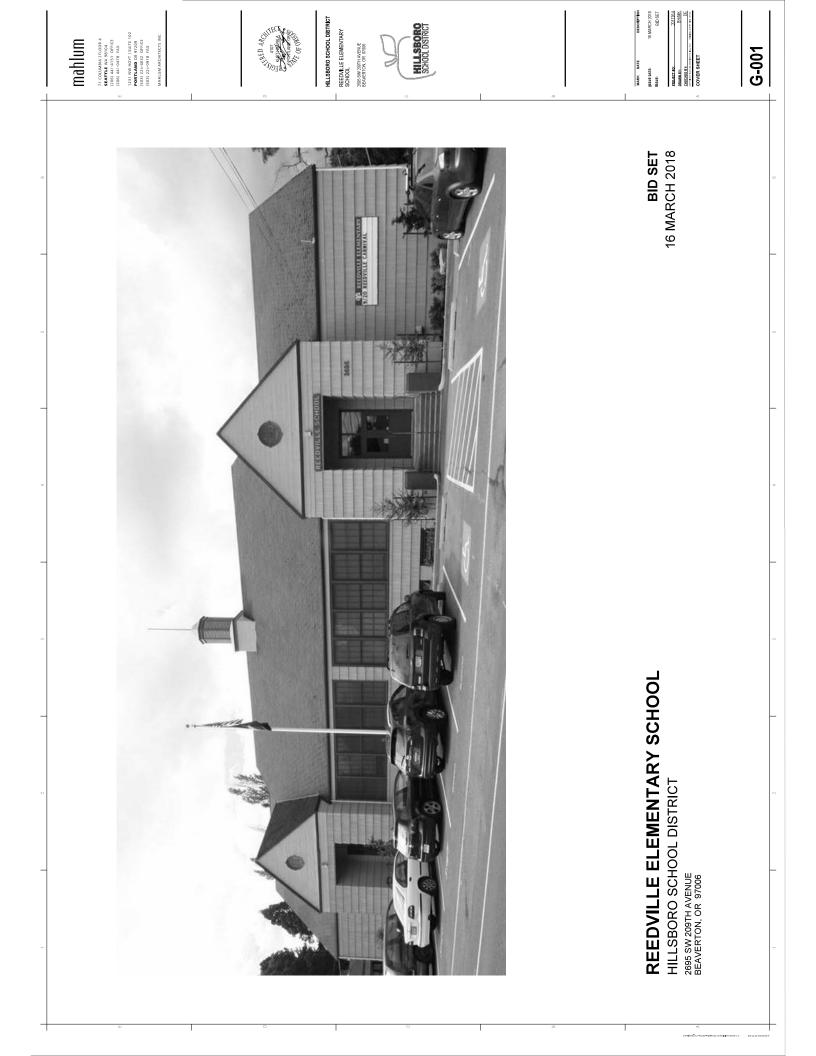
# Oregon Seismic Status Report - 2018

Oregon law requires school districts and education service districts to provide DOGAMI with notice of construction projects that may affect a school's seismic risk. This report was generated by DOGAMI from submitted data.



School District/ESD:	Hillsboro 1J
County:	WASHINGTON
Contact Name:	Casey Waletich
Contact Email:	waleticc2hsd.k12.or.us
Structures Replaced?	No
Name and Address:	
Kind of Structure:	
Type of	
Replacement:	
Max Occupancy:	
Date Occupied:	
Structures Modified?	Yes
Structures Modified? Name and Address:	Yes Reedville Elementary School 2695 SW 209th Aloha, OR 97003 North Plains Elementary School 32030 NW North Ave N. Plains, OR
Name and Address:	Reedville Elementary School 2695 SW 209th Aloha, OR 97003 North Plains Elementary School 32030 NW North Ave N. Plains, OR Reedville- Complete main building remodel
Name and Address: Kind of Structure:	Reedville Elementary School 2695 SW 209th Aloha, OR 97003 North Plains Elementary School 32030 NW North Ave N. Plains, OR Reedville- Complete main building remodel N. Plains- Roofing Upgrade
Name and Address: Kind of Structure: Type of Modification:	Reedville Elementary School 2695 SW 209th Aloha, OR 97003 North Plains Elementary School 32030 NW North Ave N. Plains, OR Reedville- Complete main building remodel N. Plains- Roofing Upgrade See Drawings
Name and Address: Kind of Structure: Type of Modification: Date Re-occupied:	Reedville Elementary School 2695 SW 209th Aloha, OR 97003 North Plains Elementary School 32030 NW North Ave N. Plains, OR Reedville- Complete main building remodel N. Plains- Roofing Upgrade See Drawings
Name and Address: Kind of Structure: Type of Modification: Date Re-occupied: <i>Optional:</i>	Reedville Elementary School 2695 SW 209th Aloha, OR 97003 North Plains Elementary School 32030 NW North Ave N. Plains, OR Reedville- Complete main building remodel N. Plains- Roofing Upgrade See Drawings 9/4/2018

Notes:



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# **JENERAL REQUIREMENTS**

COVERNING CODE: The design and construction of this project is governed by the "Oregon Structural Speciality GOVERNING CODE: The design and construction of this man OSSC as adopted and modified by the City of Aloha, OR momented to the Alahami Alexan interdetion (AHI)

MARRATIVE: The building type is a two dory weed light these attribution of concrete basever walk and follop-set and the second walk and elements to second seco

SERSIGE (2004) Mon. 5. A set of the second care of the second second

EFERENCE STANDARDS: Refer to Chapter 3 of 2014 OSSC Where other Standards are noted in the crawings bethe laser relation the scandard unchapter as specific cash and the traitpact. Reference is a specific section in a code does not eleven standard from consultance with the stanta standard. arms used in these notes: DEFINITIONS: The following defin

• Antibiotechnic P - The Antibiotic P - The Anti

2THER DRAWINGS. Refer to the architectural, mechanical, electrical, oint and plumbing drawings for additional arcson moduling. Pluring Immuno. Communication, Beassions, science, coar and unchow openings, non-bearing walk, nishes, electronical, selfings, mercented and lossions, and other monthousellitems.

RESERVECTIONAL DEFENDING. The structured channeys are intended to strong the general character and extent of the proper structure of the structure of the structure data structure data structure data structure character have packed as a "Vacance" have packed. "Similary, use databat so entire structure structure data structure character face packed ITRUCTURAL RESPONSIBILITIES: The stru many structure in its completed form.

2006/01/01/10/8. The Contractor is negoonable for coordinating datalis and accuracy of the work: for confirming and controlling all quantities and dimensions: for selecting februation processes: for inclutious of assembly, and for per-rorming work in a static and search manute.

KEANS, METHODS and SAFETY REQUIREMENTS. The contractor is responsible fication and all job roshold safety standards such as OSHA and DOTH (Department function and all job roshold safety standards such as OSHA and DOTH (Department

SPART SNORWO, BRACING. The contractor is responsible for the strength and slightly of the structure durin custor and provide instruction of other sector structures to and sublicity of the struc-custor and the low contractor's responsible to the itemative werk required to in the contractor contractor required. It is the contractor's responsible to the itemative werk required to in the contractor contractor contractor and the structure of the structure and the contractor contractor is contractor and the structure of the contractor and at this decretion empty an SSE, a registered prote-pothere (in the design) of any improve Decision and actions).

