRED EXISTING 300ø 160 DR26 TO INSTALL WORK. INSTALL FLANGE (CLASS 150) AND BOLT BLIND FLANGE. REMOVE AND DISPOSE OF PIPE OFFSITE.
2. DISCONNECT/CUT EXISTING 300ø AND OPEN EXISTING SFM 300ø 160 DR26 LINE. CONTRACTOR TO FEED 150ø DR17 HDPE LINE THROUGH EXISTING SANITARY FORCE MAIN TERMINATING AT SMH 0116 LOCATED AT (NW74.053, SE73.889). PROVIDE END SEAL CLOSURES BETWEEN NEW FORCEMAIN AND EXISTING PIPE.
3. LOCATE ENCLOSURE OVER EXISTING MANHOLE. GRADE AND GRUB EXISTING AREA UNDER THE ENCLOSURE AND PLACE LEVELING COURSE OF 19mm CRUSHED BASE MATERIAL. COMPACT SUBGRADE AND SET ENCLOSURE ON LEVEL SUBGRADE.
4. PROVIDE A 900ø DIAMETER SECONDARY LIFT STATION DRILLED TO 12m. WELL TO BE CASED WITH 900mm THICK CONCRETE PLUG AND AS CALLED FOR ON THE DRAWINGS AND CONTRACT DOCUMENTS.
5. TRENCH AND INSTALL 75mmø FORCE MAIN TO CONNECT NEW SECONDARY LIFT STATION TO EXISTING 375mmø LNID_02, OR ALTERNATIVELY TO THE NEW PUMP STATION OR 200ø PVC SDR35. THE PROPOSE PIPING INTERCONNECTION IS AN INDICATIVE DESIGN AND ASSUMES FLEXIBLE SPOOL SECTION WITH FLANGED END CONNECTIONS. SUBMERSIBLE GUIDE RAIL IS ACCEPTABLE IF CONTRACTOR CAN FIT IN PROPOSED WET WELL. ALTERNATIVES THAT CROSS THE WATERMAIN MUST BE IN ACCORDANCE WITH CRD WATER SERVICES ENGINEERING MANUAL.
6. SEE DIAGRAM PID–P0001 FOR LINE IDENTIFICATIONS.
7. A MINIMUM 3.0m HORIZONTAL CLEAR SEPARATION AND 450mm CLEAR VERTICAL SEPARATION SHALL BE MAINTAINED BETWEEN WATERMAINS AND ALL SANITARY/SERVICES EXCEPT WHERE NOTED AND APPROVED BY THE CITY OF COLWOOD AND CRD.

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING		PROPOSED
	MANHOLE	
	CLEANOUT	
P	LIFT STATION	P
	INSPECTION CHAMBER	
	CATCH BASIN	
	SILT TRAP	
	SEEPAGE PIT	
	CULVERT	
	DITCH	
	HYDRANT	
	WATER VALVE	
	FLUSH VALVE	

EXISTING		PROPOSED
	AIR VALVE	
	WATER METER	
	IRRIGATION VALVE	
H	UTILITY MANHOLE *	H
	SERVICE BOX *	
	LPT	
PP	UTILITY POLE *	PP
	POLE–MOUNT LS	
	ORNAMENTAL LUMINAIRE	
	TRAFFIC SIGNAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING		PROPOSED
S	SANITARY	
FM	SANITARY FORCEMAIN	
D	STORM DRAIN	D
W	WATER	W
G	GAS	G
	ELECTRICAL	
NMC	ROAD CURB	NMC
	EDGE OF PAVEMENT	
	DRIVEWAY	
	SIDEWALK	
	PROPERTY LINE	
	EASEMENT	

EXISTING		PROPOSED
	FENCE	
	SLOPE – TOP	
	SLOPE – BOTTOM	
	CONTOUR – MAJOR	
	CONTOUR – MINOR	
	BOUNDARY	
N/A	BUILDING ENVELOPE	
	VEGETATION LINE	

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN	LS
DRAWN	MT
CHECKED	DM
ENGINEER	LS

SEAL

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM GENERAL ARRANGEMENT PLAN**

