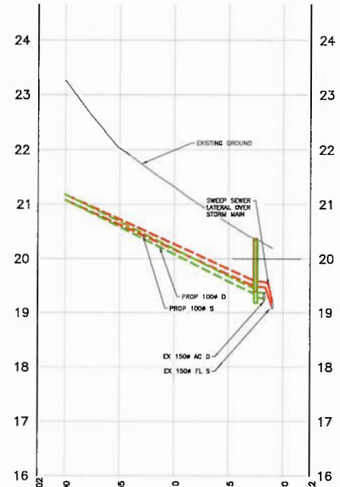
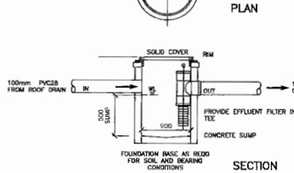


Sewer Laterals Data:	17.45m 100ø PVC @ −9.11% Invert In 21.080 Invert Out 19.490	0.81m 100ø PVC @ −2.00% Invert In 19.490 Invert Out 19.474 0+17.45 RIM=20.37
Storm Laterals Data:	17.52m 100ø PVC @ −10.00% Invert In 21.083 Invert Out 19.331	0.81m 100ø PVC @ −2.00% Invert In 19.278 Invert Out 19.261 0+17.52 RIM=20.35



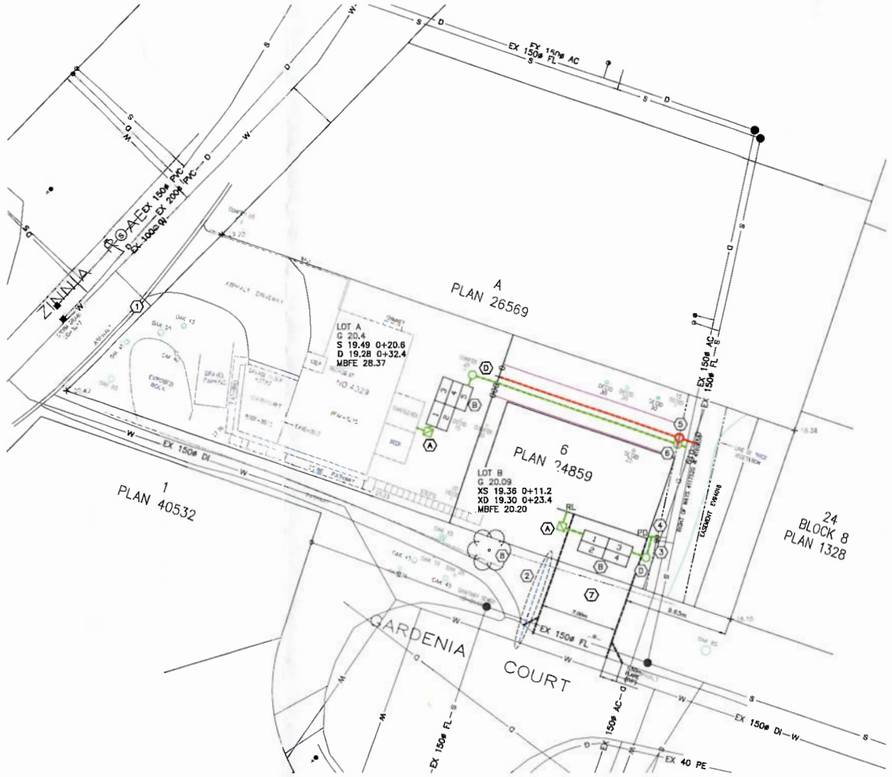
SWM DRAIN SILT TRAP D12B

DETAILED CONSTRUCTION NOTES:

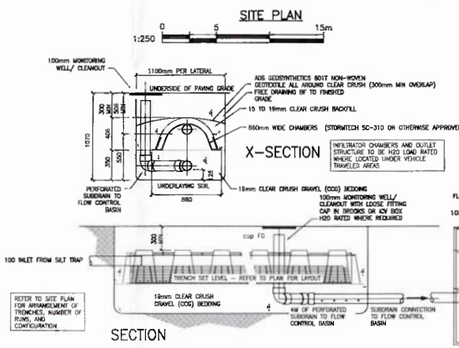
1. EXISTING 19mm WATER CONNECTION TO BE RETAINED.
2. NEW 19mm PROVISIONAL WATER SERVICE BY SAANICH AT APPLICANTS EXPENSE.
3. EXISTING 100mm SEWER CONNECTION AND IC TO BE RETAINED FOR USE OF LOT B.
4. EXISTING 100mm STORM CONNECTION AND IC TO BE RETAINED FOR USE OF LOT B.
5. 100mm PVC SEWER CONNECTION AT 2% AND IC BY CONTRACTOR AT APPLICANTS EXPENSE.
6. 100mm PVC STORM CONNECTION AT 2% AND IC BY CONTRACTOR AT APPLICANTS EXPENSE.
7. PROPOSED DRIVEWAY C/W SUGGESTED 2m ASPHALT APRON (FLARES AT ROAD EDGE TO BE 1.5m X 1.5m) AS PER SAANICH SPECIFICATIONS AND G7SS AND C16SS.
8. ONE NEW LARGE SCHEDULE i BOULEVARD TREES TO BE PROVIDED PER PARKS SPECIFICATIONS SEE GENERAL CONSTRUCTION NOTES FOR PLANTING REQUIREMENTS.

ENVIRONMENTAL NOTES:

- USE BEST MANAGEMENT PRACTICES DURING CONSTRUCTION. ADJUST WORK ACTIVITIES DURING PERIODS OF HEAVY RAIN TO MINIMIZE SEDIMENTS ENTERING THE STORM DRAINAGE SYSTEM.
- SOME BMP'S TO CONSIDER:
- CHECK ALL EQUIPMENT FOR FLUID LEAKS PRIOR TO ENTERING THE WORK AREA.
- NO EQUIPMENT RE-FUELING TO OCCUR IN THE WORK AREA UNLESS SPILL PROTECTION MEASURES ARE IN PLACE.
- A SPILL KIT IS TO BE MAINTAINED ON SITE THROUGHOUT THE CONSTRUCTION PERIOD.
- SURFACE WATER IS TO BE MANAGED WITHIN THE WORK AREA AND TREATED BEFORE DISCHARGED. THIS MAY INCLUDE ONSITE DETENTION AND/OR CULVERT FILTRATION.
- COVER EXPOSED SOILS IN INCLEMENT WEATHER ie TARP, HYDRO SEED OR ORGANIC LEAF MULCH.
- STOCKPILE SOILS AWAY FROM CULVERT INLETS AND ENSURE THEY ARE COVERED IF LEFT FOR MORE THAN 48 HOURS.
- PLACE DRAIN ROCK AND FILET FABRIC AT THE INLET OF CULVERT.
- SURROUND PROTECTED TREES WITH SNOW FENCING AT DRIP LINE OR CRITICAL ROOT ZONE OF TREE DURING CONSTRUCTION. CONTACT CITY ARBORIST PRIOR TO BEGINNING CONSTRUCTION.
- INSTALL SILT FENCING AS REQUIRED.



SITE PLAN
1:250 0 5 15m



SWM STORAGE/FILTRATION TRENCH AND CONTROL STRUCTURE – D11C

ON SITE STORMWATER MANAGEMENT (SWM) NOTES

CONTRACTORS OBLIGATION

PRE-CONSTRUCTION MEETING
THE CONTRACTOR MUST ARRANGE WITH THE ENGINEER, A PRE-CONSTRUCTION MEETING TO REVIEW THE SWM OBJECTIVES BEFORE SETTING OF ANY FOUNDATION OR BUILDING PERIMETER DRAINS.

REFER TO GENERAL NOTES

SEDIMENT RETENTION
DURING CONSTRUCTION AND RE-ESTABLISHMENT OF VEGETATION AND LAWN, SURFACE WATER RUN-OFF FROM DISTURBED AREAS OF THE PROJECT, OR ANY OTHER SOURCE OF SEDIMENT OR POLLUTANT LADEN WATER, SHALL NOT BE ROUTED THROUGH ANY STORMWATER MANAGEMENT SYSTEM. A SEDIMENT POND, TRAP, PERIMETER PROTECTION, SUCH AS SILT FENCES, OR OTHER ENGINEER APPROVED SURFACE TREATMENTS SHALL BE USED.

