City of Richmond

Report to Development Permit Panel

To:	Development Permit Panel	**Date:**	July 2, 2025
From:	Joshua Reis Director, Development	**File:**	DV 25-015419
Re:	**Application by Stephen Easterbrook for a Development Variance Permit at 17720 River Road**		

Staff Recommendation

That a Development Variance Permit be issued which would vary the provisions of Richmond Zoning Bylaw 8500 to increase the maximum cumulative lot coverage for agricultural buildings with an impermeable surface floor sunk into, at or below the natural grade of the site from 750 m^2 to 3,875 m^2 to permit the construction of a poultry barn on a site zoned "Agriculture (AG1)".

Joshua Reis
Director of Development
(604-247-4625)

JR:jh
Att. 4

Staff Report

Origin

Stephen Easterbrookhas applied to the City of Richmond on behalf of Easterbrook Milling Co. Ltd. for permission to increase the maximum cumulative lot coverage for agricultural buildings with an impermeable surface floor sunk into, at or below the natural grade of the site from 750 m^2 to 3,875 m^2 to permit the construction of a 3,875 m^2 poultry barn at 17720 River Road on a site zoned "Agriculture (AG1)". Location and aerial maps of the subject property are provided in Attachment 1.

In 2018, Council adopted Bylaw 9861 to amend the "Agriculture (AG1)" zone to add regulations for agricultural buildings and structures, and greenhouses to restrict the construction of concrete slabs or other impermeable structures and surfaces sunk into, at or below the natural grade. As per the current AG1 zone, for agricultural buildings and structures with a concrete slab, an area up to 750 m^2 (8,073 ft^2) is permitted to be concrete construction, hardsurfacing or other impermeable structure of construction.

At the time of Bylaw 9861 adoption, Council implemented a "fast track" application process for property owners proposing a larger area of concrete construction for agricultural buildings, in support of a farming operation. This includes a concurrent building permit (BP) and a "fast track" staff report process. The subject Development Variance Permit (DVP) proposal for a larger area of concrete construction is being proposed as a "fast track" application.

Development Information

Please refer to attached Development Application Data Sheet (Attachment 2) for a comparison of the proposed development data with the relevant Bylaw requirements.

Background

Development surrounding the subject site is as follows:

To the North: Across River Road, a property zoned "Agriculture (AG1)" and located in the Agricultural Land Reserve (ALR);

To the East: A property owned by the Port of Metro Vancouver, that is leased by Easterbrook Milling Co. Ltd. and part of the existing farm operation, which is zoned "Agriculture (AG1)" and located in the ALR;

To the South: Across a railyard, properties zoned "Agriculture (AG1)" and located in the ALR; and

To the West: A property zoned "Agriculture (AG1)" and located in the ALR.

Staff Comments

The proposed scheme attached to this report has satisfactorily addressed the staff comments identified as part of the review of the subject DVP application. In addition, it complies with the intent of the applicable sections of the Official Community Plan (OCP) and is generally in compliance with the "Agriculture (AG1)" zone except for the zoning variances noted below.

Zoning Compliance/Variances (staff comments in ***bold italics***)

The applicant requests to vary the provisions of Richmond Zoning Bylaw 8500 to increase the maximum cumulative lot coverage for agricultural buildings with an impermeable surface floor sunk into, at or below the natural grade of the site from 750 m^2 to 3,875 m^2, to permit the construction of a poultry barn at 17720 River Road, on a site zoned "Agriculture (AG1)":

- ***The purpose of the poultry barn is to support the existing farm operation (Rabbit River Farms), including egg production and the rearing of 14,000 organic egg layer hens.***
- ***The subject property has farm status as per BC Assessment.***
- ***In addition to egg production, a bi-product of the farm operation is organic chicken manure which is sold as a non-chemical natural fertilizer for gardens and other farming operations.***
- ***The applicant has an existing 1,486 m^2 poultry barn located on the property to the East (17740 River Road), which currently houses 8,200 organic layer hens. The existing poultry barn is located on leased land with the lease terminating in 2027, and the applicant has no certainty of a lease extension. In addition, the existing barn and equipment are reaching the end of their useful life cycles.***
- ***Egg production is controlled under the Federal "Supply Management System". As the population increases, egg producers receive authority to increase flock size. The applicant's current quota exceeds what can be produced in the existing poultry barn.***
- ***The new poultry barn will include energy efficient heating systems, energy efficient cooling systems, improved insulation, and produce significantly less CO_2 emissions than the existing poultry barn.***
- ***As a condition of the DVP, the applicant is required to register a legal agreement on Title to prohibit the use of the building for medical or non-medical cannabis production. The applicant has also submitted a Statutory Declaration confirming that all proposed uses comply with Zoning Bylaw 8500.***
- ***The Food Security and Agricultural Advisory Committee (FSAAC) reviewed and supported the subject DVP application at its meeting held on June 12, 2025. An excerpt from the June 12, 2025 FSAAC meeting minutes is provided in Attachment 3.***

Other Applications Applicable to the Subject Property

Environmentally Sensitive Area Development Permit

A Development Permit (DP) (DP 19-876647) was previously issued for the subject site to permit the construction of a single detached house on a site designated as an Environmentally Sensitive Area (ESA). As a condition of the DP, the applicant had entered into legal agreements that included ESA compensation works and the demolition of the existing residential single-family dwelling located on the north-west of the property. The new single-family house has been constructed but final occupancy has not been issued. Prior to final occupancy being granted for the single-family house, the applicant is required to complete the agreed to ESA compensation. The existing residential single-family dwelling is the subject of separate applications to the Agricultural Land Commission (ALC) and City (discussed below).

The existing ESA covenant on Title to the subject property, that was secured through the ESA DP application, prohibits BP issuance until the ESA works, as approved are completed. As the proposed Development Variance Permit facilitates the development of an agricultural building for farming purposes, and farm activities within the ALR are exempt from the City's ESA policies, this requirement does not apply to the proposed farm building.

Watercourse Crossing Permit

In 2023, the City approved a new watercourse crossing (Permit DX20-920917) for a 12m wide driveway access. The City permitted the works subject to the applicant removing the existing watercourse crossing and driveway located on the north-west frontage of the property. The new watercourse crossing has been constructed, but the existing watercourse at the north-west frontage has not been removed.

Non-Adhering Residential Use and Rezoning Application

The applicant has submitted an ALC Non-Adhering Residential Use (NARU) application (AG 25-016791), and a corresponding rezoning application (RZ 25-015421) to permit the retention of the existing single-family dwelling on-site (previously identified for demolition as part of the new single-family home which was constructed on the property) to be used for farm labour. The application is currently under review and will be presented to Committee and Council for consideration upon completion of the technical review, including consideration of the removal and or improvements and maintenance of the watercourse crossing at the north-west frontage of the property.

Analysis

The purpose of the subject DVP application is to allow the construction of a 3,875 m^2 (41,710 ft^2) poultry barn, in support of the existing farming operation. The proposed facility will be used for the rearing of 14,000 organic layer hens for egg production. The proposed use is consistent with the "Agriculture (AG1)" zone and the ALR Regulations and the applicant has submitted a Statutory Declaration ensuring that all proposed uses comply with the Zoning Bylaw. As a condition of the DVP, the applicant is required to register a legal agreement on Title to prohibit the building's use for medical or non-medical cannabis production.

The proposed farm building and its use does not interfere with or prohibit the ESA compensation secured as part of the prior application for the single-family building.

The applicant proposes the use of slab on grade and suspended concrete slab construction as well as the use of screw piling. This method will require fill, raising the site grade around the building by approximately 0.8 m. The applicant had applied for a Soil and Fill Notice of Intent to the ALC and received approval for fill deposition in support of the poultry barn, driveway and surrounding free range pasture area. A drainage plan will be submitted as part of the City application to deposit soil on site, and an Erosion and Sediment Control Plan will be required prior to Building Permit issuance.

Conclusions

As the proposed development would meet applicable policies and Development Permit Guidelines, staff recommend that the Development Variance Permit be endorsed, and issuance by Council be recommended.

The list of Development Variance Permit Considerations is included in Attachment 4, which has been agreed to by the applicant (signed concurrence on file).