ONSTRUCTION LOADS: Loads on the structure during construction shall not exceed the design back as noted in DE IGN CRITERIA & LOADS below or the capacity of partially compliated construction as determined by the Contractor

GES NL LOADING. The octribution the negocrability to with the SER of any architecturely mechanical elevel-patimity that and prepared once the structure transfer from, criteria to occurrented once organical contexed foc-generative of a structured on the structure transfer for use that and contexed to the structure of sector is also and exceeded on contentiation and a structure transfer of exercises. Therefore resonance structure is an advanced and and and and and a structure transfer of the structure. Therefore resonance structure is an advance structure and advanced and advanced and a structure transfer of the structure of the struc-ture and environment and also also asso and approximate. Therefore resonance structure is an advanced and and any trave experiment of robat. Submit shares to the ArtitionEligneek for the structure structure attained as

**LOTE PRIORITES:** Plan and datal notes and specific loading data pro upplements information in the Structural General Notes.

VERFICATION: The contractor shall worly all dimensions and conditions at the site. Conflicts between the draw-and actual site conditions shall be brought to the astantion of the ArchitectEngineer before proceeding with the

CENT UTILITIES. The contractor shall determine the location of all adjacent underground utilities prior to earth-foundations, shoring, and acceleration. Any utility information shown on the drawings and details is approximate and

ALLERATES. Atomate postatic of shaller strength makes and thin 10° spatial damm any te acaminal with any scatter increased bournerstored process extrency. In the ArchitectEngreet for reason, Marrora materials that are minimal variants interpretain force that approximation of the ArchitectEngreet for reason. Marrora materials that are minimal variants interpretain force interpret of the ArchitectEngreet for reason. Marrora materials that are minimal variants interpretain force interpret of the ArchitectEngreet for reason. Marrora materials that are for any or normal variant variants that neuron existing affort to enter with other reviewed unsets and forced by the Ommer.

DESIGN CRITERIA AND LOADS

Level of Setsmicity	¢.			
EISMIC DESIGN:				
Seismic Hazard Level	BSE-1E		BSE-2E	·
Basic Performance Objective	Damage Control	log	Limited Safety	
3SE speciral acceleration at 0.2 sec S <sub>4</sub> =	0.728		0.295	· · · ·
35E spectral acceleration at 1.0 sec St =	0.322		0.112	****
Spectral Resources Acceleration Su #	S. # 0.733		0.450	<b>r</b>

SUBMITTALS

UBMIT FOR REVIEW: SUBMITTALS of shop drawings, and product data are re material sectors and for bicker designed alements.

UBMITTAL REVIEW PERIOD; Submittate shall be made in time to provide a minimum of TWO WEEKS or 10 WORK NG DAYS for review by the ArchitectEngineer prior to the one of labrication.

Ass...CONTRACTORS ENDOR REGIRED: Prive to automisation to the increditer/engineet the Contracturation re-test starting for comprehenses. Dimensions and quarkities are not reviewed to the SER, and therefore, must be to by the Goneal Contractor. Contractors and spontate before (nonsidary dimensional data) and volden to Contractor's review stating and signature before (nonsidary dimensional data).

DRAVING REVEAL Once the contractive has compliated his twice, the SER will reveal the submitted for general second methods would be according to the first of the control of the control of the submitted for general statisty. Community and the According term is the control of the submitted with the probability of the statisty of community and the According term is the control of the submitted for the submitted for the submitted statisty of community and the According term is the submitted for the submitted for the submitted for the submitted statisty of the submitted for the submi

HOP DRAWING DEVIATIONS: When shop drawings (component design drawings) differ from or add to the nexts of the structural drawings they shall be designed and stamped by the responsible SSE.

NSPECTIONS: Foundations, foolings, under slab systems and framing are subject to inspection by the Build's accordance with OSSC 110.3. Contractor shall coordinate all required inspections with the Building Official. NSPECTIONS, QUALITY ASSURANCE VERIFICATIONS AND TEST REQUIREMENTS

4. INSPECTIONS. VERTICALIDNS and IEEESTS: Second inspection, indexidence and indexidence and indexide and the one in second indexidence and indexidence and indexidence indexidence. To the indexidence indexidence indexidence for projects in Second 2016, 1. and 1706, 12 for evenue restations for projects in Second Design Constrained on a conditional and a conditinat and a conditional an

PECIAL INSPECTION AGENCY and SPECIAL INSPECTORS: Comer shall retain an "approvad agency" per OSSC 703 to provide Special Inspections for the project. Special Inspectors shall be qualified persons per OSSC 1774.2.1.

INTEMENT OF SPECIAL INSPECTIONS. Special Inspections and Testing per OSSC Sections 1704 system for the following:

ETIMACTURAL STEED, pro COSC 1170 4.2.1 A cualific Section Inspect of an "System of Special Inspection Urable posted interface and commend Special" product Quality Annumous (QA) Special Inspection Urable posted interfaces and commend Special Special Optical Control Optical Special Inspection (Urable Dependent Optical Net CoSC 0.0 Optical Pro Net 2023 Control (C) procedurer's Verage Inspectory ensities on Net COS 00 Optical Pro Net 2023 Control Optical Pro Net Weiling Quality and Pro COSC 0.0 Optical Pro Net 2023 Control Optical Pro Net Weiling Quality and Pro Optical Pro Net 2023 Control Pro Net Pro Net 2020 Control Pro Net 2023 Control Pro Net 2023 Control Weiling Quality and Pro Net 2025 Control Pro Net 2023 Control Pro Net 2023 Pro Net 2023 Control Pro Net 2023 Control Pro Net 2023 Control Pro Net 2023 Pro Net 2023 Control Pro Net 2

CM Agency providing Special Inspections anali provide personnel meeting the minimum qualification ra quinements for implexition with thermolectronomy Testing 2001 par ASIS 380-10 Section NL quality and Welling inspection of welds by both OC and OA personnel shall be per fabries fabrid in ASIC 36 Section NLS.

pection Tarke for Weating Proce on Weating are ASC 390-10 Table N5.4.1. During Weating per ASC 380-10 Table N5.4.2. After Weating per AISC 380-10 Table N5.4.3.

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POST-INSTALLED ANCHORS TO CONCRETE AND MASONIXY, shall compty with OSSC Series 1703, reser-tions table for accounters on with the representation of the supproved CCC Examilant Report and a index of the elegan representations are treating to the supproved CCC Examilant Report and an index of the elegan representations are treating to the proved of the POST registration and the accounter and an elegan of the accounter of the acc NEXALLED MACHORS and provide the basis of the days, spoore indext any wave arrange arrange arrange arrange and the part of the part of

INSPECTION SUBMITTALS: Special inspection reports shall be provided on a weekly basis. Final special incontion months will be required by each inspection from per OSSE 1704.2.4. Submit copies of all inspection reports to the Architection frame and the Authority Hardword Junitation for Review.

TERLICTURAL OBSERVATORS income observations what is provided to structure is particured way in Socio. Sacio Den 1702-88. Sacionario Den 1702-88. Structural observation will be an indexe of theme contracted more and the sacionary structure is provided with the sacionary structure is

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PREFABRICATED CONSTRUCTION: AIL

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NUMERS CANTLEY INNECTION

1231 NW HOYT | SUITE 102 PORTLAND OR 97209 (503) 224-4032 OFFICE (503) 224-0918 FAX

MAHLUM ARCHITECTS INC

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Section 3.2.2.2

as shall conform to ACI 117.

ACI 301, Section 3.3.2 "Place

CONCRETE COVER: Conform to the following on Concrete said against main the method concrete exposed to earth or weather Tesis to surve and bearns. Bars in stabs. Bars in stabs. Example areas in Ti-up Pandis.

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CONTRUEY PLATE LENGIN

71 COLUMBIA | FLOOR 4 SEATTLE WA 98104 (206) 441-4151 0FFICE (206) 441-0478 FAX

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DRAWING LEGEND

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SOILS AND FOUNDATIONS

CONTRACTOR: 8 RESPONSIBILITIES: Contractive shall be responsible to maker the Geoderheidal Report and shall fol tow the recommendations experiment the nucleurs, but not instituted to, subgrade preparations, ground water ranage-main and sease. 3EDTECHNICAL\_REPORT: Recommendations contained in Geoschnical Investigation and Stor-Spacific iterate Evaluation by GRI dated Decomber 7, 2017 were used for datign.