COMMISSIONING OF SWM SYSTEMS
TEMPORARY EROSION AND SILT CONTROL TREATMENTS SHALL REMAIN IN PLACE UNTIL THE ENTIRE SITE HAS BEEN STABILIZED AND VEGETATION RE-ESTABLISHED.

SWM OBJECTIVES

GENERAL
ALL LOTS SHALL BE PROVIDED WITH STORMWATER MANAGEMENT SYSTEMS FOR IMPERVIOUS SURFACES.

THIS PLAN SHOWS REPRESENTATIVE EXAMPLES OF TYPICAL SWM CONFIGURATIONS FOR EACH LOT.

THE OWNER AND CONTRACTOR SHALL CONSULT WITH THE ENGINEER REGARDING THE ULTIMATE ARRANGEMENT AND SCOPE OF REQUIRED SWM COMPONENTS.

INTENT OF SWM IS TO REDIRECT ALL HARD LANDSCAPE RUNOFF INTO ENGINEERED SYSTEMS FOR WATER RECHARGE TO SURFACE OR GROUND FOR DISPERSION AND OR INFILTRATION AS WELL AS TO REDUCE THE IMPACT THE DOWNSTREAM MUNICIPAL MAIN.

BUILDING FOUNDATION PERIMETER DRAINS
THE FOUNDATION PERIMETER DRAINS (PD) FROM BUILDINGS SHALL BE DIRECTLY CONNECTED TO THE COMMON OR MUNICIPAL DRAIN CONNECTION AS APPLICABLE, AND NOT ROUTED THROUGH THE ROOF OR DRIVEWAY DRAIN SYSTEMS.

FOUNDATION DRAINS TO BE PROVIDED OTHERWISE AS REQUIRED BY THE BC BUILDING CODE.

BUILDING ROOF DRAINS
THE ROOF DOWNSPOUTS (RD) FROM DWELLINGS ARE TO BE SEPARATE FROM THE FOUNDATION PERIMETER DRAIN AND ROUTED THROUGH THE SWM SYSTEMS PRESCRIBED HEREIN.

ON-SITE DRIVEWAYS
NEW DRIVEWAY SURFACE AREAS HAVE BEEN INCLUDED IN STORMWATER STORAGE CALCULATIONS.

PROVIDE DRIVEWAY SURFACE AND SUBGRADE DRAINAGE AS REQUIRED TO MEET OBJECTIVES AND DoS STD DWG DES33.

EMERGENCY STORM OVERFLOWS MUST BE DIRECTED TO MUNICIPAL SYSTEM AS INDICATED IN D11C.

SWM SYSTEM DESIGN NOTES

FOUNDATION PERIMETER DRAINS
PROVIDE DRAINS SUBSTANTIALLY IN ACCORDANCE WITH THE BC PLUMBING CODE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ROOF DRAINS
PROVIDE ROOF WATER LEADERS AND PERIMETER ROOF DRAINS SUBSTANTIALLY IN ACCORDANCE WITH THE BC BUILDING CODE AS SHOWN ON THE APPROVED BUILDING PLANS UNLESS OTHERWISE APPROVED BY THE ENGINEER.

DIRECT 100MM ROOF WATER COLLECTION PIPE TO STORAGE/FILTRATION CHAMBER TRENCHES VIA SWM SILT TRAP AS INDICATED.

REFER TO DETAIL D11C

STORMWATER MANAGEMENT

(A) **SILT TRAP**
SWM RELATED SILT TRAPS (ST) TO BE CONSTRUCTED AS SHOWN IN DETAIL D12B

(B) **STORAGE/ FILTRATION CHAMBER TRENCHES**
CHAMBER TRENCHES (TRN) TO BE CONSTRUCTED AS SHOWN IN DETAIL D11C

(C) **TRENCH DAMS**
ALL TRENCH DAMS ARE TO BE PROVIDED AS FULL DEPTH COMPACTED CLAY OR OTHER APPROVED IMPERVIOUS BARRIER. OBJECTIVE IS TO ISOLATE THE INFILTRATOR TRENCH AND BED AREA FROM UPSTREAM WATER INGRESS AND DOWNSTREAM WATER EGRESS. LOCATIONS TO BE INDICATED BY ENGINEER ON SITE.