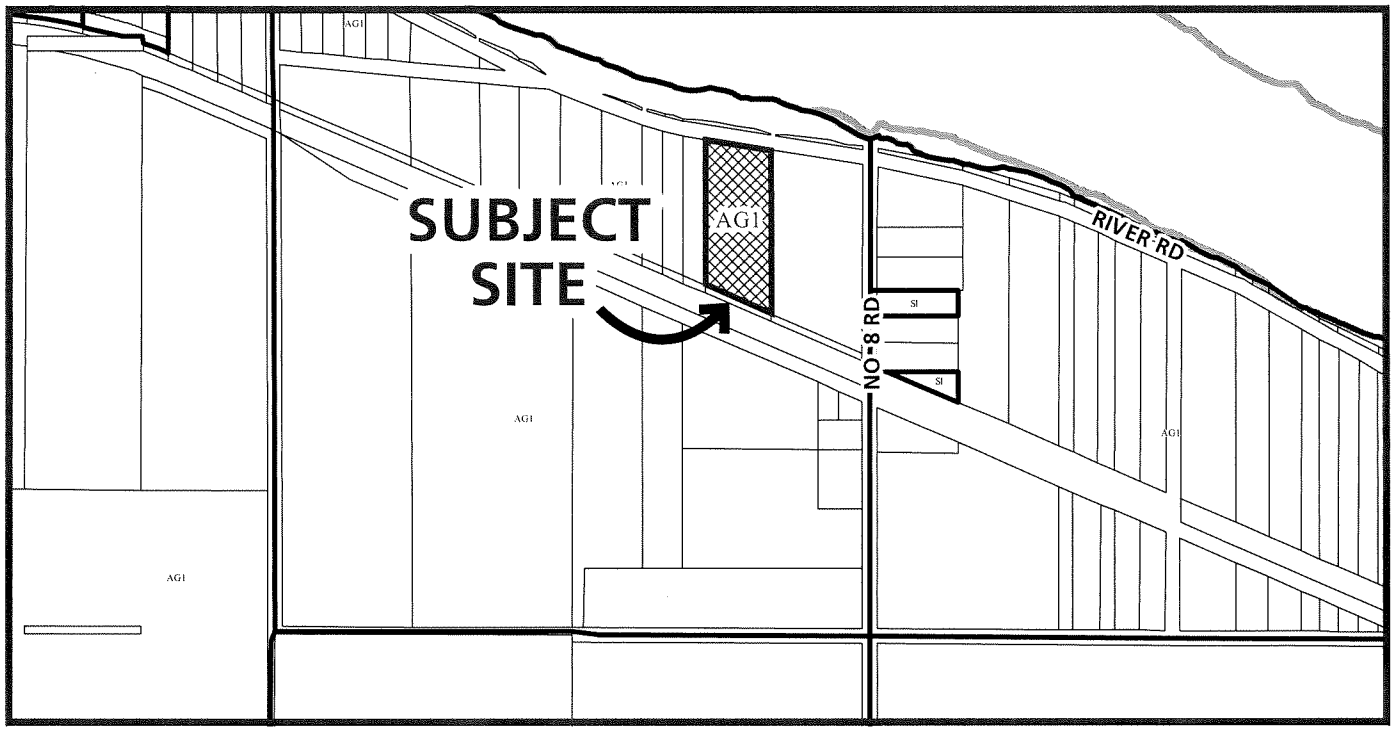
James Hnatowich

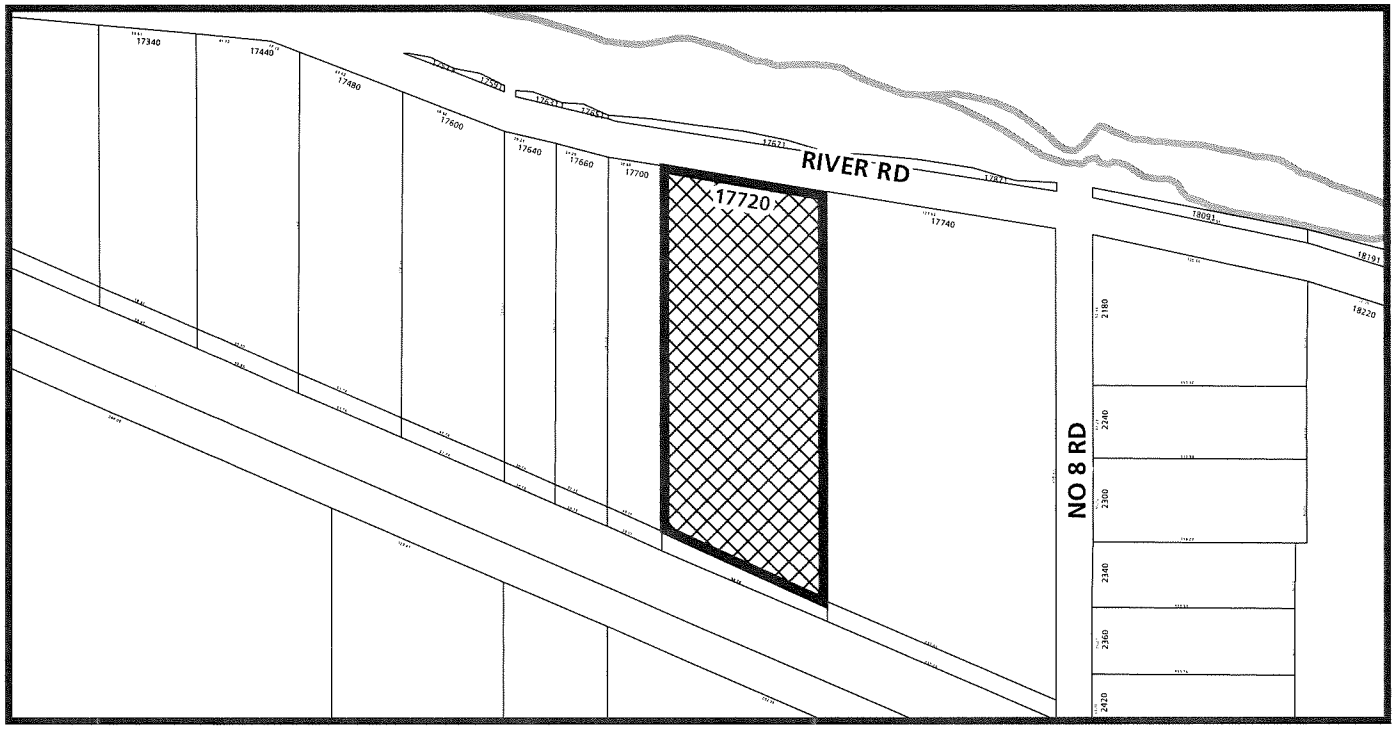
James Hnatowich
Planner 1
(604-247-4911)

JH:cas

Att. 1: Location Map
2: Development Application Data Sheet
3: Excerpt from the June 12, 2025 FSAAC Meeting Minutes
4: Development Variance Permit Considerations

City of Richmond



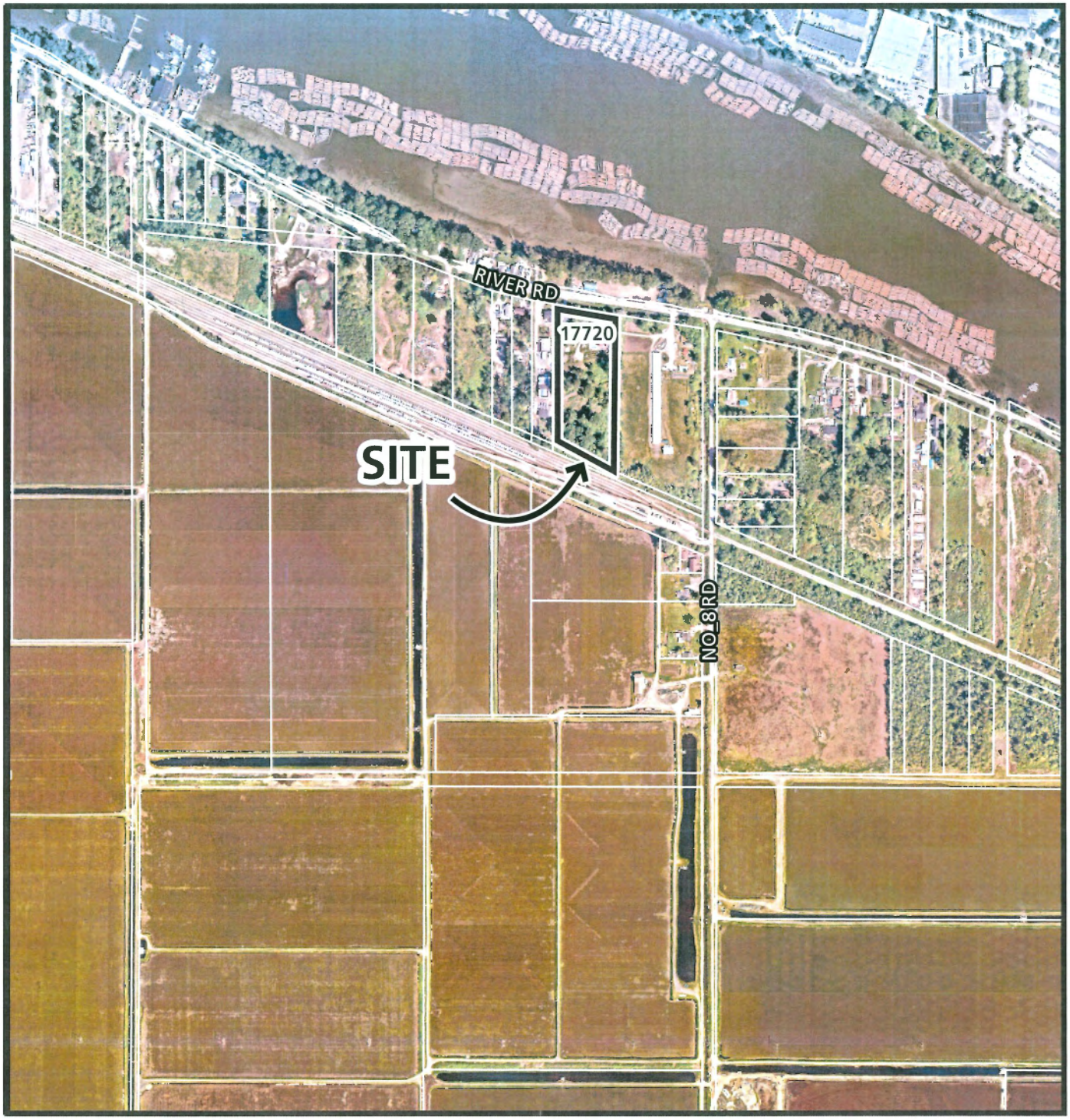


DV 25-015419

Original Date: 05/27/25
Revision Date:

Note: Dimensions are in METRES

City of
Richmond



DV 25-015419

Original Date: 06/05/25
Revision Date:

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City of Richmond

Development Application Data Sheet

Development Applications Division

DV 015419 **Attachment 1**

Address: 17720 River Road

Applicant: Stephen Easterbrook Owner: Easterbrook Milling Co. Ltd.

Planning Area(s): East Richmond

	Existing	Proposed
Site Area:	1.92 ha (4.75 acres)	No Change
Land Uses:	Agriculture	No Change
OCP Designation:	Agriculture (AGR)	No Change
Zoning:	Agriculture (AG1)	No Change

	Bylaw Requirement	Proposed	Variance
Lot Coverage:	Max. 35%	Complies	None
Lot Coverage- Agricultural Building Concrete Construction:	Max. 750 m^2	3,875 m^2	**Variance Requested**
Setback – Front Yard:	Min. 7.5 m	98.15 m	None
Setback – Side Yard:	Min. 4.5 m	32.05 m	None
Setback – Rear Yard:	Min. 4.5 m	17.40 m	None
Height (m):	Max. 35.0 m	8.83 m	None

City of Richmond

Minutes Excerpt

Food Security and Agricultural Advisory Committee (FSAAC)

Held Thursday, June 12, 2025 (7:00 pm)
Microsoft Teams

Development Variance Permit (17720 River Road DV25-015419)

James Hnatowich, Policy Planning, introduced the proposal and provided the following comments:

- In 2018, the City of Richmond Council adopted a Bylaw to add regulations for cumulative lot coverage of impermeable surfaces in agricultural buildings in excess of 750 m^2.
- A property owner may apply to build an agricultural building with impermeable surfacing in excess of 750 m^2, through a Development Variance Permit application.
- A "fast track" review process is applicable to these applications, given the applicant has provided farm status, which the applicant has provided.
- This application is for a poultry barn with impermeable surfaces in excess of 750 m^2.

Stephen Easterbrook, of Easterbrook Milling Company Ltd., representing the brand Rabbit River Farms provided a presentation on the application identifying:

- This application is for a new state of the art poultry barn which will be used for the rearing of up to 14,000 organic egg layer hens;
- The existing poultry barn is located on land leased by the Port of Metro Vancouver, and there is no certainty of a lease extension;
    - In addition, the existing poultry barn is reaching the end of its useful life-cycle;
- The applicants current quota exceeds what can be produced on site. The new barn will allow the applicant reach quota and future demand.
    - Any additional space can be utilized for the hens, who's quality of life would be improved with additional space.
- The new barn will include energy efficient heating and cooling systems, improved insulation, a reduction in gas consumption, and significantly less CO_2 emissions.
- The application offer numerous benefits to the community, including improved food safety & security, local food availability, organic fertilizer, education opportunities and employment.

In response to questions from the Committee, the applicant team provided the following additional comments:

- If the applicants lease is extended on the property of the existing barn, the existing barn will be used for the rearing of hens, or converted for strawberry production;
- Applicant is utilizing best practices to separate hens from wild birds who may contain Avian influenza;
- The barn has been designed for 2% growth per year, forecasted until the applicant intends to fully step away from the business (but will continue operation within the family);

In response to questions from the Committee, Policy Planning staff provided the following comments:

- As this is for farming purposes, there is the "Right to Farm" which does not require Environmentally Sensitive Area (ESA) compensation for development within the ESA.

FSAAC provided the following comments on the proposal:

- FSAAC supports the City to continue to work on mechanisms that can expedite development applications for legitimate farmers.

In response to questions from the committee, staff provided the following comments:

- The fast track process was established in response to the time sensitive nature of agricultural applications. Staff are working with the applicant to complete the necessary reviews and approvals in a timely manner and are processing the application concurrently with the Building Permit application. The subject application is tentatively scheduled for Development Permit Panel on July 16th, 2025, which is ahead of the fast track process's 2-month target time frame.