DATE: 2017–03–21

DRAWING NO. DWG–J0004

COLWOOD FILE NO. RFP–2017–01

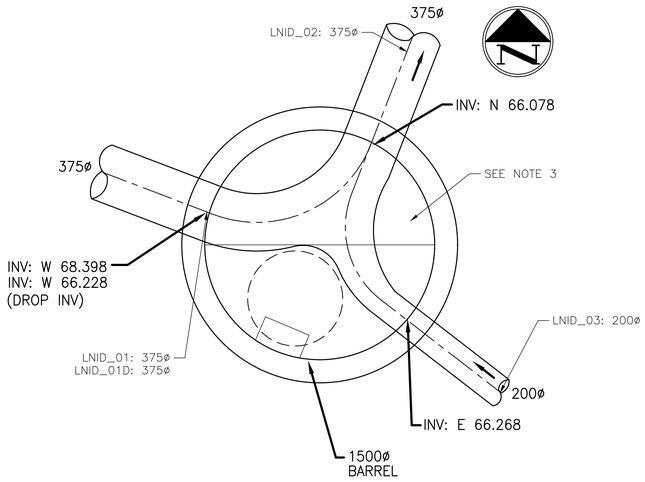
COLWOOD CONTRACT NO. RFP–2017–01

SCALE: AS NOTED

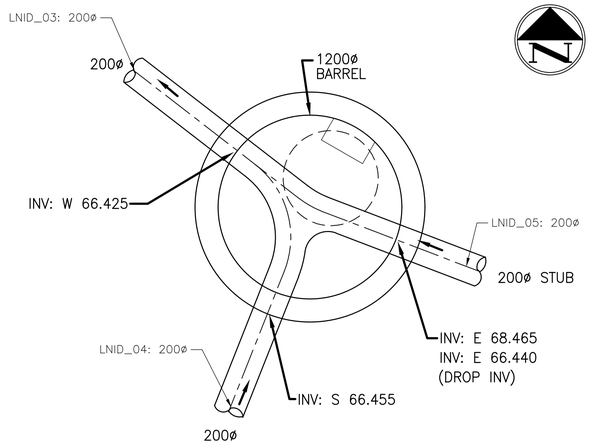
SHEET: 4 of 9

REV: INP

FILE LOCATION TBC



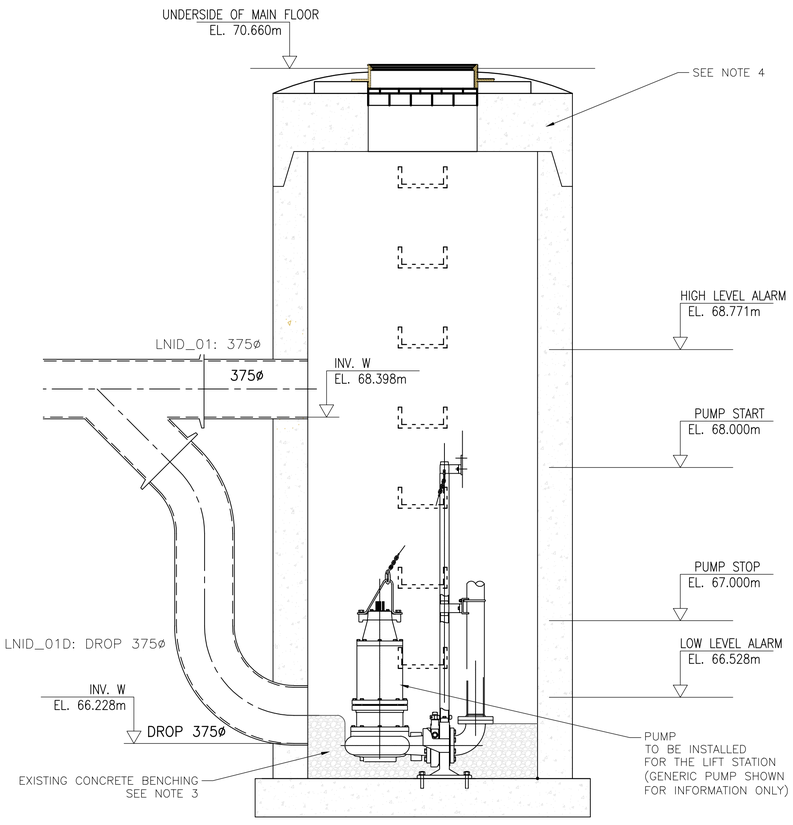
PLAN VIEW – SMH ALL 05 (SMH 0173)
FIRST LIFT STATION



PLAN VIEW – SMH ALL 06
(SMH 0172)

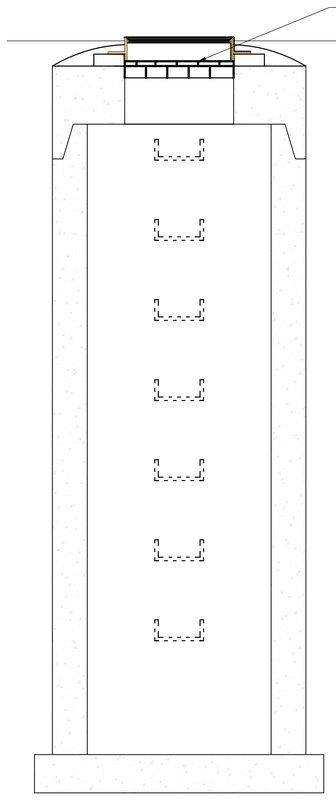
NOTES:

1. MANHOLE VIEWS ARE SHOWN USING BEST AVAILABLE INFORMATION. CONTRACTOR TO VERIFY EXACT SIZING, ELEVATION AND LOCATION PRIOR TO START OF CONSTRUCTION.
2. PROVIDE A 900ø DIAMETER SECONDARY LIFT STATION DRILLED TO 12m. WELL TO BE CASED WITH 900mm CONCRETE PLUG.
3. REMOVE CONCRETE BENCHING TO INVERT OF PIPES. DRILL 4 STAINLESS STEEL QUICK BOLTS FOR PUMP BASE C/W LEVELING NUTS. GROUT PUMP BASE WITH NON SHRINK GROUT. PUMP SUCTION MUST HAVE A MINIMUM 300mm CLEARANCE FOR FULL DIAMETER OF INTAKE.
4. REMOVE EXISTING MANHOLE FRAME, COVER AND TOP CONCRETE LID. PROVIDE WATERTIGHT CLOSURE BETWEEN FLOOR OF EQUIPMENT ENCLOSURE AND MANHOLE. PROVIDE DETAILS FOR REVIEW BY CA.
5. PROVIDE QUICK RELEASE CONNECTION ON INSIDE OF CLOSING TO CONNECT TO PUMP DISCHARGE, FLEXIBLE CONNECTION TO INTERIOR OF CASING. PROVIDE ROBAR STYLE TRANSITION COUPLING BETWEEN PUMP DISCHARGE PIPE AND 75ø HDPE.
6. CONTRACTOR TO DRILL WELL AND PROVIDE CASING TO ALLOW INSTALLATION OF 5 l/sec PUMP IN LIFT STATION. CONTRACTOR TO PROPOSE PIPING INTERCONNECTION. INDICATIVE DESIGN ASSUMED FLEXIBLE SPOOL SECTION WITH FLANGED END CONNECTIONS. SUBMERSIBLE GUIDE RAIL IS ACCEPTABLE IF CONTRACTOR CAN FIT IN PROPOSED WET WELL.
7. PROVIDE SECURE SUPPORTS AT TOP OF CASING NOT MORE THAN 300mm BELOW GRADE FOR PUMP LIFTING CHAIN, FLOAT(S) AND CONTROL WIRING. PROVIDE LOCKABLE SOLID GALVANIZED STEEL PLATE COVER OVER CASING, SET COVER 50mm ABOVE GRADE.



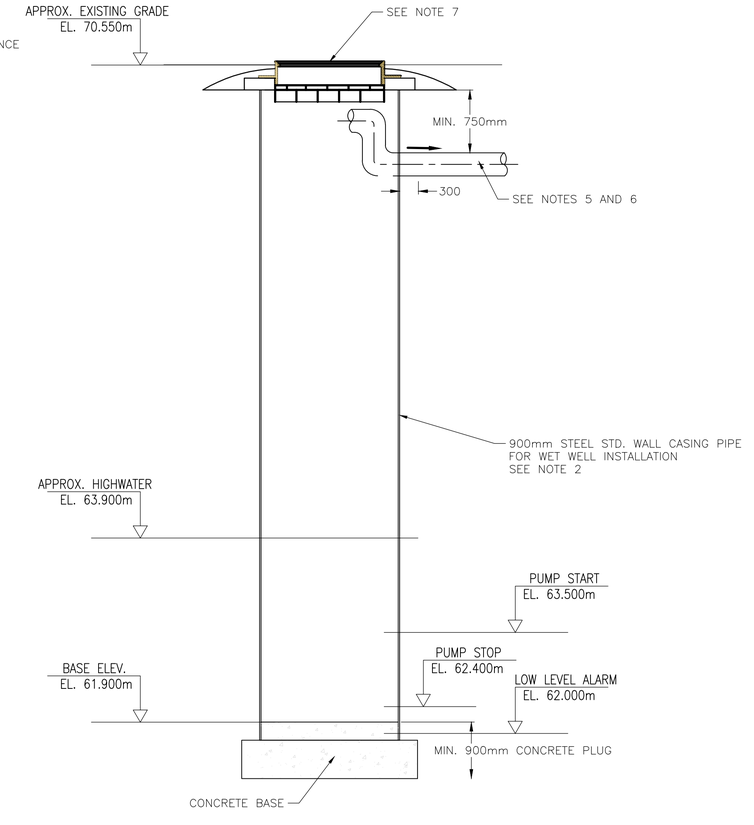
ELEVATION VIEW – SMH ALL 05 (SMH 0173)
FIRST LIFT STATION