<u>GEOTECHNELN, SUBORADE INSPECTION</u> The Geokentrial Engineer shall inspect all sub-grobes and propre bearing unitable, track to pranimit of formitation indirecting agaid and constem. Geolekthical Engineer add in a field in the conner dating that toke are adecuate to support the "Nonedde Foundation Basing Pressured) si

<u>Resolv SOII VALUES</u> Silly State pie Sola Report Silly State pie Sola Report Power I heart Preserve 2000 Definition Confidence of States Definition Confidence of States

COUNDATIONS and FOOTINGS. Foundations shall bear on either on competent radius soil or compacted structural fit store the gooscimical inport "Exterior permittic fooling staffs" how not leas than 18 inches below linith grood unless

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HILLSBORO SCHOOL DISTRICT REEDVILLE ELEMENTARY SCHOOL

2695 SW 209TH AVENUE ALOHA, OR 97003

ABBREVIATIONS

Externut Floor Drain

INDICATES ENSTING WAL CATES BEARINGY

NUMBER SPECIFIED IN PLANT

Constructional Constructions and construction of the other state of the construction of the other state of the construction of the construction

AGE/ESING SMACRES. The foreign develops and units of parabulary system have been used in the adaption and add the model of antioxecture to COMORTE and MASCIMAY, as suppresent and in the accountion with norm-storing and anticode to compare the advecture with the system of the accountion with norm-code and and anticode compare distance (7D).

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<u>SET (CES</u> Conform to ACI 301, Section 3.3.2.7, "Splices", Refet to "Typical Lap Splice and Development Length Sched-ue" an typical reinforcement splices. Splices indicated on individual shears shall control over the echedule. Mechanical connections may be used serviced by the SER.

EIELD RENDING: Conform to ACI 301 Section 3.3.2.8. "Field Bending or Straighbening." Bar sizes #3 through #5 may be Teid bent cold the first time. Other bers require preheading. Do not test bars. Bans shall not be bent past 45 degrees.

POST-INSTALLED ANCHORS INTO CONCRETE

EFERENCE STANDARDS: Contorn to: 1) OSSC Chapter 19 "Concrete" 2) ACI 318-11 "Building Code Requires

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STRUCTURAL STEEL

SLRBMITTALS: Submit the following documents to the SER for review. (1) SHADE DERAWINGS complying with ASS 380 Sections Minut No. 284 ANS Mass original of Robusing documents: "Available and Chinageater To the SER or optimised from prior to Balanciano per MISC 380 Section VI2 Treperements."

CAST-IN-PLACE CONCRETE

ELENCE: TAULARDES Conform In: Conf. 2011 - 10 "Special Services in Structural Controlled" I OSC 2011 - 10 "Special Services in Structural Concrete" I OSC 111-110 "Special Services for Township Conf. Regulational Concrete" I OSC 111-10 "Special Services for Township Conf. Special Services in Special Services International Magnitus

teruel, SP-15, "Steridard Scenc CRETE MIXTURES: Conform to ACI 301 Section 4 "Concrete Mixtures" and OSSC Section 1904.2. FIELD REFERENCE: The contractor shall keep a copy of ACI Field Reference for Structural Concrete (ACI 301) with Selected ACI and ASTM References.

MATERIALS: Conform to ACI 301 Section 4.2.1 "Meterials" 1 ing water and admixtures.

Charles Antiliar Manual Manual Manual Analysis and Ma

3.UBMITTALS: Provise all submittals required by ACI 301 Section 4.1.2. Submit mix designs for each mix in te solow. Substantiating strength results from past tasts shall not be older than 24 months per ACI 318 Section 5.3.

FABLE OF MIX DESIGN REQUIREMENTS

Strength Test Age Absortum Exposure Max Ar Con Notes focosil (deya) Aggregate Cleas W//C tent (1 to 8 Typic) Aggregate Cleas Parto 0.45 5% 0.6 gs 4000 28 r States on Grade 3000 28 58 53 400 Member Type/Location

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Structurel Sec ional Building

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WELDIKS 1) Welds plue oreform to ANS D1.1 with Prequeifierd Weiding Processes except as mod 10.2. Weldskie and lea quartifier in accordance with MMS D1.1 regularisments. 23 Use 70ket strength, bein-tydrogen type relectiondes (E7016) or E717 as appropriate for they control accordance and the strength of the strengt

330 Section MS and AISC 303 Section 6.5 unless

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EORMMODEX & RESHORING: Conform to ACI 301 Section 2 "Formwork and Form Accessories." Removal o Form shall conform to Section 2.3.2 awarpt strongth indicated in Section 2.3.2.5 shall be 0.7.5 f o. to ACI 301 Section 4.3. MEASURING MIXING, AND DELIVERY-

AANDLING, PLACING, CONSTRUCTING AND CURRING. Conform to ACI 301 Section 5. In addition, hor weat creating shall conform to ACI 305:1-08 and cold weather constraining shall conform to ACI 305:1-90.

ZMEEDDED ITEMS. Position and secure in place expansion joint meaking, anchors and other structurel and non-structural embedded terms before approag concrete. Contraction shall refer to mechanical, abscritcal, planning ani anti-secural distructures and room of the embedded forms.

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WOOD FRAMING

16 MARCH 2018 PERMIT / BID SET DESCRPTION

MARK DATE ISSUE DATE: ISSUE: ROLFCT NO-

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CHICKLO BY: Checker CHICKLO BY: Checker STRUCTURAL GENERAL NOTES, LEGEND & ABBREVIATIONS

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Tasting: Ottain semples and conduct less in accordance with ACI 301 Section 1.8.3.2. Addit required to obtain concrete strengths at alternate intervals than shown below. STRENGTH TESTING AND ACCEPTANCE

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contactors. Strength is satisfactory when: (1) The average of site word 35 second 55 second 55 second frame specified (2) No micro state rates have the specified strength by more than 500 ns. (2) No micro strength the specified strength.

SLBMLTLAR: Submit strate of enversion is the indisact/Engineer for review. Since dreadings shell include member size, and environmentations from grants are considered stratemently datafia and connectores, injours and location of both and other Stephenes. Supply holds of environg for the following: (1): Predistrovand Stans wall previous).

DENTIFICATION: All sawn lumber and pre-manufa Illicate of inspection issued by the certifying agency.

Sawn Lumber: Conform to grac osplable at intenor walls only.