The Committee passed the following motion:

That the Food Security and Agricultural Advisory Committee endorse the Development Variance Permit application at 17720 River Road.

Carried Unanimously

City of Richmond

Development Variance Permit Considerations

Development Applications Department
6911 No. 3 Road, Richmond, BC V6Y 2C1

Address: 17720 River Road **File No.:** DV25-015419

Prior to approval of the Development Variance Permit, the applicant is required to complete the following:

1. Registration of a restrictive covenant on Title to prohibit the use of the buildings on site for medical or non-medical cannabis production.
2. Payment of all fees in full for the cost associated with the Development Permit Panel Notices.

Prior to Building Permit Issuance, the developer must complete the following requirements:

1. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
2. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.
3. At the developers cost, via City Work Order, design and construct/ install utility and frontage improvements, works in, but may not be limited to the following:

   a) Water Works:

   (1) Using the OCP Model, there is 389.0 L/s of water available at a 20 psi residual at the River Road frontage. Based on your proposed development, your site requires a minimum fire flow of 250 L/s.

   (2) At Developer's cost, the Developer is required to:

   (a) Submit Fire Underwriter Survey (FUS) or International Organization for Standardization (ISO) fire flow calculations to confirm development has adequate fire flow for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer and be based on Building Permit Stage building designs.

   (b) Review hydrant spacing on all road frontages and install new fire hydrants as required to meet City spacing requirements for the proposed land use.

   (c) Provide a right-of-way for the water meter. Minimum right-of-way dimensions to be the size of the meter box (from the City of Richmond supplementary specifications) + any appurtenances (for example, the bypass on W2n-SD) + 0.5 m on all sides. Exact right-of-way dimensions are to be finalized during the building permit process.

   (3) At Developer's cost, the City will:

   (a) Retain the existing 50mm water service connection including water meter and water meter box at River Road frontage.

   b) Storm Sewer Works:

   (1) At Developer's cost, the Developer is required to:

   (a) Provide an erosion and sediment control plan for all on-site and off-site works, to be reviewed as part of the building permit process.

Initial: _____

(b) Confirm the capacity and condition of the existing storm connection to open ditch. If the existing storm connection is adequate to be reused, it may be retained. If not, it shall be replaced.

c) Sanitary Sewer Works:

(1) At Developer's cost, the Developer is required to:

(a) Install an on-site sewage disposal system. Design shall be signed and sealed by a Professional Engineer.

d) General Items:

(1) At Developer's cost, the Developer is required to:

(a) Complete other frontage improvements as per Transportation requirements.

(b) Coordinate with BC Hydro, Telus and other private communication service providers:

- Before relocating/modifying any of the existing power poles and/or guy wires within the property frontages.

(c) Locate/relocate all above ground utility cabinets and kiosks required to service the proposed development and proposed undergrounding works, and all above ground utility cabinets and kiosks located along the development's frontages, within the developments site (see list below for examples). A functional plan showing conceptual locations for such infrastructure shall be included in the development design review process. Please coordinate with the respective private utility companies and the project's lighting and traffic signal consultants to confirm the requirements (e.g., statutory right-of-way dimensions) and the locations for the aboveground structures. If a private utility company does not require an aboveground structure, that company shall confirm this via a letter to be submitted to the City. The following are examples of statutory right-of-ways that shall be shown on the architectural plans/functional plan, the servicing agreement drawings, and registered prior to design approval:

- BC Hydro PMT – 4.0 x 5.0 m
- BC Hydro LPT – 3.5 x 3.5 m
- Street light kiosk – 1.5 x 1.5 m
- Traffic signal kiosk – 2.0 x 1.5 m
- Traffic signal UPS – 1.0 x 1.0 m
- Shaw cable kiosk – 1.0 x 1.0 m
- Telus FDH cabinet – 1.1 x 1.0 m

(d) Provide, prior to the start of site preparation works a preload plan and geotechnical assessment of preload, dewatering, and soil preparation impacts on the existing utilities fronting the development site and provide mitigation recommendations.

(e) Submit a proposed strategy at the building permit stage for managing excavation de-watering. Note that the City's preference is to manage groundwater onsite or by removing and disposing at an appropriate facility. If this is not feasible due to volume of de-watering, the Developer will be required to apply to Metro Vancouver for a permit to discharge into the sanitary sewer system. If the sanitary sewer does not have adequate capacity to receive the volume of groundwater, the Developer will be required to enter into a de-watering agreement with the City wherein the developer will be required to treat the groundwater before discharging it to the City's storm sewer system.

(f) Not encroach into City rights-of-ways with any proposed trees, retaining walls, or other non-removable structures. Retaining walls proposed to encroach into rights-of-ways must be reviewed by the City's Engineering Department.

(g) Enter into, if required, additional legal agreements, as determined through the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

Note:

* This requires a separate application.

- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

  All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

  The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

_____ _____

Signed Date

City of Richmond

Development Variance Permit

No. DV25- 015419

To the Holder:	Stephen Easterbrook
Property Address:	17720 River Road
Address:	17740 River Road

1. This Development Variance Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied by this Permit.
2. This Development Variance Permit applies to and only to those lands shown cross-hatched on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. The "Richmond Zoning Bylaw 8500" is hereby varied to increase the maximum cumulative lot coverage for agricultural buildings with an impermeable surface floor sunk into, at or below the natural grade of the site from 750 m^2 to 3,875 m^2.
4. The land described herein shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof (Plans 1 to Plan 4).
5. If the Holder does not commence the construction permitted by this Permit within 24 months of the date of this Permit, this Permit shall lapse.

This Permit is not a Building Permit.

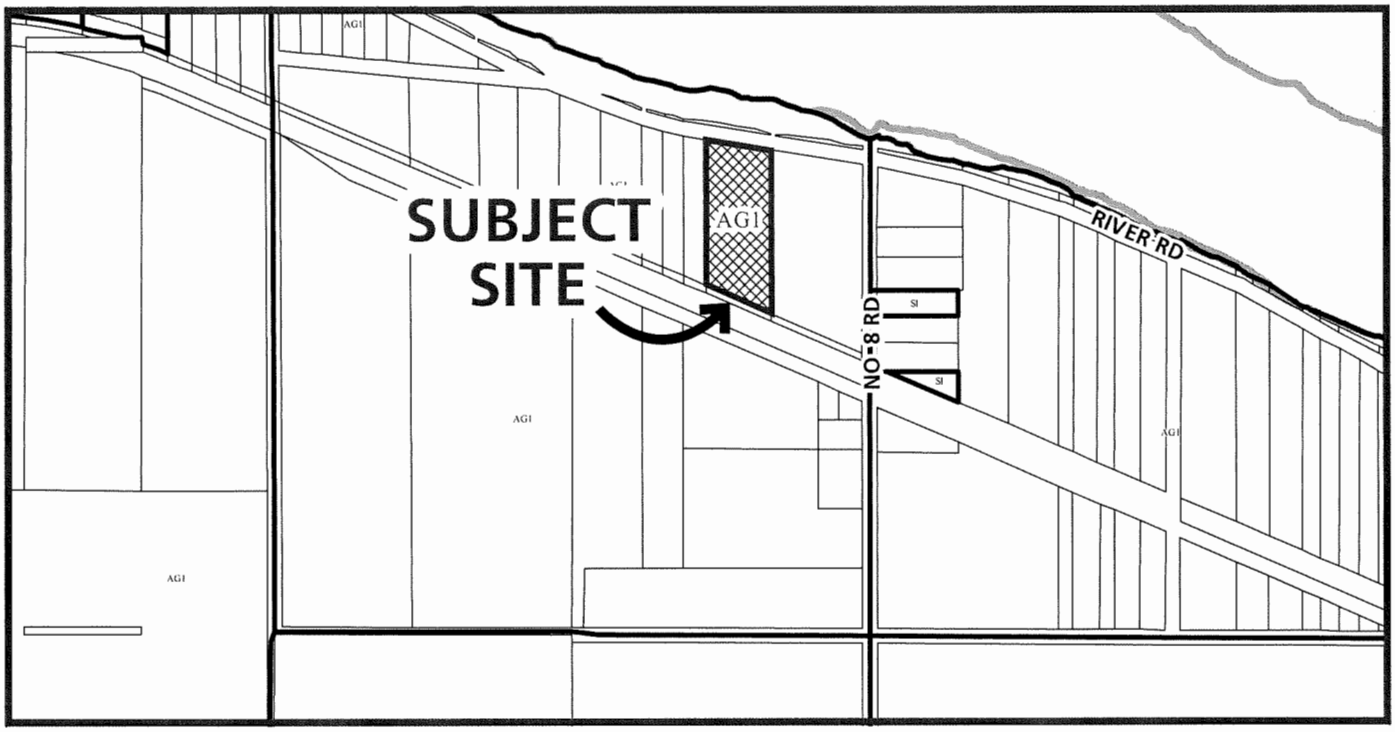
AUTHORIZING RESOLUTION NO. ISSUED BY THE COUNCIL THE DAY OF , .

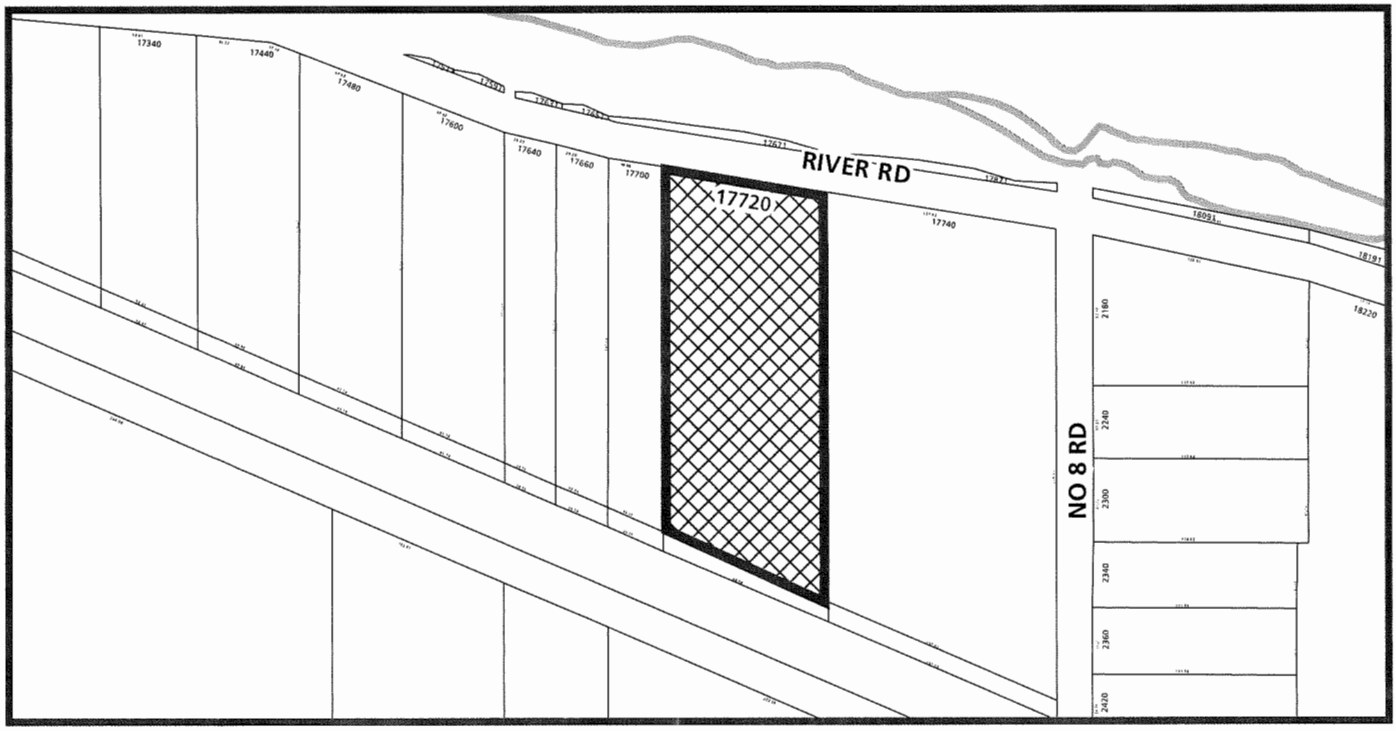
DELIVERED THIS DAY OF , .