(D) **CONTROLLED OUTLETS / MONITORING WELLS**
1050MM CONCRETE CONTROL STRUCTURE AS SHOWN IN DETAIL D11C. COVER TO BE SET FLUSH WITH FINISHED GRADE., CONTROL STRUCTURE TO BE INSTALLED IN ACCORDANCE WITH S1S5 MUNICIPAL STANDARD.

GENERAL CONSTRUCTION NOTES:

1. CONTACT & NOTIFY ALL HOMEOWNERS AFFECTED BY WORKS 4 WEEKS PRIOR TO CONSTRUCTION.
2. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO CITY STANDARD SPECIFICATIONS AND DRAWINGS UNLESS OTHERWISE NOTED ON THIS DRAWING.
3. REPAIR AND/OR REPLACE ALL INFRASTRUCTURE/PRIVATE PROPERTY DAMAGED OR REMOVED DURING CONSTRUCTION, TO BETTER THAN, OR EQUAL TO PRE-CONSTRUCTION CONDITION.
4. REINSTATE ALL PRIVATE PROPERTY TO PRE-CONSTRUCTION CONDITIONS.
5. CONTACT CITY PARKS DEPARTMENT PRIOR TO WORKING IN AND AROUND TREES.
6. ENSURE THE CURRENT MUNICIPAL O.H.&S. GROUND DISTURBANCE PRACTICE AND PROCEDURES ARE FOLLOWED. CONTACT BC1 AT 1-800-474-6886 FOR EXTERNAL UTILITY LOCATIONS AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
7. NOTIFY THOSE HOMEOWNERS WHO WILL BE AFFECTED BY CONSTRUCTION 48HRS BEFORE BEGINNING WORKS.
8. CONFIRM LOCATION AND ELEVATION OF EXISTING UTILITIES AT ALL CROSSINGS AND CONNECTIONS PRIOR TO CONSTRUCTION.
9. ENSURE ALL EXISTING SERVICES STAY IN OPERATIONAL CONDITION DURING CONSTRUCTION.
10. SIGNS ARE TO BE CONSTRUCTED AS PER CoV STANDARD DRAWINGS
11. ALL BOULEVARDS TO BE RESTORED WITH 200mm TOPSOIL AND GRASS.
12. MAINTAIN VEHICLE AND PEDESTRIAN ACCESS AT ALL TIMES.
13. ALL EXISTING AND PROPOSED APPURTENANCES TO MEET FINAL GRADES.
14. ALL TRENCHING EXCAVATIONS AND BEDDING TO BE PER MMCD G4

PERMIT TO PRACTICE NUM: 1000348

1/25/24

GENERAL NOTES:

DRAWING INFORMATION
DIMENSIONS ARE METRIC; MILLIMETERS ON DETAIL DRAWINGS; METERS ON 1:250 PLAN AND PROFILE, UNLESS OTHERWISE NOTED.

INFORMATION THAT IS PROVIDED IN OUR PLANS, DESIGNS, OR SPECIFICATIONS IS INTENDED TO INDICATE THE GENERAL ARRANGEMENT OF WORK TO BE CARRIED OUT. AS THE PROJECT PROGRESSES, THE DEGREE OF DETAIL THAT IS PROVIDED MAY REQUIRE ADDITIONS OR DELETIONS.

EXISTING SERVICE INFORMATION WITHIN AREAS OF CONSTRUCTION MAY HAVE BEEN SUPPLIED BY OTHERS AND ARE APPROXIMATE ONLY, ADDITIONAL SERVICES MAY BE PRESENT BUT NOT INDICATED ON THESE DRAWINGS.

EXISTING SERVICES TO BE VERIFIED OR EXPOSED IN FIELD. CONTACT ENGINEER IF THERE ARE ANY CONFLICTS. ALL ALTERNATE DESIGNS ARE TO BE SUBMITTED THROUGH CONSULTING ENGINEER.

GENERAL REQUIREMENTS
REFER TO KYLE ENGINEERING'S "STATEMENT OF CONDITIONS" FOR ADDITIONAL INFORMATION AS TO THE USE OF THESE DOCUMENTS AND CONSTRUCTION OF THE WORKS.