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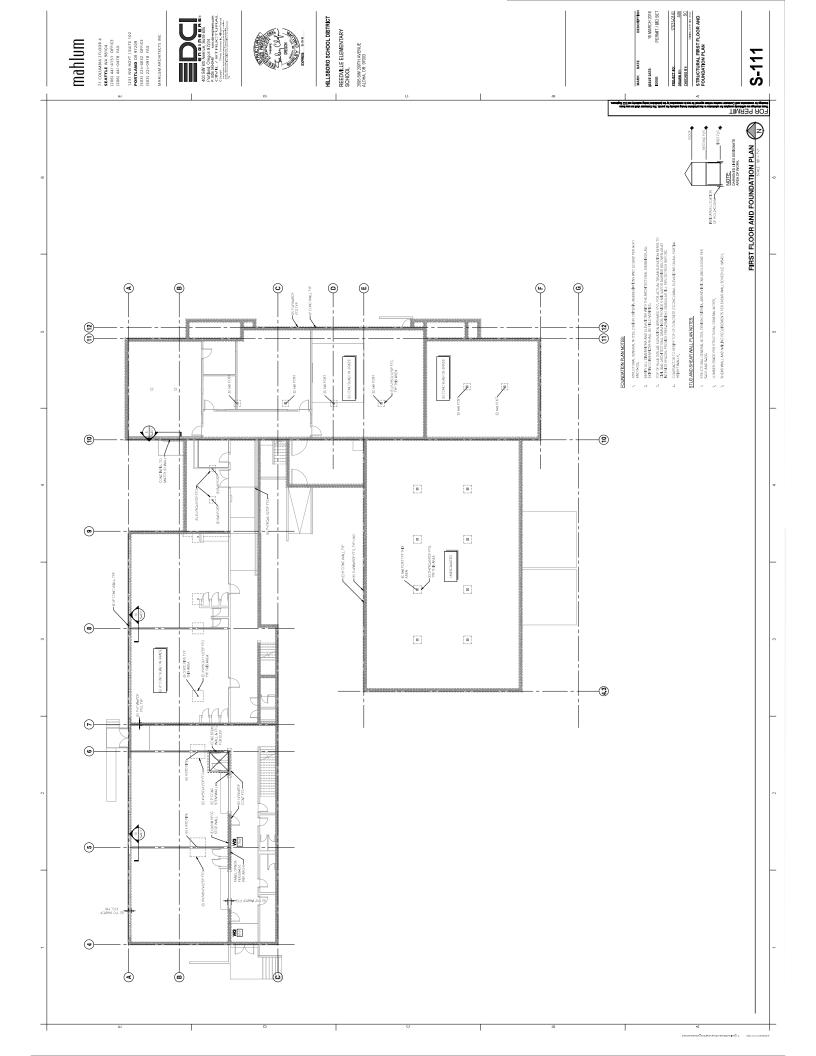
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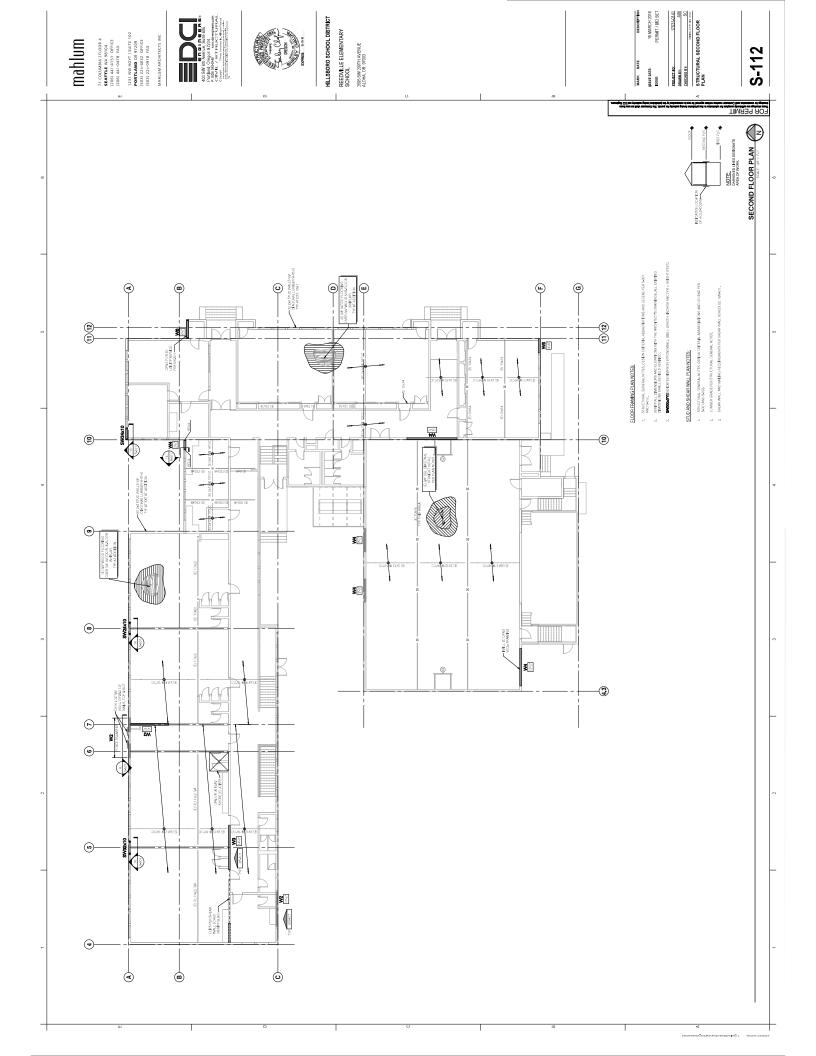
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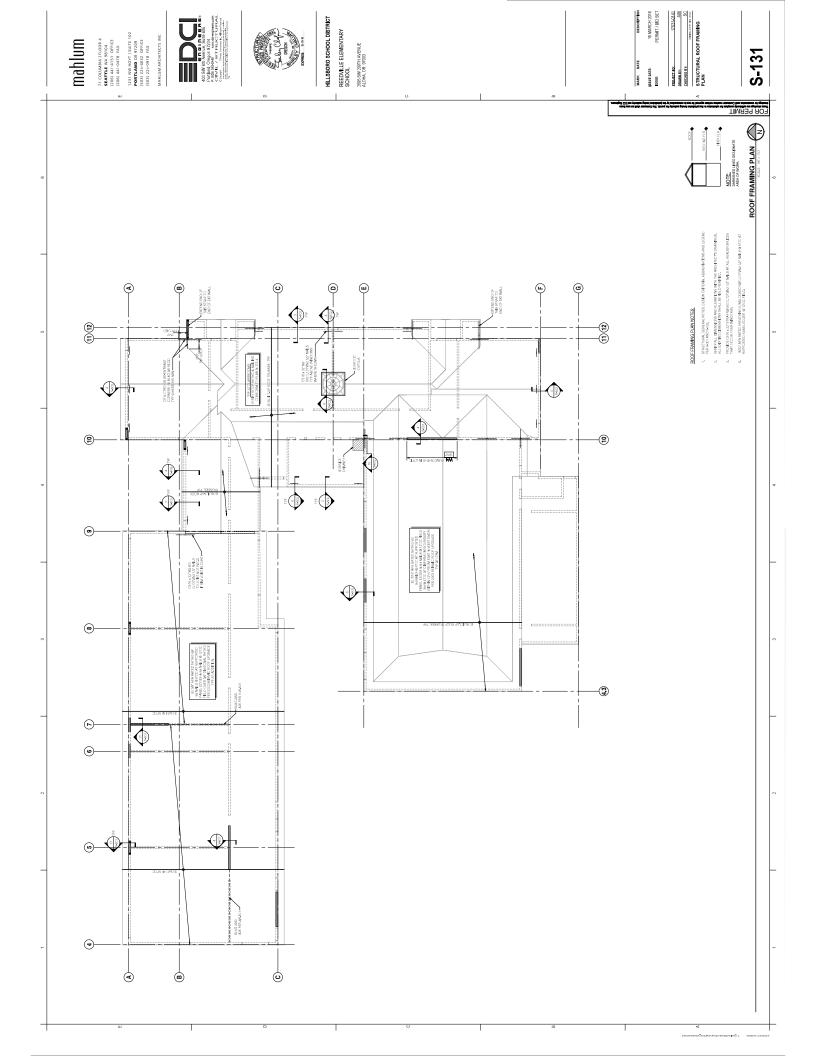
3.BMILTALS: Conform to ACI 301 Section 3.1.1 "Submittals, data and drawings." Submit pit sonication dimensions and locations for placement of nehiforcement and reinforcement supports.