MAYOR

8096439

City of
Richmond





DV 25-015419
SCHEDULE "A"

Original Date: 05/27/25
Revision Date:

Note: Dimensions are in METRES

General

Read structural drawings in conjunction with all other consultants' drawings, contract documents and specifications.

Check and verify all dimensions, elevations, quantities, and conditions with architectural drawings before commencing with any work. Notify architect and engineer of any discrepancies or inconsistencies. Any discrepancies not reported become the responsibility of the contractor.

The latest edition of the standards and codes referenced in these notes and drawings shall apply.

All dimensions and notes to take precedence over scale shown on plans, sections, and details.

In the event of discrepancies in the specifications, drawings or contract documents, the more stringent requirement shall apply. Contact Quantum Engineering for clarification.

The contractor shall inform Quantum Engineering during the bidding period of any discrepancies or omissions noted on the drawings or in the specifications. The engineer will provide written clarification.

Notes and details specified on the plans and details take precedence over those in the general structural notes, except for minimum requirements.

For conditions not explicitly shown, contractor shall immediately request clarification from Quantum Engineering.

Review of any work or portion thereof by the Engineer, shall not in any way relieve the contractor of any responsibility and obligation to comply with the contract documents and specifications.

Structural information on these drawings do not include any design or detailing of any waterproofing systems.

Architectural and building envelope design, civil, electrical, geotechnical, and mechanical engineering requirements are not included on these drawings and are the responsibility of others.

Design Loads

This structure has been designed in accordance with Part 4 of the BC Building Code 2024, and the 1995 Canadian Farm Building Code.

The structure has been designed to the following loads:

Uniformly distributed loads (specified loads Is,Iw,Ie = 1.0):

	LL	DL
Floor:	41.8psf (2.0kPa)	15psf (0.72kPa)
Roofs:	varies	15psf (0.72kPa)

Importance Category: Farm (Low)

Snow: Ss = 1.5kPa (31.3psf), Sr = 0.2kPa (4.2psf)
3½ / 12 Roof: Cs = 0.85, Ca = 1.00, Cb = 0.8
S(bal) = S(unbal) = 1.22 kPa (25.4psf)

Wind: Q10 = 0.36kPa
Net Specified uplift: 19.0psf (0.9kPa)

Seismic: N/A for agricultural structures.

Construction

Drawings show the completed structure only. The contractor is responsible for all temporary bracing for all building elements against construction loading conditions, for construction erection procedures, stability until the structure is complete, falsework, shoring, and underpinnings of adjacent structures.

All construction to be in accordance with municipal by-laws and the British Columbia Building Code 2024, and WorkSafeBC regulations.

Contractors, suppliers, and subtrades are responsible for ensuring they are working with current drawings and for verification of this. All obsolete drawings should be discarded. Do not construct from these drawings unless marked "Issued for Construction".

The contractor is responsible for job site safety and conformance with WorkSafeBC regulations during construction.

All structural work and elements shall be protected during adverse weather.

Contractor to provide Quantum Engineering with a written submission of all proposed alternate products and systems and provide technical specifications if required for review and approval prior to construction.

The contractor shall immediately notify the engineer if site conditions differ from those anticipated or shown on the drawings for corrective or remedial work.

The contractor is responsible for all costs associated with the correction of deficiencies as directed by the Engineer.

FOUNDATIONS

Design of foundations, footings, slab on grade, & piles is by Nexon Engineering (Project 25-0062)

Field Reviews

Quantum Engineering Ltd. provides field reviews only for the work shown on the structural drawings prepared by Quantum Engineering. These field reviews consist of a periodic review at the professional judgement of Quantum Engineering. The purpose is to ascertain that the work is in general conformance with the structural documents and drawings prepared by Quantum Engineering Ltd and to facilitate completion of the Letters of Assurance required the local Authority having Jurisdiction. These field reviews do not replace any required municipal inspections.

Field reviews are not carried out for the benefit of the contractor(s), nor does the field review make Quantum Engineering guarantor of the contractor(s) work. The contractor(s) is responsible for their own quality control and shall perform the work with good workmanship and in conformance with the contract documents.

The contractor shall provide minimum 24 hours notice to Quantum Engineering for field reviews of the following items:

a. Wood framing – prior to concealment
b. Structural steel - prior to concealment

Contractor is responsible for pre-inspecting the work and confirming completeness and conformity with the structural documents prior to field review by Quantum Engineering Ltd.

The work must be complete prior to field review and the contractor shall provide safe access for the engineer. Allow sufficient time for the field review and to execute any corrections.

Any work that is found to be incomplete, poorly executed, contains errors or omissions, unauthorized alterations, and requires additional field reviews and/or remedial design by the Engineer shall be at the expense of the contractor.

All works shall be accessible for review. Failure to provide required notification and accessibility may result in the Engineer requiring removal and replacement of the work at the contractor's expense.

The contractor shall notify the truss manufacturer to review the installation of all trusses and provide a sealed certificate for installation and manufacture prior to installation of any roofing.

Refer to materials sections for inspection requirements related to specific materials.

Secondary and Non-structural elements

Quantum Engineering Ltd is not responsible for the structural design of non-structural and secondary building elements and their connection to the primary structure. These elements include, but are not limited to:

- All glazed component systems including windows, storefronts, curtain walls, skylights, canopies, and guards.
- Attached and free standing sign structure.
- Roofing systems and wall cladding systems.
- Interior non-load bearing walls
- Ceiling systems
- Movable curtain/door systems
- Storage shelving and racking systems
- Guards, handrails, and guard systems
- Elevators, escalators, lifts and dock levellers

Secondary building components shall be designed to part 4 of the Building code for gravity and lateral loads, designed and inspected by the specialty Professional Engineer retained by the contractor. Specialty engineers to submit letters of assurance, sealed shop drawings, and perform appropriate field reviews.

Submit shop drawings to Quantum Engineering for review at least three weeks prior to fabrication. Shop drawings to indicate all design assumptions, loads, and loads imposed on building structure, and connection details.

Shop drawings must be signed and sealed by a BC registered Professional Engineer for structural design.

Shop Drawings

Refer to the prime consultants documents and drawings for items requiring shop drawings.

Submit no more than 4 hard copies of shop drawings and allow minimum of 10 working days for review by the Engineer.

Shop drawings shall clearly indicate the supplier's company, detailers' information, drawing date, material lists, member arrangement, dimensions, assembly information, applicable codes and standards, finish, etc.

The supplier, subcontractor and specialty engineer are responsible for dimensions, detailing, engineering design and field inspections of the installed components.

Hand sketched shop drawings will be rejected.

Shop drawings for structural components shall be signed and sealed by the supplier's specialty Professional Engineer.

The specialist engineer must be experienced with the associated component, registered in BC and in good standing with EGBC. Upon completion of the work in the field, the specialty engineer shall submit to the general contractor and engineer a signed and sealed letters of assurance certifying conformity of the work to the contract documents.

Printing costs for shop drawings sent to Quantum Engineering by email or fax will be charged to the respective subcontractor, contractor and/or project owner.

Wood Framing

Lumber grading to NLGA standard grading rules for Canadian lumber.

All framing details shall conform to BCBC 2024 sections 9.23 and 9.24.

Provide continuous cross bridging between floor joists at maximum 7'-0" on center.

All framing members to be S-P-F, Kiln Dried, No.1/No.2 unless noted otherwise.

D.Fir-L shall not be used for studs, joists, beams, or rafters unless specifically noted.

All drop beams, lintels and flush beams to be minimum 2-2x10 KD SPF No.1/No.2 unless noted otherwise.

All built up beams and headers to be laminated together with 3 rows of 3 ¼" nails at 16" o/c per lamination. Cantilevered beams greater than 2-ply nail together with 3 rows of 3 ¼" nails at 6" o/c each ply.

All beam splices are to occur at supports, uno.

Where sheathing fastened to built up posts, fasten sheathing to each ply of the post with minimum 2 ½" nails at 6" o/c and laminate each ply with 2 rows of 3" nails at 8" o/c

Laterally unsupported built up posts to shall be laminated as follows:

2 ply	2x4	3" nails at 8" o/c staggered.
	2x6/2x8	2 rows 3" nails at 8" o/c.
3ply	2x4	4 ½" nails at 8" o/c staggered
	2x6/2x8	2 rows 4 ½" nails at 8" o/c
4-ply	2x4	6" nails at 8"o/c staggered
	2x6/2x8	2 rows of 6" nails at 8" o/c.

Provide solid blocking @ 24" o/c at locations where bearing walls run parallel with the joist span.

All steel fasteners in contact with ACQ or CA pressure treated wood shall be either stainless steel or hot-dip galvanized in accordance with ASTM A653, G185 designations, or hot dip galvanized after manufacture in accordance with ASTM A123.

Structural Steel

Fabrication, erection, design & detailing shall be in accordance with CSA-S16. Welding shall be in accordance with CSA W47.1. General requirements and workmanship in accordance with CAN/CSA G40.20-13 / CAN/CSA G40.21-13 (R2018). Primer to CAN/CGSB-1.40-97 requirements.

All welding shall conform to CSA W59, W55.3, and W186. All welding shall be performed by fabricators fully certified by the Canadian Welding Bureau to the requirements of W47.1. All welders shall be CWB certified.

Submit clear copies of the shop and welders' certificates to the Engineer along with the shop drawings.

Supplier shall confirm all dimensions and site conditions prior to fabrication.

Submit shop drawings for steel fabrications to Quantum Engineering and the architect for review prior to fabrication. Show all pertinent details, material specifications on the shop drawings. All shop drawings to be sealed and signed by the fabricators Professional Engineer for the connection design.

The Professional Engineer sealing the shop drawings shall be responsible for inspections of the steel installation for conformance with their design and shop drawings. Upon completion the specialty engineer shall provide a Schedule S certifying substantial conformance to the Engineer of Record.

Materials:

All structural steel	350W
Hollow Structural sections, HSS	350W, Class C
Plates, angles, channels	300W
Structural Pipe	ASTM A53 (240MPa)
Bars, Rods, sheets & misc metal	300W
Bolts, nuts and washers	ASTM A325
Anchor bolts	ASTM A307/F1554 (grade 36)
Welds	E-70xx (480MPa)

All edges and corners of connections shall be ground smooth

Apply minimum one coat of shop primer to all steel work. Use weldable primer where further welding is anticipated.