SEE NOTE 4



ELEVATION VIEW – SMH ALL 06
(SMH 0172)

SEE NOTE 4



WET WELL – NEW
SECONDARY LIFT STATION

SEE NOTE 6

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING	PROPOSED
MANHOLE	
CLEANOUT	
LIFT STATION	
INSPECTION CHAMBER	
CATCH BASIN	
SILT TRAP	
SEEPAGE PIT	
CULVERT	
DITCH	
HYDRANT	
WATER VALVE	
FLUSH VALVE	

EXISTING	PROPOSED
AIR VALVE	
WATER METER	
IRRIGATION VALVE	
UTILITY MANHOLE *	
SERVICE BOX *	
LPT	
UTILITY POLE *	
POLE–MOUNT LS	
ORNAMENTAL LUMINAIRE	
TRAFFIC SIGNAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING	PROPOSED
SANITARY	
SANITARY FORCEMAIN	
STORM DRAIN	
WATER	
GAS	
ELECTRICAL	
ROAD CURB	
EDGE OF PAVEMENT	
DRIVEWAY	
SIDEWALK	
PROPERTY LINE	
EASEMENT	

EXISTING	PROPOSED
FENCE	
SLOPE – TOP	
SLOPE – BOTTOM	
CONTOUR – MAJOR	
CONTOUR – MINOR	
BOUNDARY	
N/A BUILDING ENVELOPE	
VEGETATION LINE	

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN	LS
DRAWN	MT
CHECKED	DM
ENGINEER	LS

SEAL

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM DETAILS MANHOLE VIEWS**

DATE: 2017–03–21

DRAWING NO. DWG–J0005

COLWOOD FILE NO. RFP–2017–01

COLWOOD CONTRACT NO. RFP–2017–01

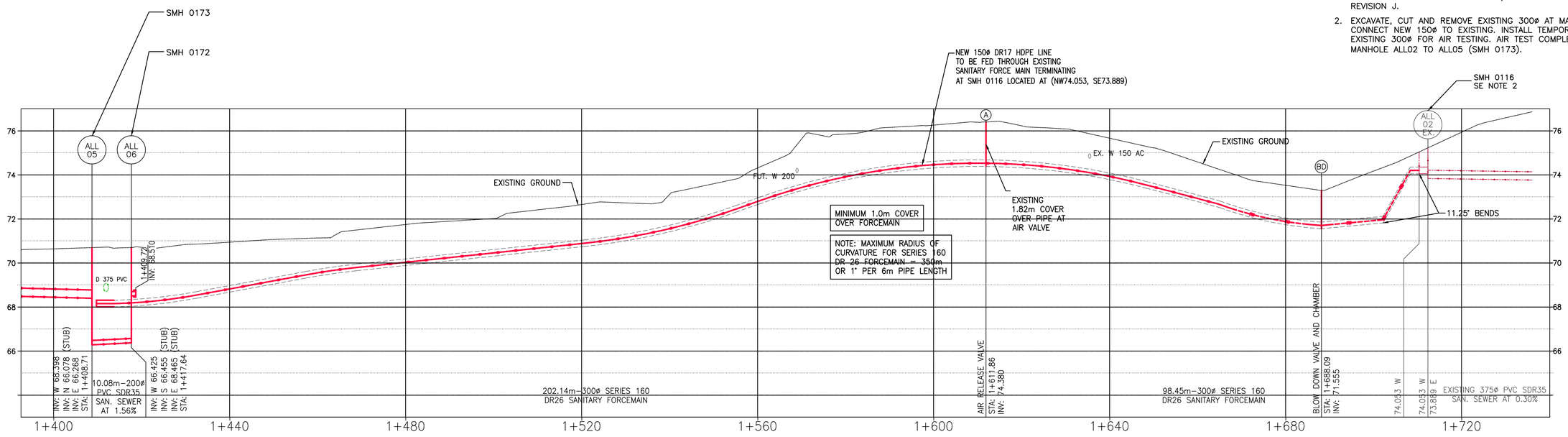
SCALE: AS NOTED

SHEET: 5 of 9 REV: INP

FILE LOCATION TBC

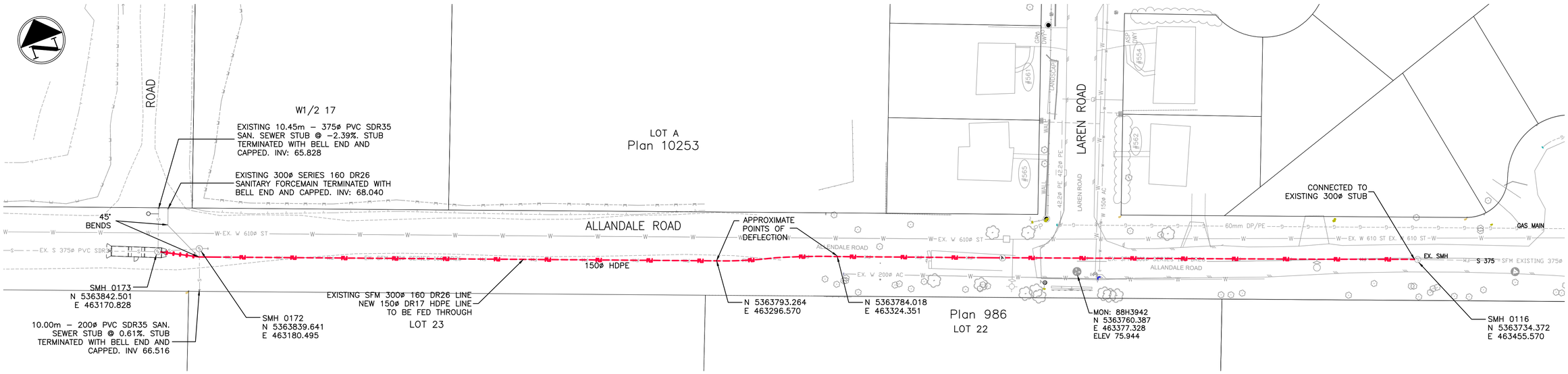
NOTES :

1. THIS DRAWING FOR GUIDANCE ONLY. CONTENTS BEING TAKEN FROM CITY OF COLWOOD FILE NO:10.7.20; DRAWING NO. 026-24-05 REVISION J.
2. EXCAVATE, CUT AND REMOVE EXISTING 300ø AT MANHOLE AND CONNECT NEW 150ø TO EXISTING. INSTALL TEMPORARY PLUG IN EXISTING 300ø FOR AIR TESTING. AIR TEST COMPLETE LINE FROM MANHOLE ALL02 TO ALL05 (SMH 0173).