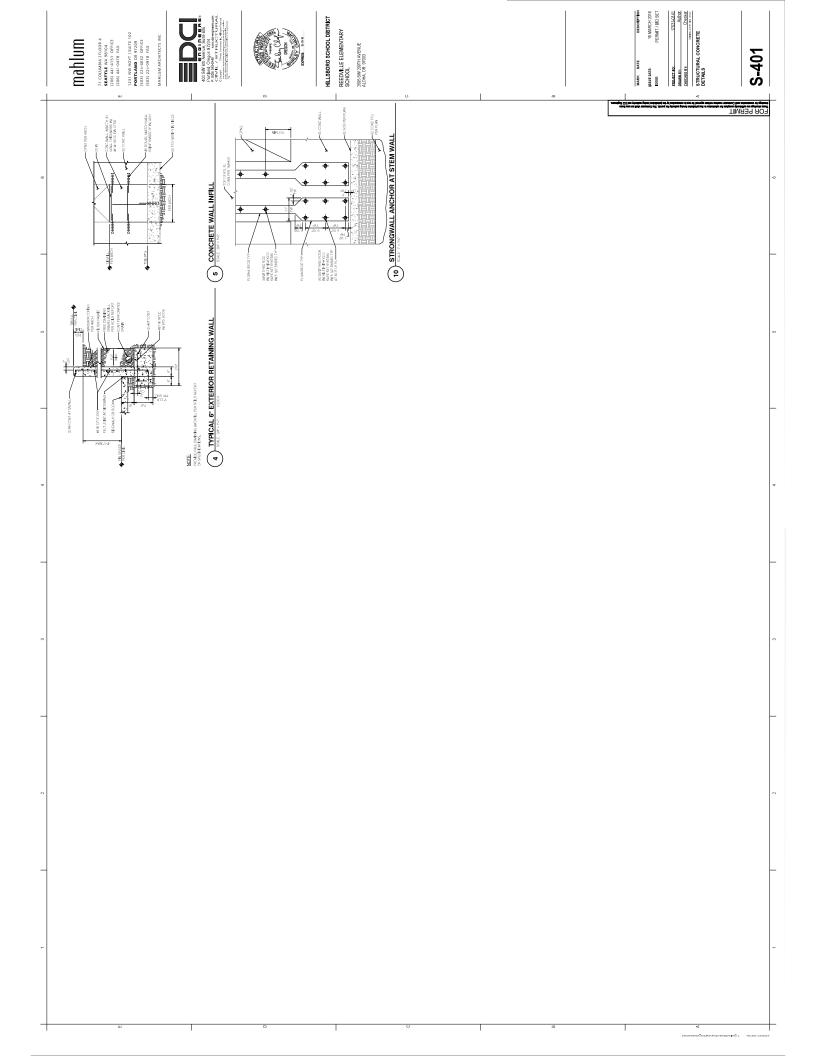
EABERCATEON: Conform to ACI 301, Section 3.2.2. Fabrication', and ACI 89–56 'ACI Clonaling Manual. WELDING: Bans airell into be weaked unless submicted. When an entimized, conform to ACI 301, 4 Weaking, AWS D1.4, and provide ACIMA708, grade 00 reinforcement. ASTM A615, Grade 80, deformed bers. ASTM A705, Grade 80, deformed bers. CRSI M5P 03, Chapter 3 "Bar Supports." Is page or heerier, black annelled. ASTM A970 ATERIALS Reinforcing Bars Vidababe Reinforcing Bars Bar Supports Te Wite Heatod Datormed Bars

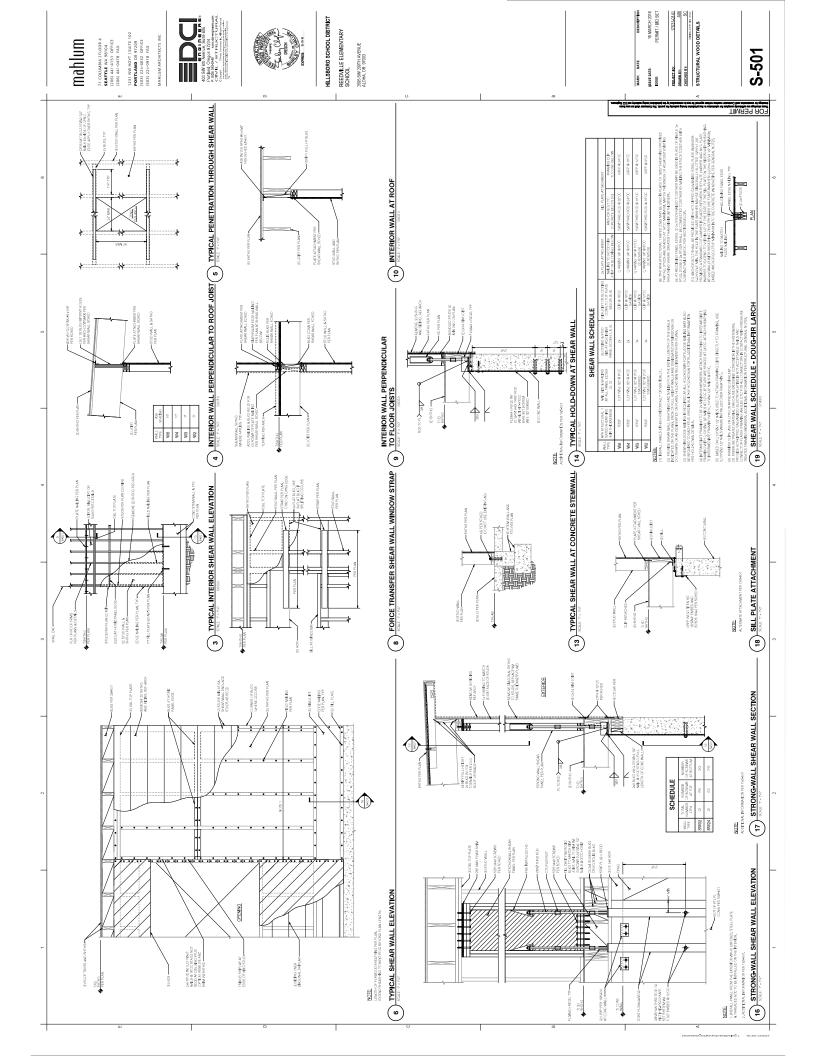
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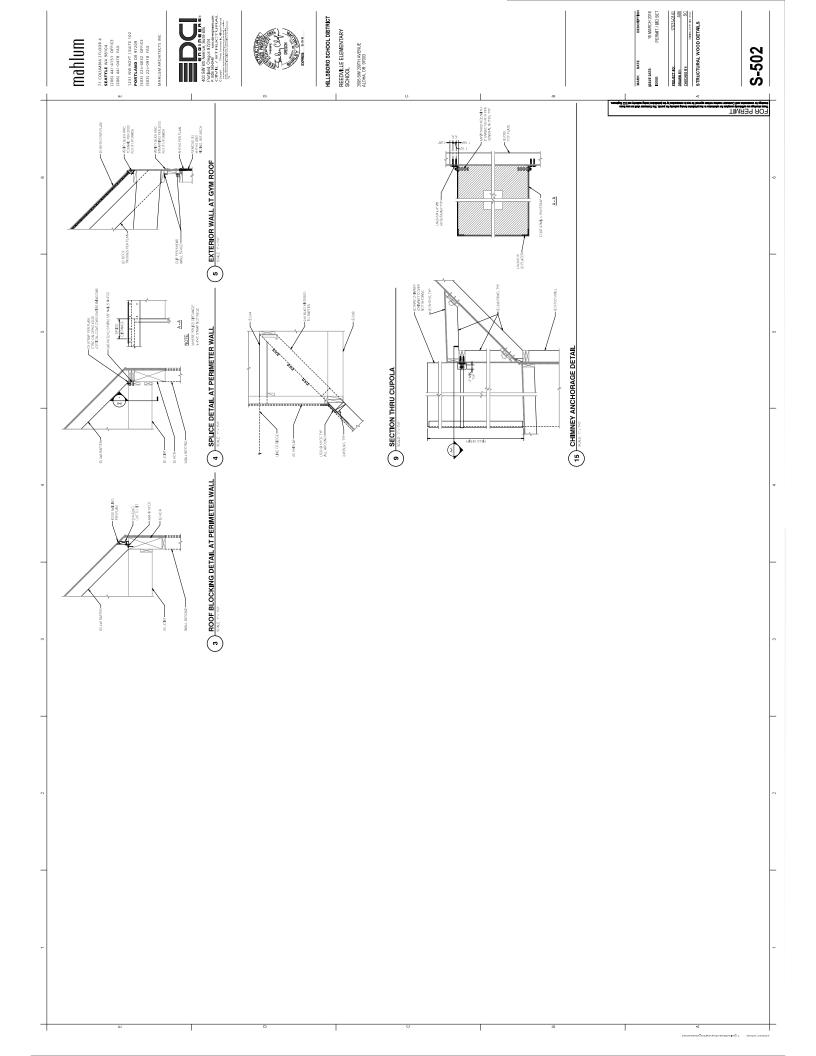