Cap all open ends of pipes, tubes and HSS sections with 4.8mm (3/16") thick steel plates with seal welds all around

Any steel subject to corrosion shall be hot dip galvanized. All hot dip galvanizing to be in accordance with CAN/CSA G164.

Refer to architectural, mechanical, and electrical drawings for roof top units and openings. Reinforce openings with welded L150x150x6 angles spanning to adjacent supports. Verify unit and opening sizes with shop drawings.

All beams to have minimum one 10mm (3/8") full height web stiffener on both sides centered about support/supported columns. Increase thickness of stiffeners for deeper beams to resist buckling and bending. Use double stiffeners where specified by the specialty engineer

Provide a positive dead load camber to all simple span floor beams. Camber to be L/460, where L is the member length.

Grout under all baseplates with a non-shrink flowable, high-strength grout. Ensure full area is grouted.

Erection bracing during construction is the responsibility of the contractors.

Sheathing & Timber

All D.Fir plywood shall conform with requirements in CAN/CSA O121 and OSB to CAN/CSA O437.

Minimum sheathing thicknesses:

Location	Grade	Thickness(min)
Roof	D.Fir/OSB	½" + H clips/12.7mm
Floor	D.Fir/OSB	5/8" T&G/15.5mm
Walls	D.Fir/OSB	3/8"/9.5mm

Orient floor and roof sheathing with face grain perpendicular to joists. Stagger panel joints.

Minimum nailing of sheathing (UNO): 2 ½" nails at 6" o/c at sheet edges, 2 ½" nails at 12" o/c at intermediate support members. Staples are not permitted.

All sawn timber exposed to the exterior or in contact with concrete to be given a preservative treatment approved by the designer

All sawn timber to be graded by a certified member of the National Lumber Grading Association, in accordance with the Canadian Lumber Standards Accreditation Board.

Minimum rough sawn timber grades to be No.1 unless noted otherwise.

Engineered Wood Products & Glulam Beams

Engineered wood products to be manufactured to CSA standards by Trus Joist (weyerhaeuser) or Louisiana Pacific

Alternative manufacturers will be allowed if supporting documentation, sealed by a Professional Engineer registered in BC, are submitted to Quantum Engineering for review

Supplier to provide layout drawings showing location and specifications for all engineered wood products.

Parallel Strand Lumber (PSL).
$E = 2.2 \times 10^6$ psi / Fb = 5360 psi, Fc(perp) = 1365psi (for 12" deep member)

Laminated Veneer Lumber (LVL).
$E = 2.0 \times 10^6$ psi / Fb = 4805 psi, Fc(perp) = 1365psi (for 12" deep member)

Laminated Strand Lumber (LSL).
$E = 1.55 \times 10^6$ psi / Fb = 3195 psi, Fc(perp) = 1365psi (for 12" deep member)

Fasten all laminations together as per manufacturer's specifications.

Glulam
All glulam beams shall be manufactured at a plant approved by the CSA under the requirements of CSA O122.

Upon request, supply the purchaser with a certificate confirming that the material has been manufactured in accordance with CSA O122 and according to the design requirements of CSA O86.1.

Prefabricated Wood Trusses/Joists

Design and fabricate trusses in accordance with:

- Part 4 of the Building code, CAN/CSA O86 and O86.1, and TPIC standards
- Design loads and design criteria as indicated on the structural drawings
- Western Wood Truss Association of British Columbia Quality Assurance Program

The truss manufacturer shall design trusses and joists for mechanical unit weights as specified by the mechanical consultant and contractor.

Live load deflections shall not exceed L/360, where L is the clear span of the truss.

The truss supplier's engineer shall design and supply all steel connections required for: Truss to truss connections, and truss to supporting structure connections.

Truss tie-down clips to be provided at ends of all trusses as specified by Engineer.

Supplier's truss systems engineer is responsible for the design of all bridging, blocking, bracing, and metal connections, required for the stability of the truss or joist.

All proposed site modifications and/or damage to trusses shall be reviewed by the supplier's truss systems Engineer who shall issue written instruction and repair details as required. Notify Quantum Engineering accordingly.

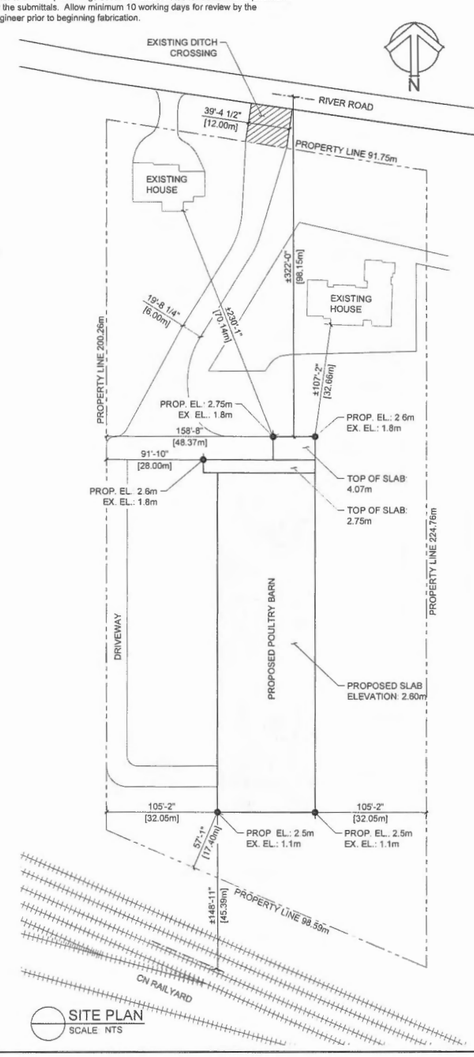
Suppliers shall provide the following submittals:

- Shop drawings sealed and signed by the truss supplier's truss systems Engineer who must be registered in BC.
- Truss layout showing location of trusses and all design loads including snow drift and unbalanced snow diagrams, and wind loads.
- Detailed design/fabrication of each truss, clearly showing design loads, member forces, deflections, camber details, lateral bracing etc.
- Truss erection instruction and details indicating required temporary and permanent bracing and connections.
- Site inspection report by the supplier's truss systems Engineer for the erection of the trusses.
- Letters of Assurance for design and installation of prefabricated wood trusses by the Supplier's truss systems engineer.

Refer to the Shop Drawings section of these notes for additional requirements for the submittals. Allow minimum 10 working days for review by the Engineer prior to beginning fabrication.

Typical Abbreviations

AB = anchor bolt
ALT = alternate
ARCH = architectural
BLL = bottom lower layer
BUL = bottom upper layer
BM = beam
B/S = both sides
B/U = built up
CANT'L = cantilever
CL = clear
CONC = concrete
L = center line
COL = column
CONT = continuous
CP = complete penetration
CSK = countersink
C/W = complete or connect with
DB = drop beam
DL = dead load
dp. = deep
DWG = drawing
E/ = each
E/E = each end
E/F = each face
E/W = each way
ELEV = elevation
EXT = exterior
FB = flush beam
FDN = foundation
FO = face of
FS = far side
GALV = hot dip galvanized
GL = glulam
H1E = hook one end
H2E = hook two ends
HORIZ = horizontal
I/F = inside face
INT = interior
KD = kiln dried
lg. = long
LL =live load
LSL = timberstrand
LVL = microlam
MAX = maximum
MF = factored moment
MIN = minimum
NS = near side
N STUD = nelson/shear stud
NTS = not to scale
O/C = on center
PEN. = Penetration
PSL = Parallam
PT = pressure treated
RS = rough sawn
REINF = reinforcing
R/W = reinforce with
SIM = similar
S/F = soil face
S.O.G. = slab on grade
SST = Simpson Strong Tie
STAG = stagger
TF = factored tension
T&G = tongue and grove
THK = thick
TLL = top lower layer
T.O. = top of
TUL = top upper layer
TRANS = transverse
TYP = typical
UDL = uniformly distributed load
UNO = unless noted otherwise
U/S = underside
VERT = vertical
V/ = factored shear
W/ = with
W/O = without



SITE PLAN
SCALE NTS

July 16, 2025
DV25-015419
Plan #1

NO.	DESCRIPTION	DATE
2	REISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25
	REVISIONS	

Client: EASTERBROOK FARMS
Project: POULTRY BARN
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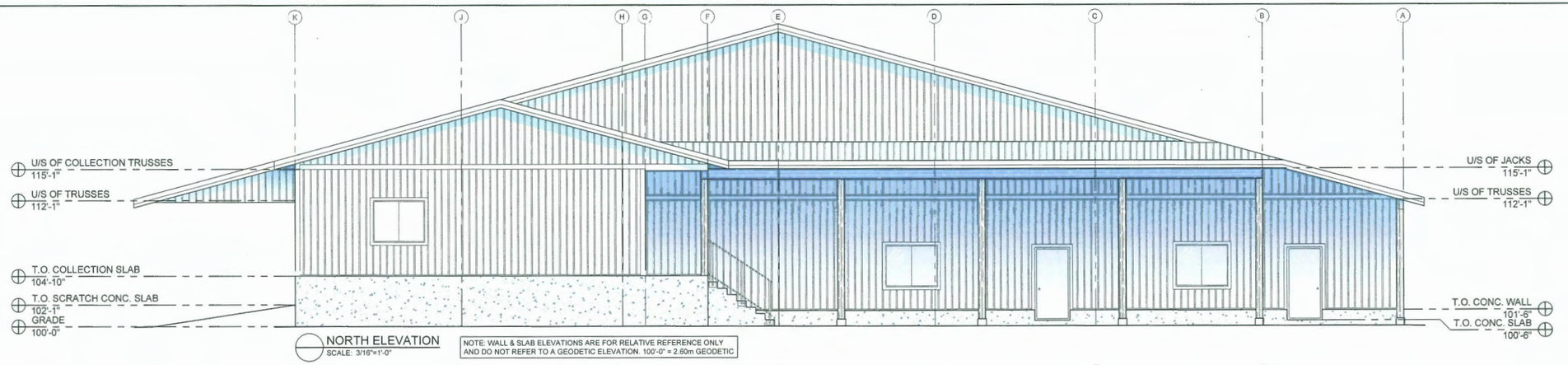
Drawn: M.S.
Checked: J.K.
Project No: **24.443**

Seal:

PROFESSIONAL ENGINEER
J. C. KERKHOFF
33611
BRITISH COLUMBIA
2025-05-02

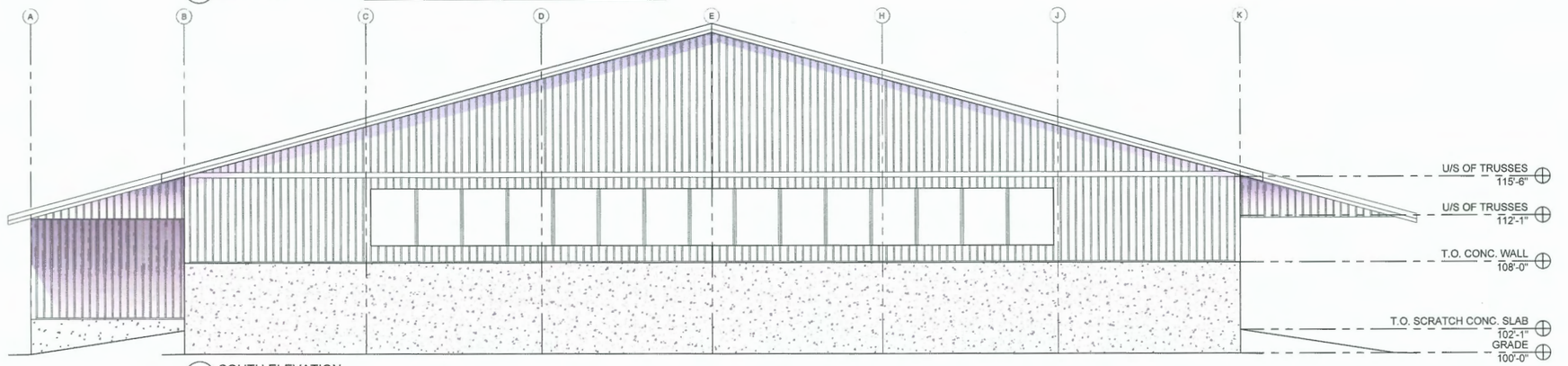
Title: STRUCTURAL NOTES
SITE PLAN

Sheet No: **S1.1**

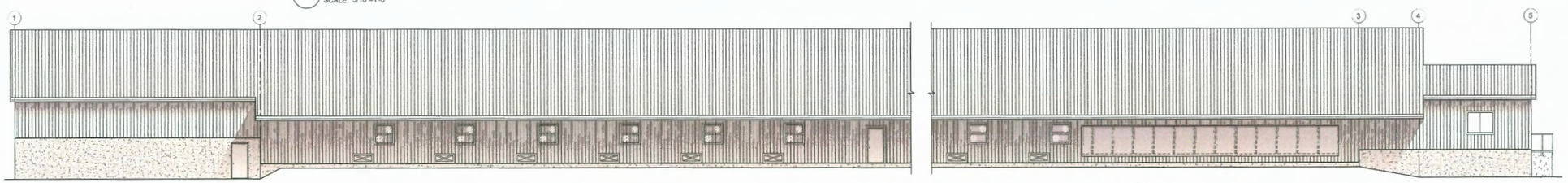


NORTH ELEVATION
SCALE: 3/16"=1'-0"

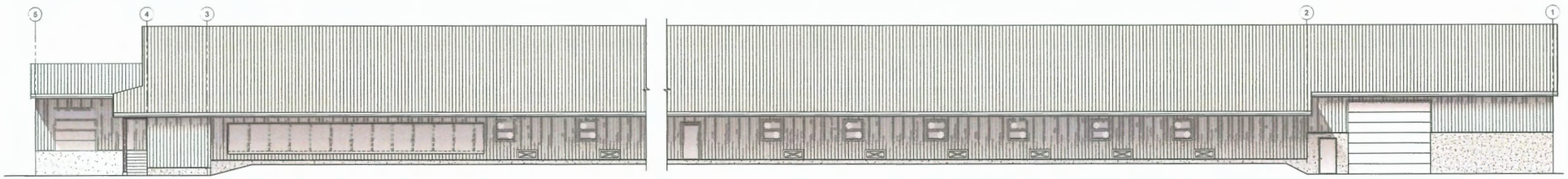
NOTE: WALL & SLAB ELEVATIONS ARE FOR RELATIVE REFERENCE ONLY AND DO NOT REFER TO A GEODETIC ELEVATION. 100'-0" = 2.60m GEODETIC



SOUTH ELEVATION
SCALE: 3/16"=1'-0"



EAST ELEVATION
SCALE: 3/32"=1'-0"



WEST ELEVATION
SCALE: 3/32"=1'-0"

FRR WALL ASSEMBLIES	
RATING	ASSEMBLY
1 HR FRR BCBC TABLE D-2.1.1	8" CONCRETE WALL
1 HR FRR BCBC EW1a	30 GA METAL CLADDING ½" PLYWOOD 2x6 STUDS PER PLAN ⅝" TYPE "X" GWB ⅜" PLYWOOD

SPATIAL SEPARATION

1. Fire Response Time <10min
2. Table 3.2.3.1-C (F2)

Facade	Limiting Distance	Exposing Building Face Area	% Openings Allowable	Openings % Actual	Construction	Fire Rating	Cladding
NORTH	98.2m	128.9 m²	100%	16.7%	Combustible	N/A	Combustible or Noncombustible
WEST P1	42.2m	30.8 m²	100%	N/A	Combustible	N/A	Combustible or Noncombustible
WEST P2	21.8m	13.8 m²	80.8%	0%	Combustible	1HR (EW1a)	Combustible or Noncombustible
WEST P3	26.0m	317.7 m²	100%	N/A	Combustible	N/A	Combustible or Noncombustible
SOUTH	42.8m	147.5 m²	100%	0%	Combustible	N/A	Combustible or Noncombustible
EAST	38.1m	360.3 m²	100%	N/A	Combustible	N/A	Combustible or Noncombustible

July 16, 2025
DV25-015419
Plan #2

NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

REVISIONS

Client: EASTERBROOK FARMS

Project: POULTRY BARN

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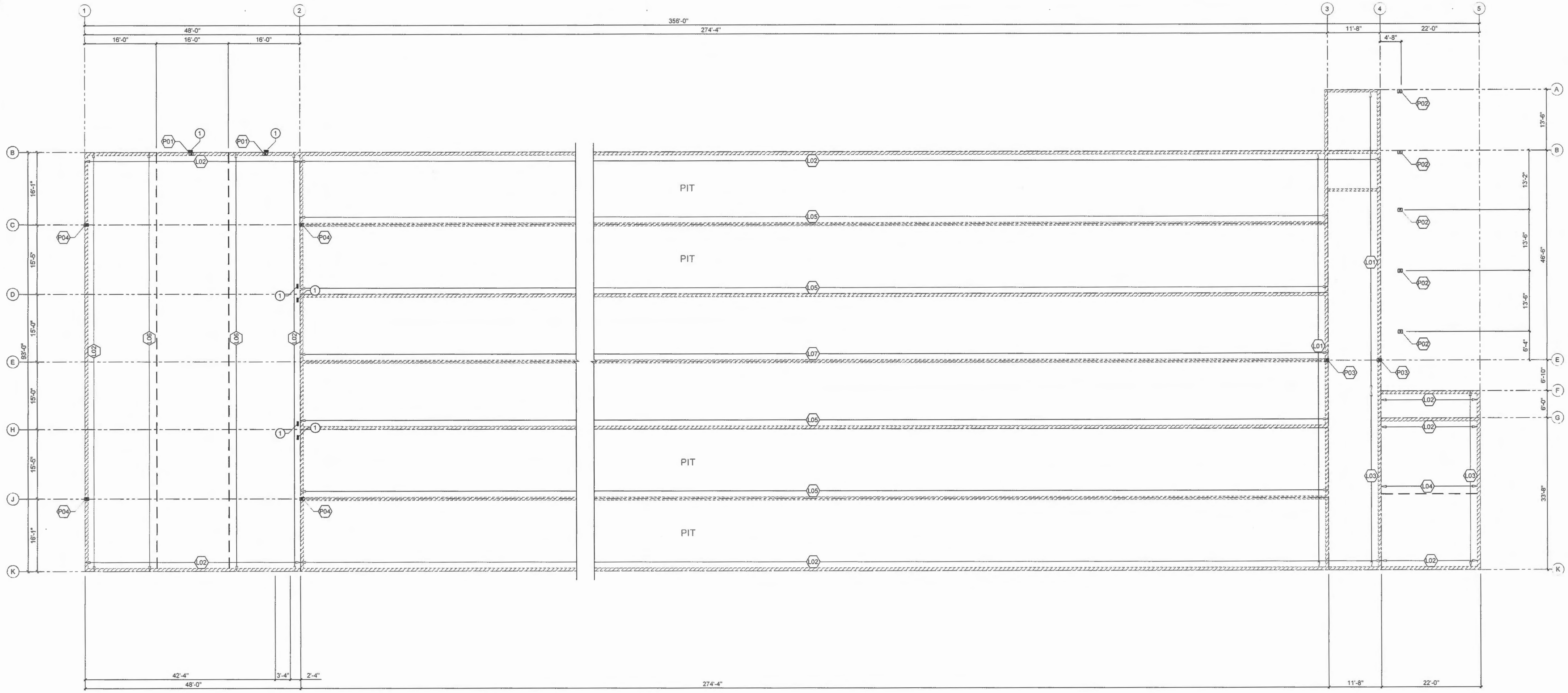
Designed: D.V.
Drawn: M.S.
Checked: J.K.
Project No: **24.443**

Seal

Title: ELEVATIONS

Sheet No: **S1.2**



FOUNDATION PLAN SHOWING SCREW PILE LAYOUT

SCALE: 3/32"=1'-0"

PILE REACTION SCHEDULE

TAG	SLS	ULS
L01	2.7K/ft	3.2K/ft
L02	4.0K/ft	5.0K/ft
L03	5.0K/ft	6.25K/ft
L04	5.2K/ft	6.5K/ft
L05	6.0K/ft	7.5K/ft
L06	7.2K/ft	8.8K/ft
L07	8.0K/ft	10.0K/ft
P01	4.0Kip	5.0Kip
P02	6.0Kip	7.2Kip
P03	12.0Kip	15.0Kip -5.5Kip (wind uplift)
P04	40.0Kip	50.0Kip -18Kip (wind uplift)

ULS = ULTIMATE LIMIT STATE
SLS = SERVICEABILITY LIMIT STATE

NOTE: STHD10 (SST) LOCATIONS ① DESIGNED FOR ±5000 lb NET FACTORED LOAD (WIND)

July 16, 2025
DV25-015419
Plan #3

NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

REVISIONS

Client: EASTERBROOK FARMS

Project: POULTRY BARN

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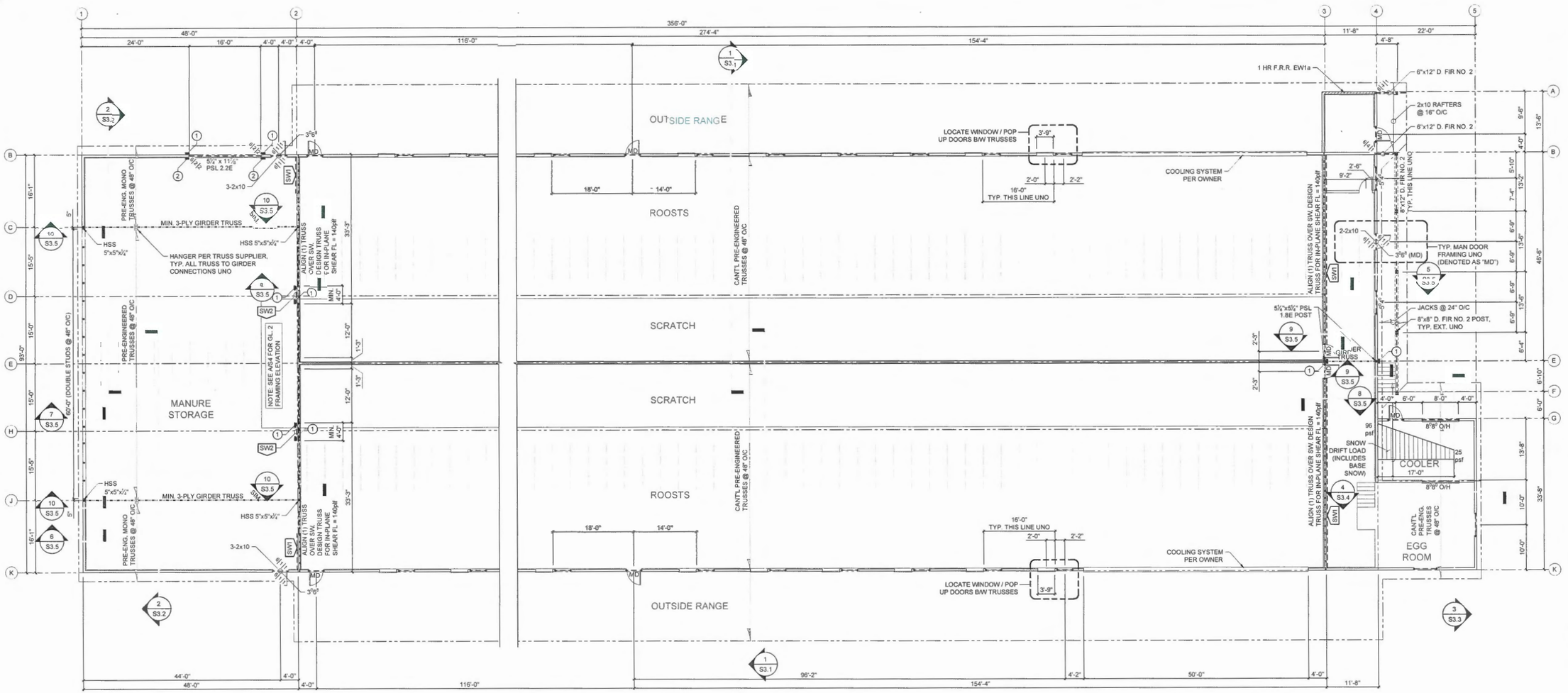
Checked: J.K.
Project No: 24.443