PROFILE VIEW – COLWOOD SEWERS
ALLANDALE ROAD

10 0 10 20 40 METER (H)



PLAN VIEW
ALLANDALE ROAD

10 0 10 20 40 METER

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING	PROPOSED	
		MANHOLE
		CLEANOUT
		LIFT STATION
		INSPECTION CHAMBER
		CATCH BASIN
		SILT TRAP
		SEEPAGE PIT
		CULVERT
		DITCH
		HYDRANT
		WATER VALVE
		FLUSH VALVE

EXISTING	PROPOSED	
		AIR VALVE
		WATER METER
		IRRIGATION VALVE
		UTILITY MANHOLE *
		SERVICE BOX *
		LPT
		UTILITY POLE *
		POLE-MOUNT LS
		ORNAMENTAL LUMINAIRE
		TRAFFIC SIGINAL

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING	PROPOSED	
S		SANITARY
FM		SANITARY FORCEMAIN
D		STORM DRAIN
W		WATER
G		GAS
		ELECTRICAL
NMC		ROAD CURB
		EDGE OF PAVEMENT
		DRIVEWAY
		SIDEWALK
		PROPERTY LINE
		EASEMENT

EXISTING	PROPOSED	
		FENCE
		SLOPE – TOP
		SLOPE – BOTTOM
		CONTOUR – MAJOR
		CONTOUR – MINOR
		BOUNDARY
N/A		BUILDING ENVELOPE
		VEGETATION LINE

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN LS
DRAWN MT
CHECKED DM
ENGINEER LS
SEAL