Project Name:	Hillsboro SD 1J, North Plains Elementary Roof Replacement
Address:	North Plains Elementary 32030 NW North Ave. North Plains, Oregon
Meeting:	Pre-Construction Meeting
Time and Date:	2:30 PM, Friday, June 8, 2018

2.01. Sign in of attendees.

- 2.02. Introduction of attendees and discussion of attendee's roles.
- 2.03. Recommended meeting format.
- 2.04. Descriptive summary of the scope of work.

#### SCOPE OF WORK

- A. North Plains Elem, Area 1:
  - 1. Remove existing roof membrane and insulation to deck.
  - 2. Remove perimeter metal flashing and coping and dispose of.
  - 3. Expose deck on adjacent roof area 3 to allow for seismic upgrades per drawings.
  - 4. Demo existing curbs for attic ventilators and infill hole with decking to match existing.
  - Box in sleeper curbs under condenser units and add 3/4" plywood on top. 5.
  - Inspect existing decking and notify owner of any rotted or deteriorated decking. 6.
  - 7. Install fall arrest tie off posts per engineering drawings.
  - 8. Install seismic upgrades per Engineer's Drawings
  - 9. Re-nail any loose decking.
  - Completely remove aggregate surfacing form existing membrane for 30" back from cut in roof 10. on area 3, and prime to receive tie in plies.
  - Loose lay 28 lb G2 base sheet over rosin paper over entire deck. 11.
  - Mechanically attach 2 layers of 1.8" Iso insulation at 16 fasteners per board. Increase fastening 12. pattern at edges and corners per FM 1-49 recommendations.
  - Adhere 1/2" coated wood fiber board over base layer of Iso insulation. 13.
  - Install 2 plies of heat stabilized polyester ply sheet set in Type IV asphalt. 14.
  - Install an additional 2 plies of type VI fiberglass ply sheet set in Type IV asphalt. 15.
  - 16. Five course permanent tie in on area 3.
  - 17. Reinforce all base flashing details with 1 ply of polyester felt set in Type IV asphalt.

REING

- 18. Install TRA elastomeric base flashing with reflective aluminum coating.
- 19. Allow roof system to age for minimum of 7 days and install aggregate surface in cold applied adhesive.
- 20. Install new Stainless steel pitch pans with goose neck cap on coolant lines.
- 21. Install new perimeter coping with skirt flashing.
- 22. Install new curb caps on boxed curbs.
- 23. Install new stainless steel vent base.
- 24. Reinstall J vents.

### 2.05 Safety and security:

- a. Owner comments on safety and security.
- b. MSDS, safety checklist & safety plan on-site:

#### 2.06 Construction administration checklist:

a.	Contract executed?	Yes	No No	Comments, if any	·
a.	Construction Schedule received?	Yes	No	Comments, if any	_•
c.	Submittals received?	Ves	No No	Comments, if any	
d.	Bonds received?	Yes	No No	Comments, if any	
e.	Security & Badging Info?	Yes	No No	Comments, if any	

- 2.07 Anticipated project schedule and start date(s).
  - a. Mobilization and deliveries.
  - b. Sequencing of construction by task and area.
  - c. Anticipated date of completion.
  - d. Impact of rain or inclement weather could have upon construction.
  - e. Questions concern or comments relative to the anticipated schedule?
- 2.08 Construction points of contact:

1



	a.	Primary point(s) of contact and coordination.
		1) Owner:Rick Cunningham (510) 770-4771 - cell (503) 844-1340 Office
		2) Contractor:
		3) Foreman:
		4) Tremco: <u>Steve Ingram</u> (503) 380-8536
		5) Contractual or Administrative:Adam Stewart (503) 844-1340
		6) Inspector:
		7) Frequency of communication between contractor and:
		a. Owner: Daily Yes No - Weekly Yes No
		b. Project Mgr.: Daily Yes No - Weekly Yes No
		c. Other:
2.09	Use o	f premises:
	a.	Set up area, equipment and material storage:
	b.	Traffic flow comments
	c.	Material deliveries, handling, storage and tarping.
	d.	Review of protection of interior, exterior and grounds.
	e.	Housekeeping and cleanliness.
2.11	Consi	derations of construction.
	а.	Establishment of acceptable working days and hours:
	b.	Noise concerns.
	c.	Moisture management.
	d.	Distribution of loads on roof deck.