Seal: PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, J. C. KERKHOFF, # 33611, 2025-05-02

Title: FOUNDATION PLAN

Sheet No: S2.1



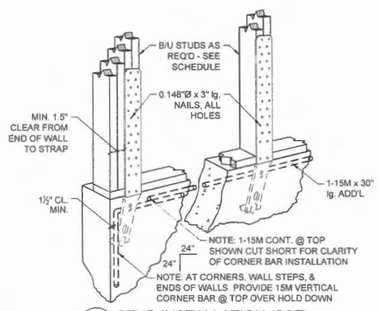
3 MAIN FLOOR PLAN W/ ROOF FRAMING OVER
SCALE: 3/32"=1'-0"

HOLD DOWN SCHEDULE

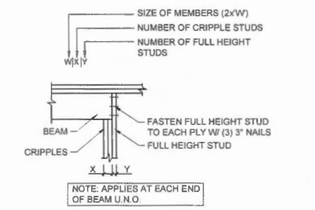
MARK	MODEL	NOTES	B/U POST BACKING
①	STHD10 (SST)	CAST-IN STRAP TIE HOLD DOWN W/ 3" NAILS. USE "RJ" MODEL WHEN INSTALLED OVER RIM JOIST	2-2x6
②	(1) MSTA18 (SST)	STRAP TIE W/ 3" NAILS - INSTALL WITH EQUAL LENGTH ON BEAM & POST	1-2x6

SHEARWALL SCHEDULE

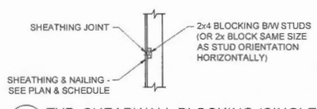
TYPE	SHEATHING	BLOCKING	NAILS	NAILING EDGE	NAILING INT	ANCHOR BOLTS
SW1	½" PLYWOOD	SINGLE	2½" x 0.128"Ø	4" O/C	12" O/C	⅝"Ø @ 48" O/C
SW2	½" PLYWOOD	SINGLE	2½" x 0.128"Ø	3" O/C	8" O/C	⅝"Ø @ 24" O/C
ALL OTHER WALLS MIN ½" PLYWOOD C/W 2½" NAILS @ 6" O/C AT EDGES & @ 12" O/C AT INT. SUPPORTS, UNBLOCKED						



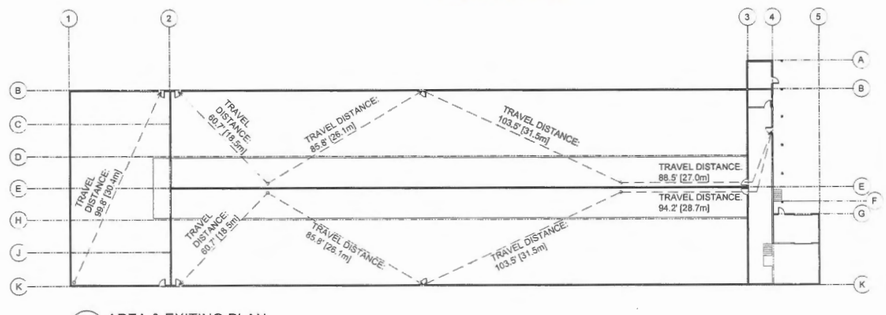
D STHD INSTALLATION (SST)
SCALE: NOT TO SCALE



E TYP. BUILT-UP POST DETAIL
SCALE: 1/2"=1'-0"



F TYP. SHEARWALL BLOCKING (SINGLE)
SCALE: 1/2"=1'-0"



AREA & EXITING PLAN
SCALE: 1/32"=1'-0"

July 16, 2025
DV25-015419
Plan #4

NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

Client: EASTERBROOK FARMS
Project: POULTRY BARN
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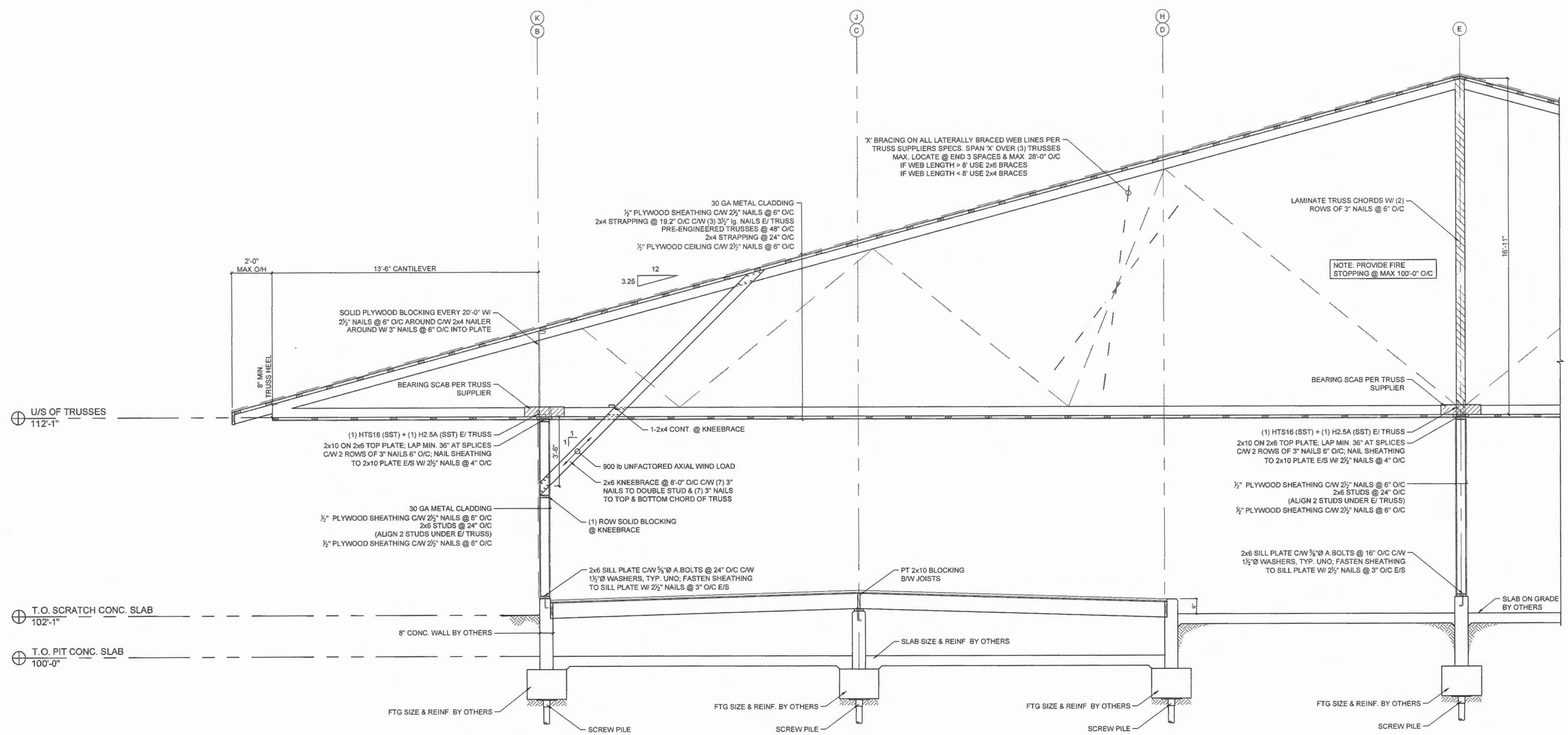
Project No: 24.443

Seal:

J.C. KERKHOFF # 33611 PROFESSIONAL ENGINEER
2025-05-02

Title: BARN FLOOR PLAN
ROOF FRAMING
AREA & EXITING PLAN

Sheet No: S2.2



CROSS SECTION - ROOSTS
SCALE: 3/8"=1'-0"