REFER TO DISTRICT STANDARD DRAWINGS AND SPECIFICATIONS AND PERMITS, MASTER MUNICIPAL CONSTRUCTION DOCUMENTS, LATEST EDITION, BC HYDRO, TELUS, SHAW AND FORTIS GAS DRAWINGS AND SPECIFICATIONS, AND OTHER AGENCIES/ SUB-CONSULTANTS DRAWINGS AND SPECIFICATIONS FOR INFORMATION NOT COVERED ON THESE DRAWINGS.

ALL OTHER CONSTRUCTION, MATERIAL AND INSTALLATION OF SERVICES NOT COVERED SPECIFICALLY BY THE BC BUILDING CODE, BC ELECTRICAL CODE, OR BY OTHER BYLAWS OR SPECIFICATIONS SHALL BE IN GENERAL CONFORMANCE WITH THE MASTER MMCD SPECIFICATIONS/STANDARD DETAIL DRAWINGS, AND ADDENDUMS.

UNLESS OTHERWISE SPECIFIED HEREIN, ALL WORK WITHIN PRIVATE PROPERTY AND EASEMENTS TO BE INSTALLED IN ACCORDANCE WITH THE BC BUILDING CODE AND INSPECTED BY THE MUNICIPAL WORKS INSPECTOR.

USE OF INFORMATION
THIS DOCUMENT MAY NOT BE USED, COPIED OR SHARED WITHOUT THE EXPRESS WRITTEN AUTHORITY OF KYLE ENGINEERING AND AT NO TIME MAY IT BE USED OR REFERENCED IN ANY FORM FOR ANY LEGAL INSTRUMENT.

COORDINATION REQUIREMENTS

COMMUNICATION AND REPORTING
CONTACT BC ONE-CALL PRIOR TO CONSTRUCTION FOR FOR SERVICES LOCATE. 1-800-474-6886

THE CONTRACTOR IS TO COORDINATE AND COMMUNICATE WITH THE ENGINEER, ALL UTILITIES, AND AUTHORITIES HAVING JURISDICTION, WELL IN ADVANCE (2-WORKING DAYS MINIMUM) OF THE START OF ANY EXCAVATION AND COMMENCEMENT OF EACH PHASE OF CONSTRUCTION.

THE CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL SUB-CONSULTANTS, CONTRACTORS AND TRADES REQUIRED FOR THE COMPLETION OF THE WORKS.

THE CONTRACTOR SHALL PROVIDE THE REQUIRED QUALITY CONTROL AND CONFORMANCE TESTING REPORTS TO THE ENGINEER AT THE COMPLETION OF EACH PHASE OF THE WORK. ENGINEER WILL THEN SEND RELATED DOCUMENTATION TO DISTRICT WITH REGARDS TO ITS INFRASTRUCTURE.

PERMITS
A TREE BYLAW PERMIT IS TO BE OBTAINED PRIOR TO ANY SITE ACTIVITIES.

A PERMIT TO CONSTRUCT WORKS ON A MUNICIPAL ROAD ALLOWANCE MUST BE OBTAINED BEFORE WORKS COMMENCE.

A PERMIT TO CROSS OR WORK NEAR FORTIS GAS PIPELINE IS REQUIRED. CONTACT 1-877-599-0996

NOTIFICATION
WHEN GIVING ADVANCE NOTIFICATION, THE CONTRACTOR SHALL TAKE INTO CONSIDERATION THE SCHEDULING DEMAND AND PRIOR COMMITMENTS OF ALL PARTIES.

FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN DELAYS, REJECTION OF THE WORK, OR EXPENSIVE TESTING TO PROVE COMPLIANCE.

IN THE EVENT THAT THE CONTRACTOR IS NOT PROVIDING HIS OWN CONSTRUCTION LAYOUT, THE ENGINEER IS TO BE NOTIFIED BY EMAIL OR OTHERWISE IN WRITING AT LEAST 5 DAYS BEFORE ANY CONSTRUCTION LAYOUT IS REQUIRED.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY IF CONDITIONS ARE NOT FAVORABLE TO THE ACHIEVEMENT OF THE DESIGN INTENT.

CHANGE REQUESTS
CONTRACTOR REQUESTED CONSTRUCTION CHANGES MUST BE SUBMITTED AND APPROVED BY THE ENGINEER PRIOR TO IMPLEMENTATION. DISTRICT TO BE ENGAGED FOR CHANGES RELATED TO DISTRICT OWNED INFRASTRUCTURE.