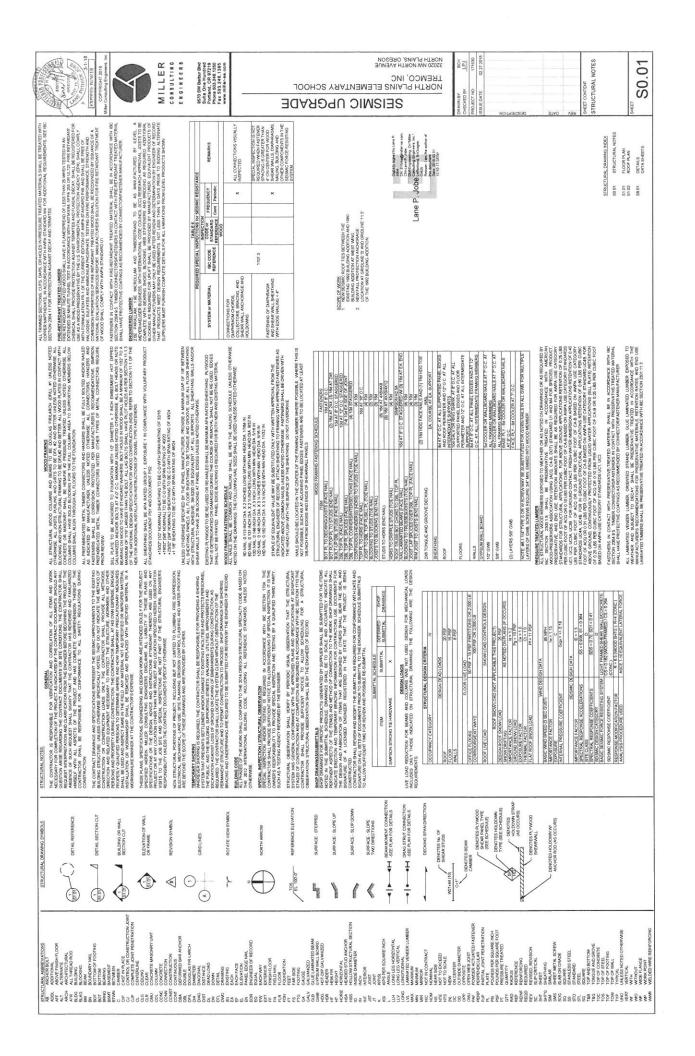


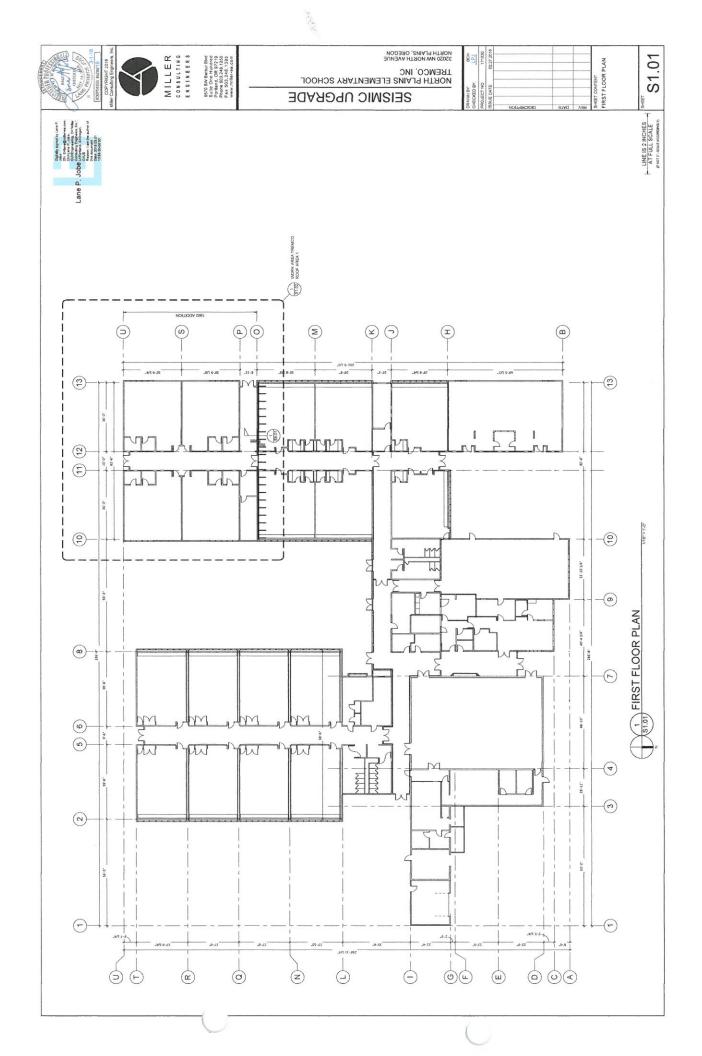
- e. Control of application Quantities.
- f. Number of crews: \_\_\_\_\_. Estimated crew size(s): \_\_\_\_\_.
- 2.12 Discussion of appropriate conduct and personal manners:
  - a. Appropriate dress.
  - b. Access to the interior of the building.

c. Sanitary facilities. Where to place? \_\_\_\_\_\_.

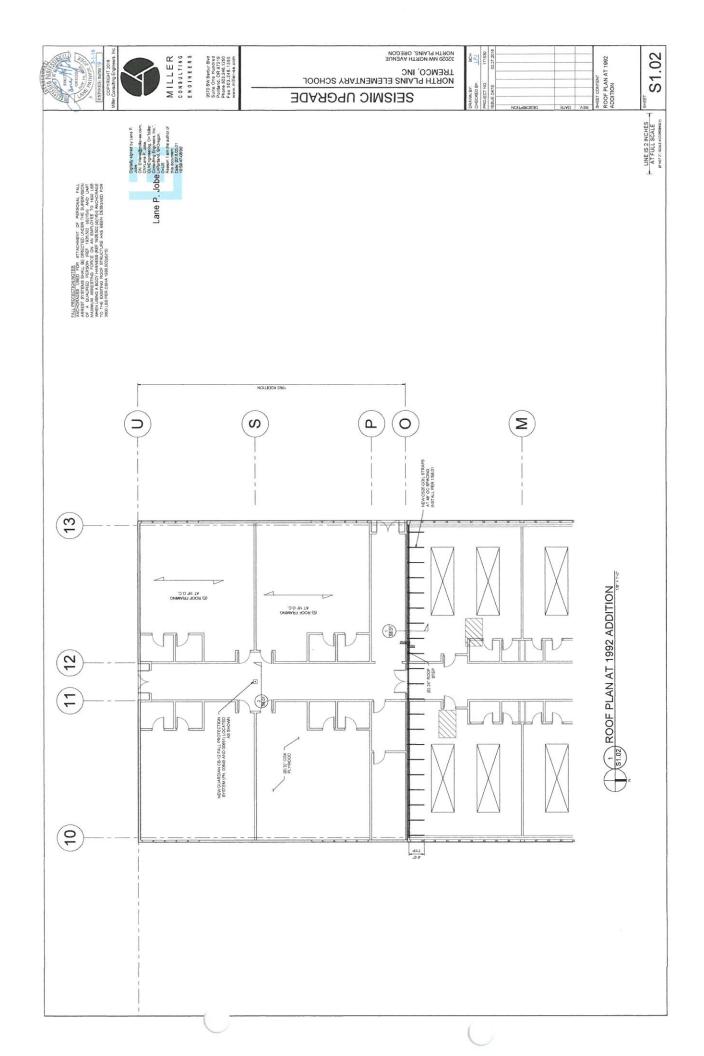
d. Lunch and break areas (designated areas): \_\_\_\_\_.

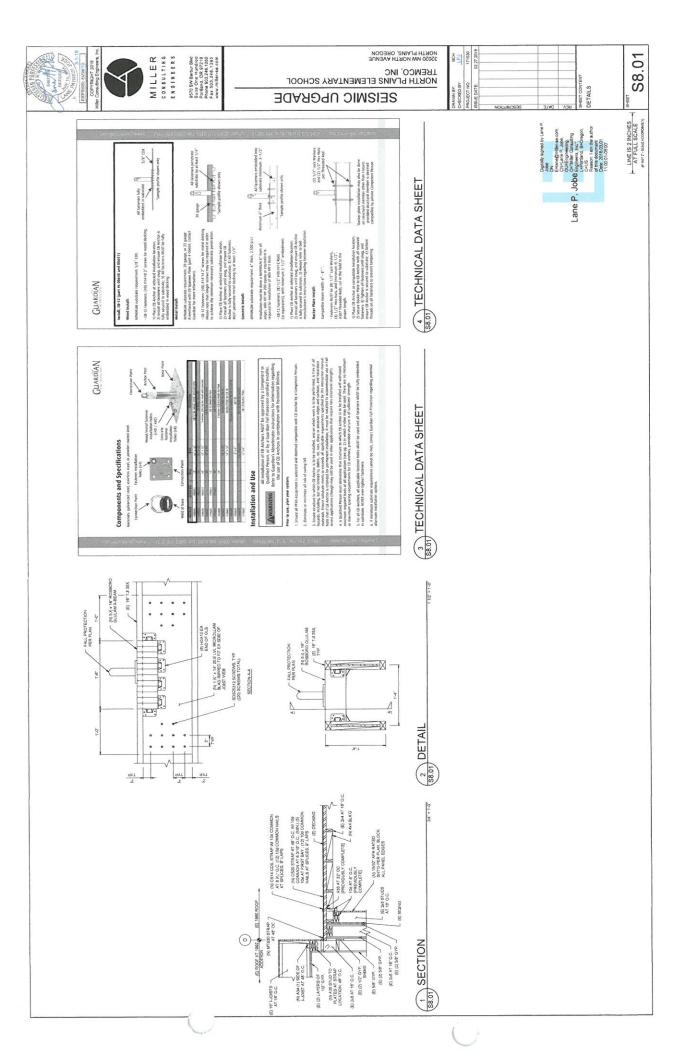
- e. Tobacco products allowed? 🗌 Yes 🗌 No If yes, where? \_\_\_\_\_.
- 2.14 Unforeseen Conditions:
  - a. Unforeseen conditions that could impact progress of the cost of the project should quickly be brought to the construction teams' attention.
  - b. Upon discovery, digitally photograph the condition for confirmation, further discussion and direction from the construction team.
  - c. Development of RFI's and Change orders.
- 2.15 Discussion regarding progress meetings other than the daily communication with Facility Foreman & Project QAQC Manager.
  - a. Frequency, date and time? \_\_\_\_\_\_.
- 2.16 Suggestions, comments, concerns or other relevant topics for discussion:
- 2.17 Project walk and inspection of the areas designated for construction (optional for some parties).