July 16, 2025
DV25-015419
Reference Plan

NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

REVISIONS

Client: EASTERBROOK FARMS
Project: POULTRY BARN
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207 - 46167 Yale Road
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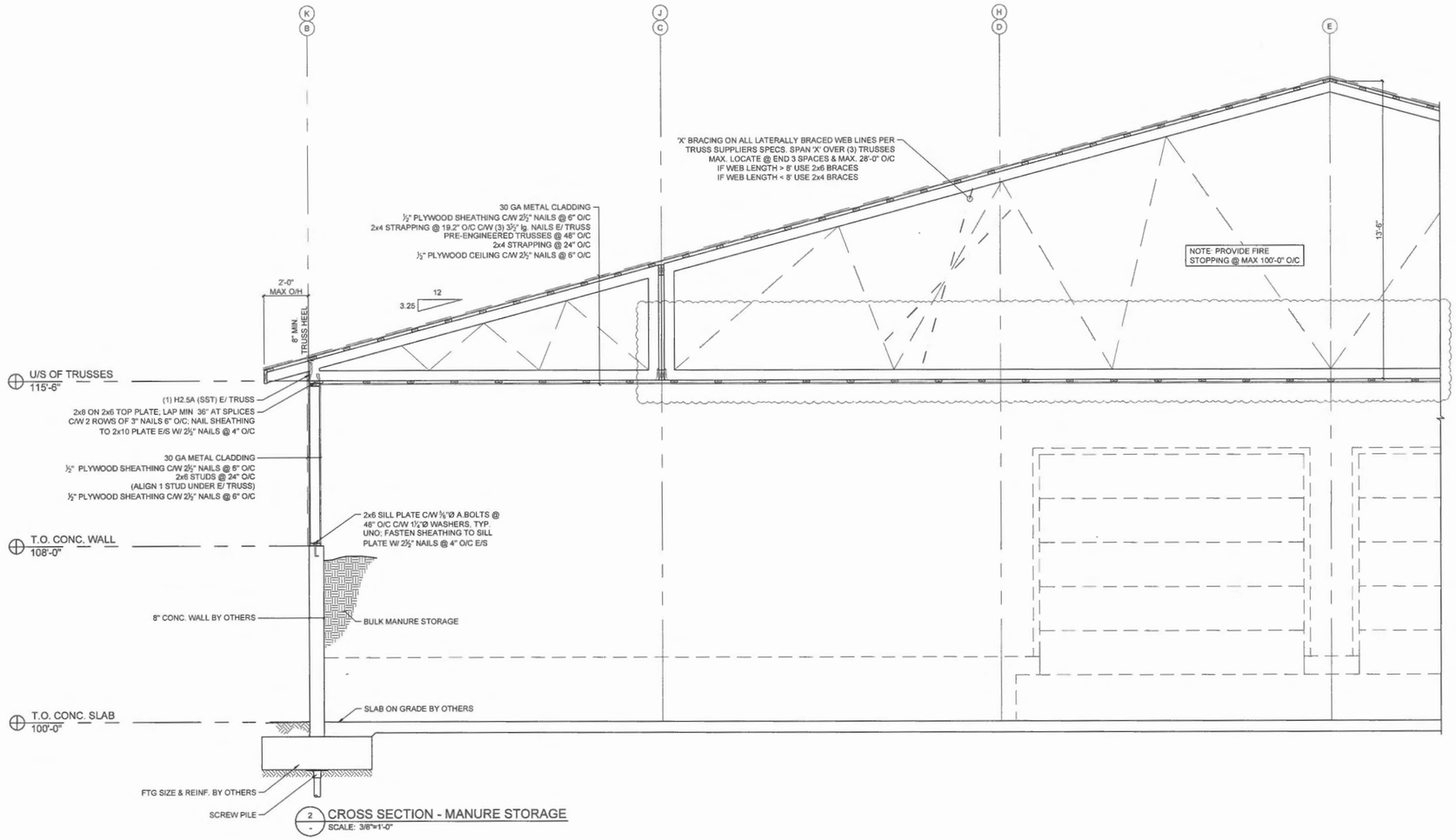
Designed: D.V.
Drawn: M.S.
Checked: J.K.
Project No: 24.443

Title: CROSS SECTION ROOSTS
Sheet No: S3.1



2 CROSS SECTION - MANURE STORAGE
SCALE: 3/8"=1'-0"

July 16, 2025
DV25-015419
Reference
Plan

NO	DESCRIPTION	DATE
REVISIONS		
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

Client: EASTERBROOK FARMS

Project: POULTRY BARN

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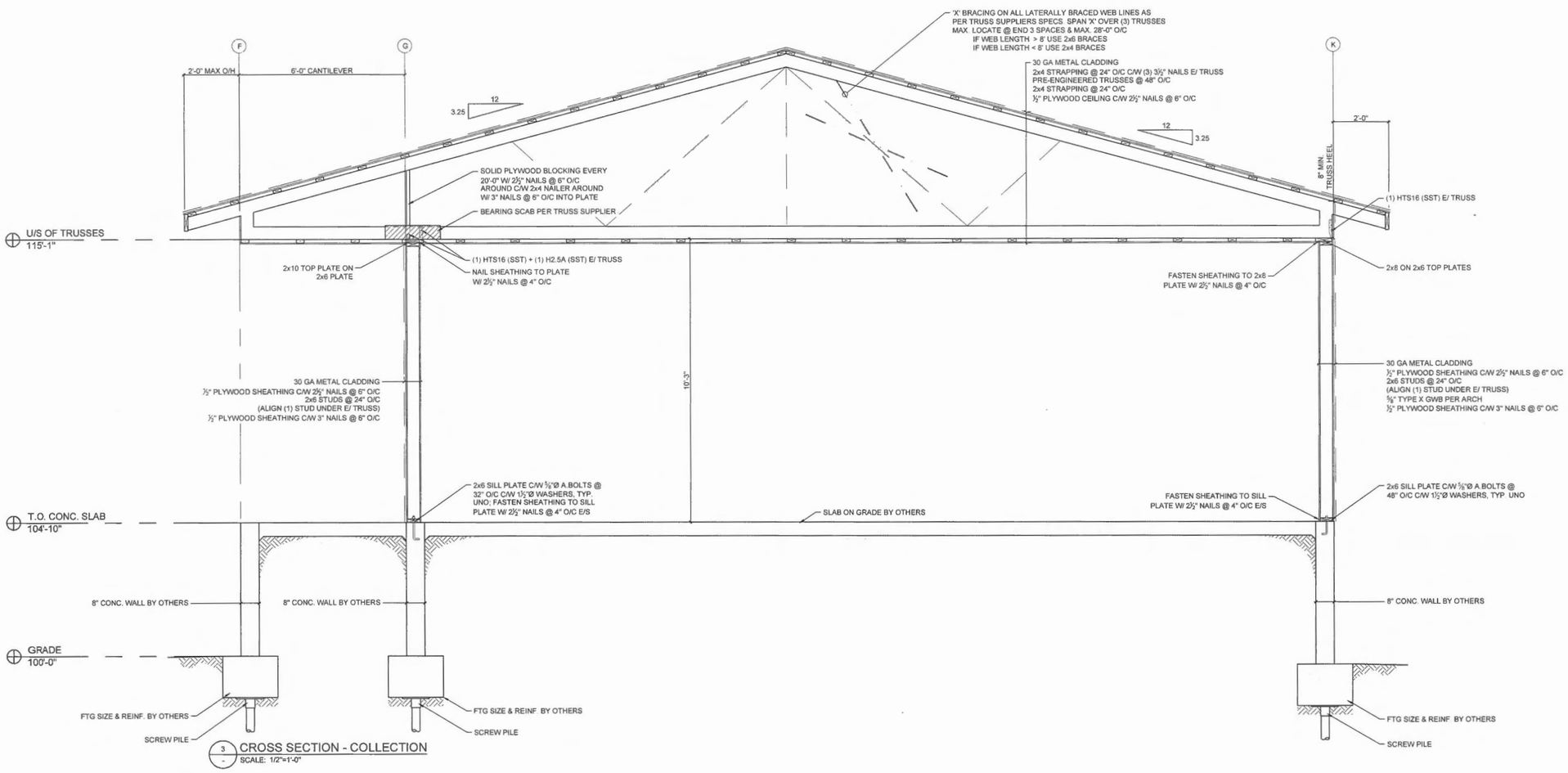
Drawn: M.S.
Checked: J.K.
Project No.: 24.443

Seal:

PROFESSIONAL ENGINEER
J. C. KERKHOFF
33611
2025-05-02

Title: CROSS SECTION MANURE STORAGE

Sheet No.: S3.2



3 CROSS SECTION - COLLECTION
SCALE: 1/2"=1'-0"

July 16, 2025
DV25-015419
Reference
Plan

NO.	DESCRIPTION	DATE
REVISIONS		
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

Client: EASTERBROOK FARMS

Project: POULTRY BARN

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QUANTUM ENGINEERING LTD.

Designed: D.V.
Drawn: M.S.
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Project No: 24.443

Seal.

PROFESSIONAL ENGINEER
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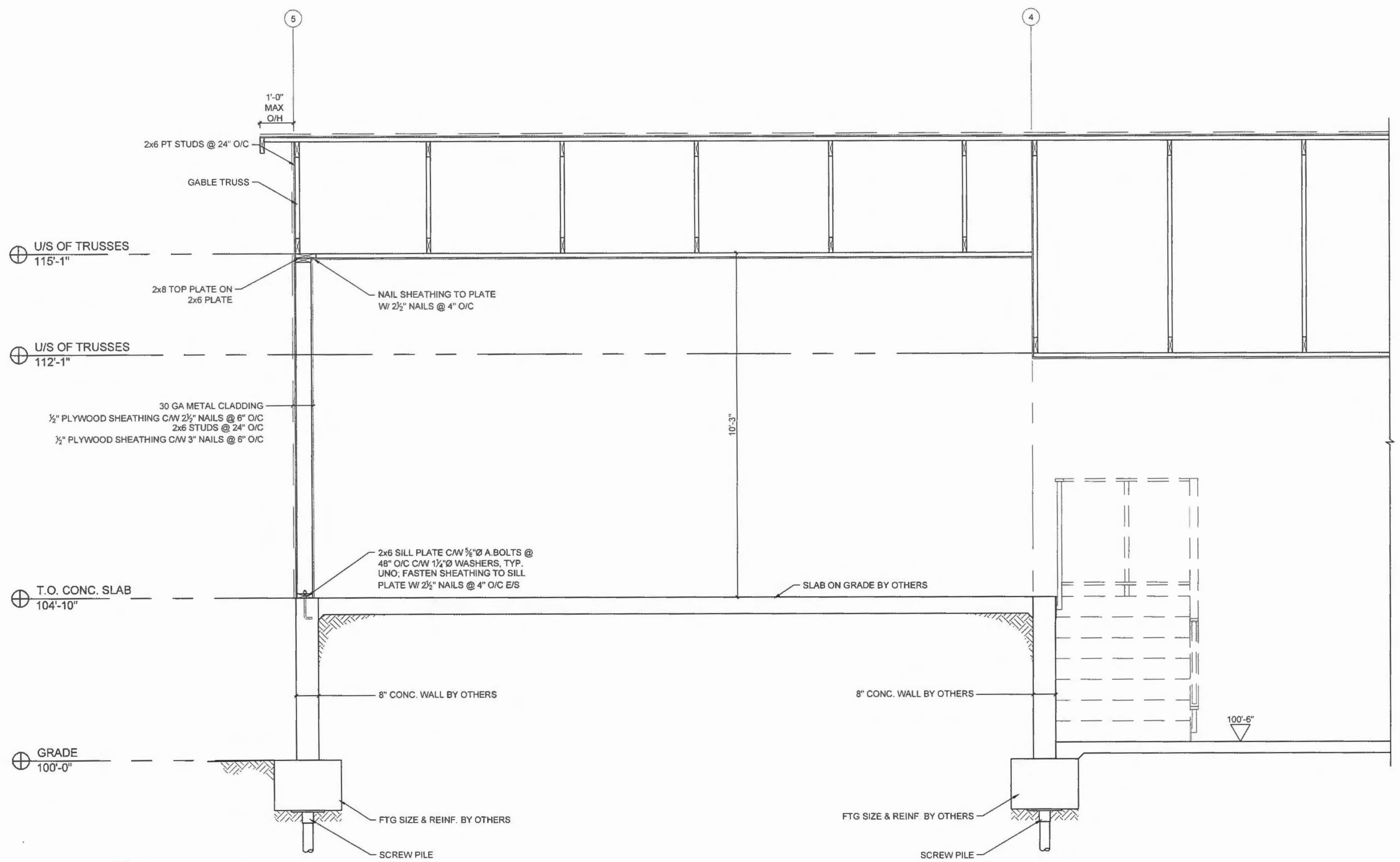
PROVINCE OF BRITISH COLUMBIA
2025-05-02

Title: CROSS SECTION COLLECTION

Sheet No: S3.3



4 CROSS SECTION - COLLECTION
SCALE: 1/2"=1'-0"

July 16, 2025
DV25-015419
Reference
Plan

NO.	DESCRIPTION	DATE
2	RE-ISSUED FOR PERMIT	May. 1, 25
1	FOR PERMIT	Apr. 16, 25

REVISIONS

Client: EASTERBROOK FARMS
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Title: CROSS SECTION COLLECTION

Sheet No: S3.4