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM**
PROPOSED TUBE FEEDING
PLAN AND PROFILE, GUIDANCE ONLY

DATE: 2017-03-21

DRAWING NO. DWG-J0006

COLWOOD FILE NO. RFP-2017-01

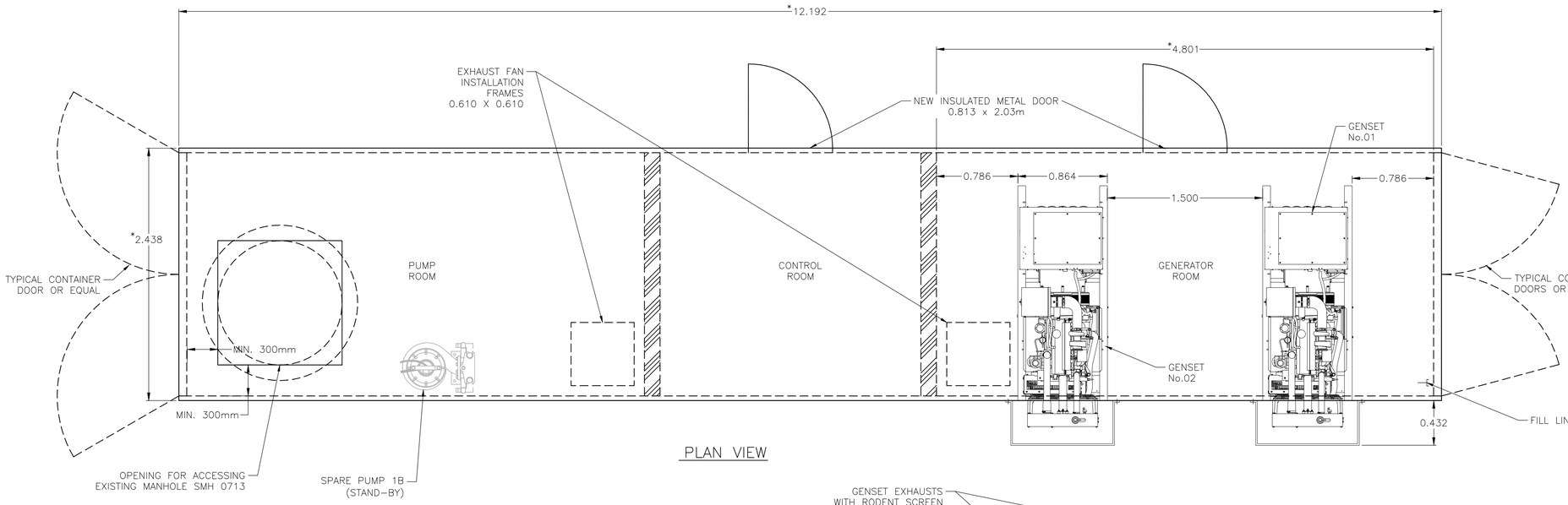
COLWOOD CONTRACT NO. RFP-2017-01

SCALE: AS NOTED

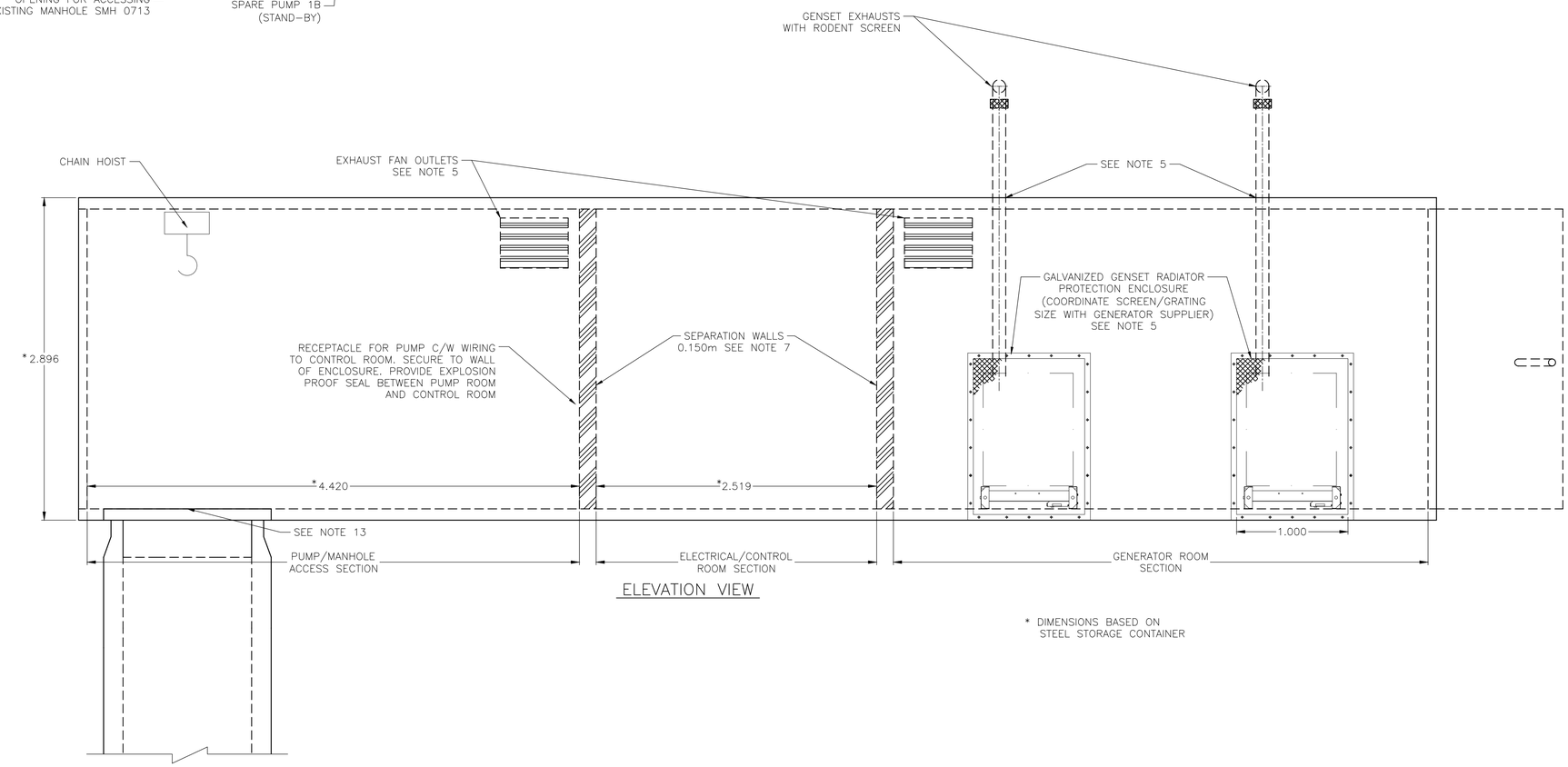
SHEET: 6 of 9

REV: INP

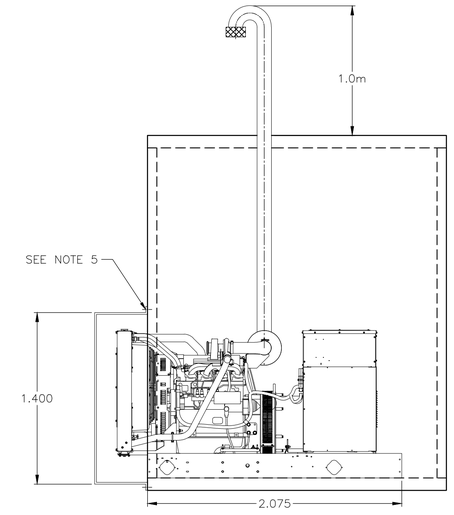
FILE LOCATION TBC



PLAN VIEW



ELEVATION VIEW



ELEVATION SIDE VIEW

* DIMENSIONS BASED ON STEEL STORAGE CONTAINER

NOTES:

1. CONTROL ROOM AREA IS CLASS 1 DIV 2 ELECTRICAL RATING. WALLS MUST INCLUDE SEALED BARRIER TO PREVENT GAS TRANSFER.
2. REFER TO DRAWING J0004 FOR LOCATING CONTAINER ON SITE.
3. FOR GENERATOR CONNECTION DETAILS REFER TO MANUFACTURER DRAWINGS. PROVIDE PRODUCT DATA SHEETS AND SHOP DRAWING TO CA FOR REVIEW. PROVIDE O/M MANUAL PRIOR TO SUBSTANTIAL PERFORMANCE.
4. FILL LINE FOR GENERATOR FUEL TO BE FIELD LOCATED BASED ON GENERATOR SELECTION. CONTRACTOR TO PLACE NEAR CONTAINER OR GENERATOR ACCESS DOOR. SECURE ALL PIPING TO WALLS. PROVIDE SPILL CONTAINMENT AROUND FILL AREA.
5. CONTRACTOR TO PROVIDE SEAL FOR ELECTRICAL ROOM TO PREVENT GAS OR ODORS FROM ENTERING ELECTRICAL ROOM. PROVIDE WEATHER TIGHT CLOSURES FOR ALL OPENINGS IN CONTAINER FOR GENERATOR EXHAUST, FANS, GENERATOR RADIATORS AND DOORS.
6. SECURE GENSET TO FLOOR OF ENCLOSURE. COORDINATE REQUIREMENTS WITH GENERATOR SUPPLIER.
7. WALLS MUST INCLUDE SEALED BARRIER TO PREVENT GAS TRANSFER.
8. PROVIDE SEAL FOR ELECTRICAL ROOM TO PREVENT GAS OR ODORS FROM ENTERING ELECTRICAL ROOM. METAL OR STEEL STUDS MAY BE USED WITH R12 INSULATION IN THE WALLS AND R20 ON THE ROOF. SECURE ROOF INSULATION TO ENCLOSURE ROOF. INTERIOR WALLS TO HAVE BATTEN/PLYWOOD ON ONE SIDE AND GYPROC ON THE OPPOSITE SIDE.
9. REFER TO DRAWING J0004 FOR LOCATING CONTAINER ON SITE.
10. FOR GENERATOR CONNECTION DETAILS REFER TO MANUFACTURER DRAWINGS.
11. CONTRACTOR TO INSTALL CHAIN HOIST DIRECTLY OVER SUBMERSIBLE PUMP. CONTRACTOR TO INCLUDE HOOK IN WALL TO SECURE CHAIN WHEN NOT IN USE. PUMP LIFTING CHAIN TO CONNECT TO MANUAL HOIST CONNECTED TO ENCLOSURE ROOF. PROVIDE SUFFICIENT LENGTH OF CHAIN TO CONNECT TO HOIST. PROVIDE HOIST WITH CAPACITY OF MINIMUM 1.5 TIMES WEIGHT OF PUMP AND ASSOCIATED PIPING.
12. CONTRACTOR TO PROVIDE SHELVING FOR STORAGE OF SPARE PARTS AS RECOMMENDED BY EQUIPMENT SUPPLIER AND DEFINED IN SPECIFICATIONS.
13. REMOVE MANHOLE FRAME, LID AND TOP CONCRETE RING OF EXISTING MANHOLE SMH 0173 TO PROVIDE ACCESS FOR PUMP OPERATION. PROVIDE WATER TIGHT SEAL BETWEEN THE MANHOLE AND THE ENCLOSURE FLOOR. PROVIDE DETAILS FOR REVIEW BY CA.
14. PROVIDE ACCESS THROUGH FLOOR OF ENCLOSURE TO PROVIDE FULL ACCESS TO EXISTING MANHOLE. INSTALL HINGED, LOCKABLE ARMTEC GALVANIZED GRATING OR NON-METALLIC GRATING OVER MANHOLE, FLUSH WITH TOP OF THE ENCLOSURE FLOOR. SEAL AND MAKE WATERTIGHT ANNULAR SPACE BETWEEN THE FLOOR AND THE MANHOLE. GRATING TO BE RATED FOR 40 LBS PER SQUARE FOOT. PROVIDE DETAIL FOR REVIEW BY CA.
15. SECOND PUMP WILL BE LOCATED IN STEEL STORAGE CONTAINER COMPLETELY WIRED FOR IMMEDIATE SERVICE. ELECTRICAL TO INCLUDE LOCK ON SWITCH TO PREVENT ACCIDENTAL START OF PUMP.