TESTING REQUIREMENTS
CONFORMANCE TESTING IS TO BE PROVIDED BY THE CONTRACTORS TESTING ENGINEER FOR ALL ROAD CROSSINGS, ROAD BASE, SUBGRADE, CONCRETE, AND PAVING CONSTRUCTION MATERIALS AND AS OTHERWISE REQUIRED BY DISTRICT OR THE ENGINEER.

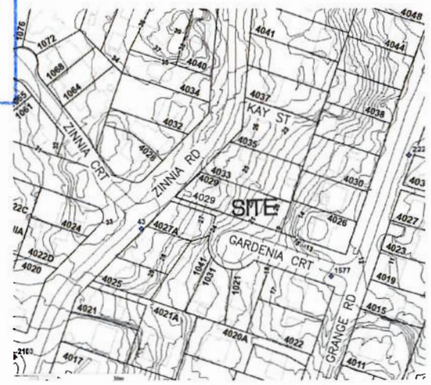
ALL TESTING IS TO BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTORS EXPENSE.

MISCELLANEOUS
ALL PUBLIC ROADS ARE TO BE MAINTAINED MUD AND DUST FREE DURING CONSTRUCTION.

ALL LANDSCAPING AND STRUCTURES TO BE REINSTATED TO ORIGINAL CONDITION OR BETTER.

PAVEMENT RESTORATION FOR RESIDENTIAL ROADS TO BE PER SAANICH STD DWGS

RECEIVED
MAY 03 2024
PLANNING DEPT.
DISTRICT OF SAANICH



KEY PLAN – 1:2000

FOR PROPOSED SEWER OF
LOT 5 , SECTION 79, VICTORIA DISTRICT, PLAN 24859
PID 002-830-027
4029 ZINNIA ROAD

HOEL ENGINEERING LTD DBA
KYLE ENGINEERING
SUITE 1, 40 CADILLAC AVE,VICTORIA, BC, V8Z 1T2
250 475 6906

CONFIRM UNDERGROUND LOCATIONS WITH UTILITY COMPANIES

THE LOCATION AND ELEVATION OF THE EXISTING UNDERGROUND INFRASTRUCTURE SHOWN ON THIS DRAWING MAY NOT BE ACCURATE OR COMPLETE. THE ACTUAL HORIZONTAL AND VERTICAL LOCATIONS MUST BE CONFIRMED PRIOR TO THE START OF ANY EXCAVATION.

LEGEND

Existing Municipal Infrastructure		Drain	—D—	Curb	—C—	Concrete Box	Valve
Proposed Municipal Infrastructure		Ditch		Sidewalk		Wood Box	Flush Valve
Existing External U/G Utilities	—e— —t— —g— —c—	Sewer	—S—	Manhole		Catch Basin	Hydrant
Proposed External U/G Utilities		Water	—W—	Cleanout		Culvert	Reducer
Street Lighting	Pole Mount / Standard Mount	Traffic Sign		Silt Trap		Cap / Plug	Air Valve
Post Top	Pedestrian Signal / Traffic Signal	Ctrl Monument		Traverse Hub		Gas Valve	Water Meter

REVISIONS

6	
5	
4	
3	
2	
1	

REVISIONS APPROVED

	REVISION # 1			REVISION # 2			REVISION # 3		
Approved	Date	Signed	Approved	Date	Signed	Approved	Date	Signed
Design Engineer			Design Engineer			Design Engineer		
Manager of Development			Manager of Development			Manager of Development		
Development Coordinator			Development Coordinator			Development Coordinator		

DESIGN APPROVED

Approved By	Date	Signed
Design Engineer		
Manager of Development		
Development Coordinator		

DISTRICT OF SAANICH

4029 ZINNIA ROAD

WATER, SEWER, STORM AND ROAD SERVICES PLAN

B.M. : 79H8837 Elev: 11.682m
Design: ESK Drawn: ESK Checked: ESK
Scale: Hor: 1:250 Vertical: 1:50 Date: JAN 2024

FILE No. –
DESIGN No. –
DRAWING No. 1 OF 1

THE DISTRICT OF SAANICH, January 25, 2024 / U:\CS1400 Customer Files\2024\CV Civil\CV24-02 Zinnia - Andrew\03 EN-CN\040 Internal Drawings\00 Current\CV24-02 240124 Services Plan.dwg