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING	PROPOSED
MANHOLE	
CLEANOUT	
LIFT STATION	
INSPECTION CHAMBER	
CATCH BASIN	
SILT TRAP	
SEEPAGE PIT	
CULVERT	
DITCH	
HYDRANT	
WATER VALVE	
FLUSH VALVE	

EXISTING	PROPOSED
AIR VALVE	
WATER METER	
IRRIGATION VALVE	
UTILITY MANHOLE *	
SERVICE BOX *	
LPT	
UTILITY POLE *	
POLE-MOUNT LS	
ORNAMENTAL LUMINAIRE	
TRAFFIC SIGINAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING	PROPOSED
SANITARY	
SANITARY FORCEMAIN	
STORM DRAIN	
WATER	
GAS	
ELECTRICAL	
ROAD CURB	
EDGE OF PAVEMENT	
DRIVEWAY	
SIDEWALK	
PROPERTY LINE	
EASEMENT	

EXISTING	PROPOSED
FENCE	
SLOPE - TOP	
SLOPE - BOTTOM	
CONTOUR - MAJOR	
CONTOUR - MINOR	
BOUNDARY	
N/A	BUILDING ENVELOPE
	VEGETATION LINE

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN	LS
DRAWN	MT
CHECKED	DM
ENGINEER	LS

SEAL

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM STEEL STORAGE CONTAINER GENERAL ARRANGEMENT**

DATE: 2017-03-21

DRAWING NO. DWG-J0007

COLWOOD FILE NO. RFP-2017-01

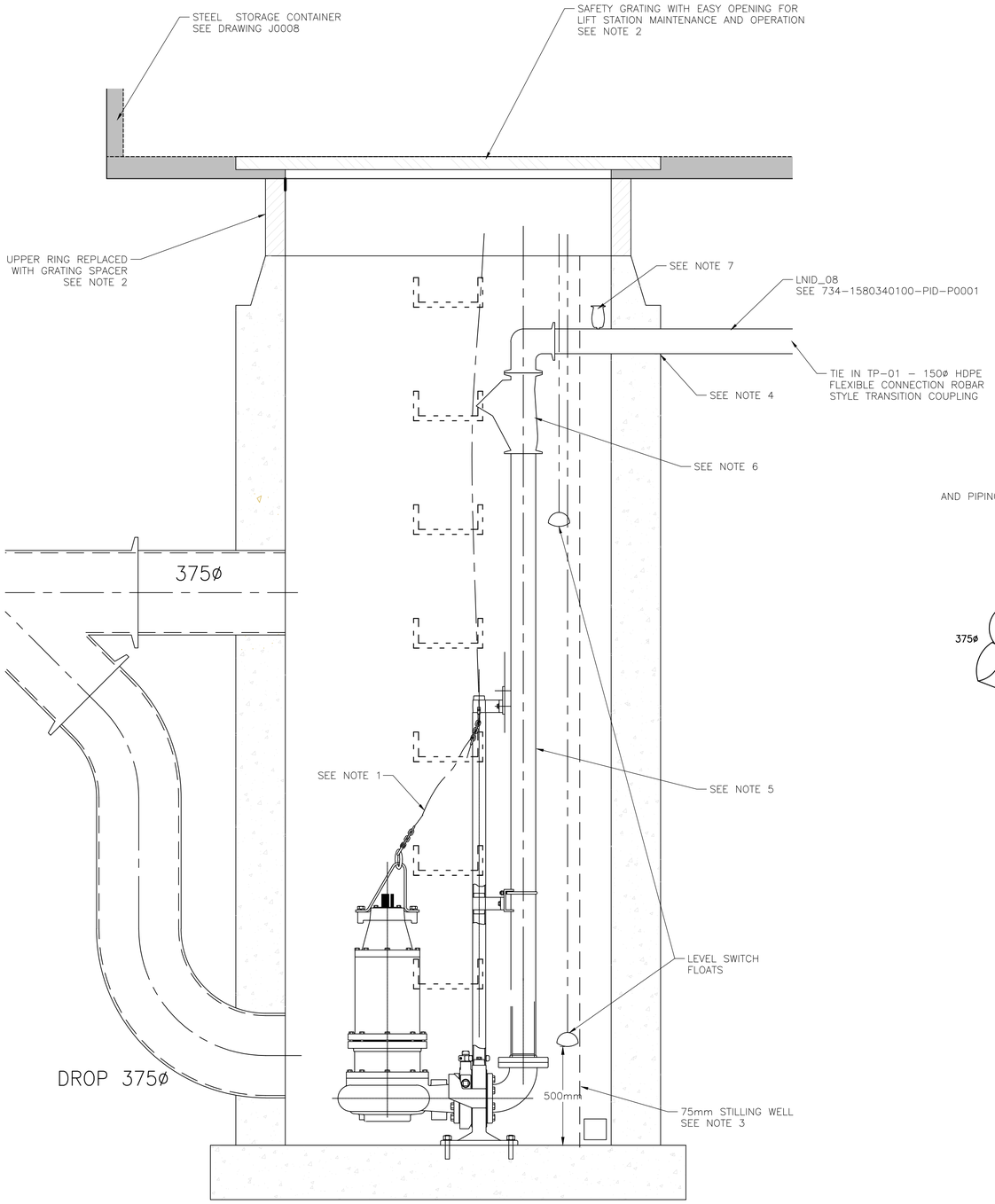
COLWOOD CONTRACT NO. RFP-2017-01

SCALE: AS NOTED

SHEET: 7 of 9

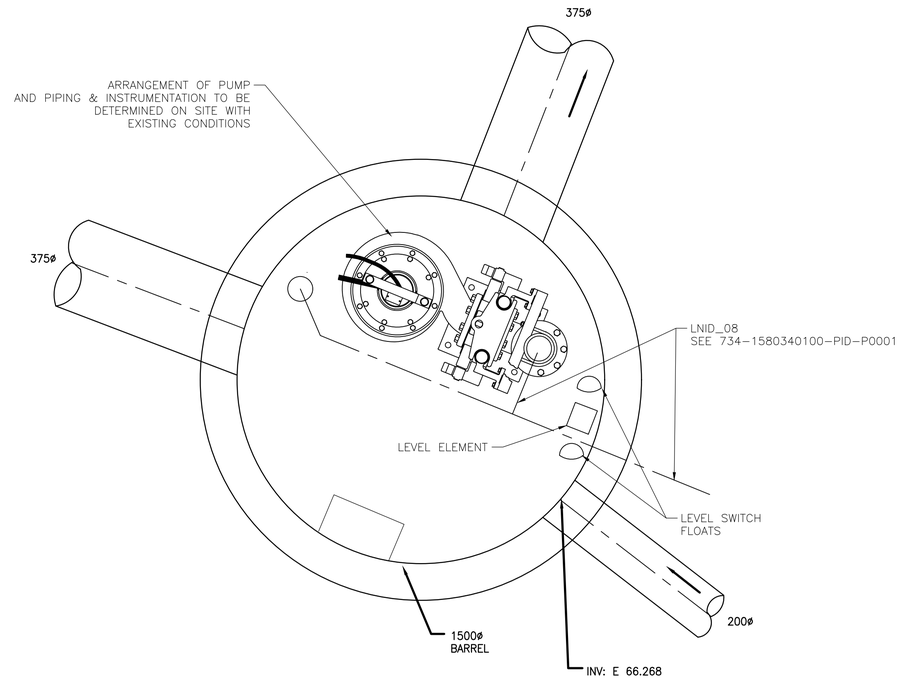
REV: INP

FILE LOCATION TBC



ELEVATION VIEW – SMH ALL 05 (SMH 0173)
FIRST LIFT STATION

NOTE 2



TOP VIEW – SMH ALL 05 (SMH 0173)
FIRST LIFT STATION

NOTES:

1. GALVANIZED OR STAINLESS STEEL CHAIN TO FACILITATE REMOVAL OF PUMP(S). PROVIDE CHAIN SUPPORT AT TOP OF MANHOLE OR UNDERSIDE OF ENCLOSURE.
2. PROVIDE WATERTIGHT CLOSURE BETWEEN FLOOR OF ENCLOSURE AND MANHOLE.
3. PROVIDE A STILLING WELL TO PROTECT CONTINUOUS LEVEL DEVICE.
4. SEAL OPENING USING NO SHRINK GROUT.
5. 150ø DISCHARGE PIPE SUITABLE FOR SEWAGE APPLICATION, PRESSURE RATING 150psi WORKING PRESSURE C/W FLANGED ENDS AND FLANGED CHECK VALVE AND ROBAR TRANSITION COUPLING.
6. CONTRACTOR TO LOCATE SELECTED FLANGED CHECK VALVE ON PUMP DISCHARGE LINE AND CONNECTION TO PRESSURE TRANSMITTER TO PROVIDE EASE OF INSTALLATION AND MAINTENANCE.
7. CONTRACTOR TO SUPPLY AND INSTALL 2" AIR RELIEF VALVE WITHIN THE ENCLOSURE. VENT TO BE LOCATED AT HIGHEST POINT OF PIPE DISCHARGE PIPING IN WET WELL. CONTRACTOR TO INCLUDE VENT LINE AND RETURN AIR LINE VENTING BACK INTO WET WELL. EXACT LOCATION TO BE CONFIRMED BY CONTRACTOR BASED ON CONTRACTOR'S PREFERENCE FOR LOCATION. VALVE MUST BE IN LOCATION CLEAR OF AREA REQUIRED FOR PUMP REMOVAL.

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING		PROPOSED
	MANHOLE	
	CLEANOUT	
	LIFT STATION	
	INSPECTION CHAMBER	
	CATCH BASIN	
	SILT TRAP	
	SEEPAGE PIT	
	CULVERT	
	DITCH	
	HYDRANT	
	WATER VALVE	
	FLUSH VALVE	

EXISTING		PROPOSED
	AIR VALVE	
	WATER METER	
	IRRIGATION VALVE	
	UTILITY MANHOLE *	
	SERVICE BOX *	
	LPT	
	UTILITY POLE *	
	POLE-MOUNT LS	
	ORNAMENTAL LUMINAIRE	
	TRAFFIC SIGINAL	

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING		PROPOSED
S	SANITARY	
SFM	SANITARY FORCEMAIN	
D	STORM DRAIN	D
W	WATER	W
G	GAS	G
	ELECTRICAL	
NMC	ROAD CURB	NMC
	EDGE OF PAVEMENT	
	DRIVEWAY	
	SIDEWALK	
	PROPERTY LINE	
	EASEMENT	

EXISTING		PROPOSED
	FENCE	
	SLOPE - TOP	
	SLOPE - BOTTOM	
	CONTOUR - MAJOR	
	CONTOUR - MINOR	
	BOUNDARY	
N/A	BUILDING ENVELOPE	
	VEGETATION LINE	

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

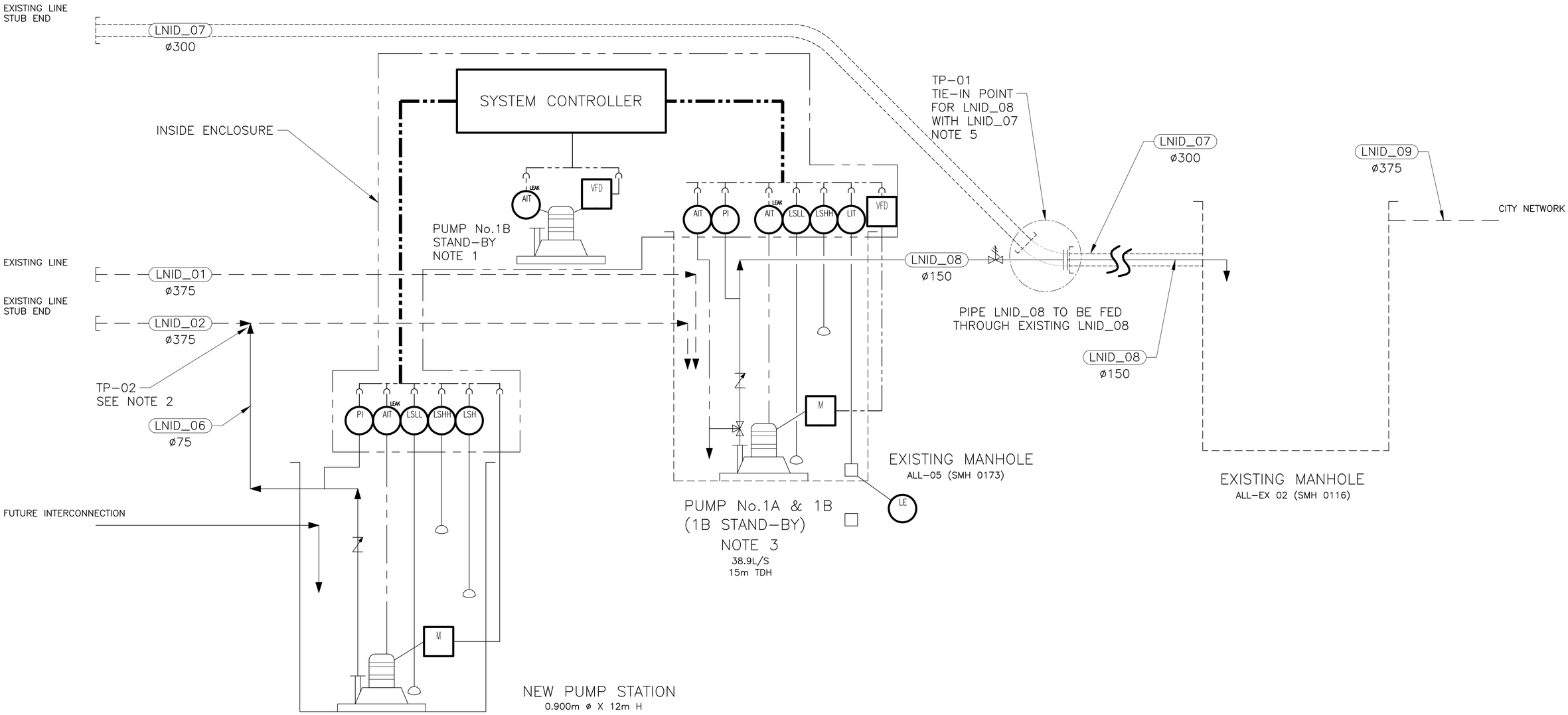
DESIGN LS
DRAWN MT
CHECKED DM
ENGINEER LS
SEAL

PROJECT: **ALLANDALE PIT**
TITLE: **PUMPING SYSTEM PROPOSED SITE LIFT STATION**
DATE: 2017-03-21
DRAWING NO. DWG-J0008

COLWOOD FILE NO. RFP-2017-01
COLWOOD CONTRACT NO. RFP-2017-01
SCALE: AS NOTED

SHEET: 8 of 10
REV: INP

FILE LOCATION TBC



NOTES:

1. STAND–BY PUMP TO BE WIRED AND READY FOR IMMEDIATE USE.
2. ALTERNATE LOCATIONS FOR TIE POINT OTHER THAN AS SHOWN, DIRECTLY TO SMH0173 OR LNID_07 TO EXISTING DRAINAGE LINES. CONTRACTOR TO SELECT BEST TIE POINT BASED ON CONSTRUCTION PREFERENCE AND ACCESS TO EXISTING PIPING ELEMENTS.
3. PUMP TO INCLUDE INTEGRAL FLUSH VALVE.
4. SPARE PUMP TO BE A SHELF SPARE LOCATED IN ENCLOSURE.
5. PIPE CONNECTION TO BE REMOVED TO ACCESS LNID_08.

No.	DATE	REVISION	ENGR
A	3/2017	INDICATIVE DESIGN	LS

EXISTING	PROPOSED	
		MANHOLE
		CLEANOUT
P	P	LIFT STATION
		INSPECTION CHAMBER
		CATCH BASIN
		SILT TRAP
		SEEPAGE PIT
		CULVERT
		DITCH
		HYDRANT
		WATER VALVE
		FLUSH VALVE

EXISTING	PROPOSED	
		AIR VALVE
		WATER METER
		IRRIGATION VALVE
		UTILITY MANHOLE *
		SERVICE BOX *
		LPT
		UTILITY POLE *
		POLE–MOUNT LS
		ORNAMENTAL LUMINAIRE
		TRAFFIC SIGNAL

*SUBSTITUTE L,C,T AS REQUIRED

EXISTING	PROPOSED	
S	S	SANITARY
FM	FM	SANITARY FORCEMAIN
D	D	STORM DRAIN
W	W	WATER
G	G	GAS
		ELECTRICAL
NMC	NMC	ROAD CURB
		EDGE OF PAVEMENT
		DRIVEWAY
		SIDEWALK
		PROPERTY LINE
		EASEMENT

EXISTING	PROPOSED	
		FENCE
		SLOPE – TOP
		SLOPE – BOTTOM
		CONTOUR – MAJOR
		CONTOUR – MINOR
		BOUNDARY
N/A		BUILDING ENVELOPE
		VEGETATION LINE

BENCHMARK: ELEVATION:

Colwood

TETRA TECH
117-877 GOLDSTREAM AVENUE
VICTORIA, BC V9B 2X8
(250) 915-2000

DESIGN LS
DRAWN MT
CHECKED DM
ENGINEER LS
SEAL

PROJECT: **ALLANDALE PIT**

TITLE: **PUMPING SYSTEM STATION**
PIPING AND INSTRUMENTATION DIAGRAM

DATE: 2017–03–21

DRAWING NO. PID–P0001

COLWOOD FILE NO. RFP–2017–01
COLWOOD CONTRACT NO. RFP–2017–01
SCALE: AS NOTED

SHEET: 9 of 9
REV: INP

FILE LOCATION TBC