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#### Date: 3/16/18

- Re: ADDENDUM No.1 Hillsboro School District 4901 SE Witch Hazel Rd Hillsboro, OR 97123
- Project: North Plains Elementary School Roof Area 1 Hillsboro High School Roof Area 17 Peter Boscow Center Roof Areas 1 - 8 LC Tobias Elementary School Roof Areas 2 - 15 Roof Replacement and Restoration Projects

To All Concerned,

The original documents for the above referenced project are hereby amended as noted herein.

# **ADDENDUM No. 1**

The following are Revisions to the above referenced Roof Replacement & Restoration Specifications Dated February, 2018:

# A. CLARIFICATIONS

- 1. All Four Sites
  - a. Start Date June 16, 2018.
    - Boscow Center Safety setup and roof cleaning scheduling possible prior to June 13, 2018.
  - b. Substantial Completion Date September 3<sup>rd</sup>, 2018.
  - c. No work activities while school is in session after September 4, 2018.
  - d. Revised Bid Forms attached.
  - e. Bid Due Date updated to March 27, 2018, 1:00pm.
- 2. North Plains
  - a. Revised seismic drawings delivered with additional information for strap attachment. Alternate detail 1A/S8.01added to drawing package.
- 3. Hillsboro High School
  - a. Raise curbs and vents to accommodate new flashing heights.
  - b. Install new drain bowls at 4 remaining drain locations.
  - c. New construction drawing with proposed tapered layout submitted and attached.
- Peter Boscow
  - a. Wet insulation replacement polyisocyanurate insulation and .5" fiber board to match existing insulation height, 1 ply Burmastic Composite Ply HT set in Burmastic SF adhesive.
  - b. Remove existing metal wall panels with scupper cut-outs to allow for coating

application and reinstall after completed.

c. Remove all surface mounted reglet flashing and install flat, cross-broken wall metal with removable skirt.

1

- d. Thermal scan requirement deleted from scope of work. HSD will scan the roofs separately.
- 5. LC Tobias
  - a. Wet insulation replacement polyisocyanurate insulation and .5" fiber board to match existing insulation height, 1 ply Burmastic Composite Ply HT set in Burmastic SF adhesive.
  - b. Walkways to be applied using AlphaGuard BIO Top Coat.
  - c. Replace existing metal caps at sleeper curbs with new sheet metal caps.
  - d. Thermal scan requirement deleted from scope of work. HSD will scan the roofs separately.

## **B.** ADDITIONAL WORK:

- 1. Peter Boscow
  - a. Provide alternate price for installing new sheet metal coping and cross broken wall panels at roof area 5.
- 2. LC Tobias
  - a. Provide alternate price for removal of existing sheet metal coping.

### C. ADDITIONAL INFORMATION

- 1. North Plains
  - a. Roof Area 3: Plywood Deck; .5" Wood Fiber; BUR, Flood Coat & Gravel



EXHIBIT 2

# STRUCTURAL CALCULATIONS

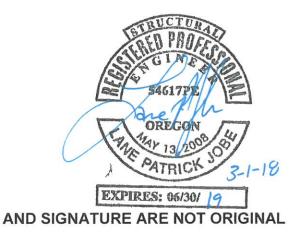
North Plains Elementary School Seismic Improvements and Fall Protection Work Area, 1992 Addition Address: 32030 NW North Avenue, North Plains Client: Tremco Inc. Roofing and Building Maintenance

> March 1, 2018 Project No. 171530 12 pages

Principal Checked: Kmm

# THE CALCULATIONS ARE VOID IF SEAL

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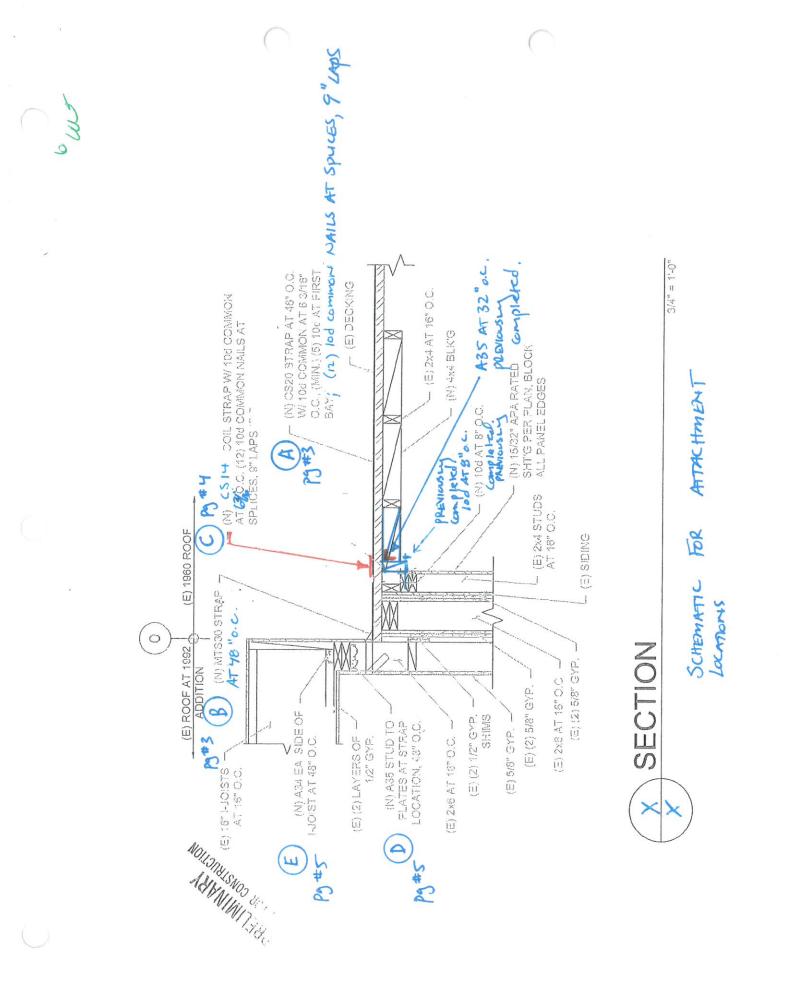
\*\*\* LIMITATIONS \*\*\*

Miller Consulting Engineers, Inc. was retained in a limited capacity for this project. This design is based upon information provided by the client, who is solely responsible for accuracy of same. No responsibility and or liability is assumed by or is to be assigned to the engineer for items beyond that shown on these sheets.

Engineering Practical, Diverse, Structural Solutions Since 1978 9570 SW Barbur Blvd., Suite 100 Portland, Oregon 97219-5412 Phone (503) 246-1250 Fax (503) 246-1395 www.miller-se.com

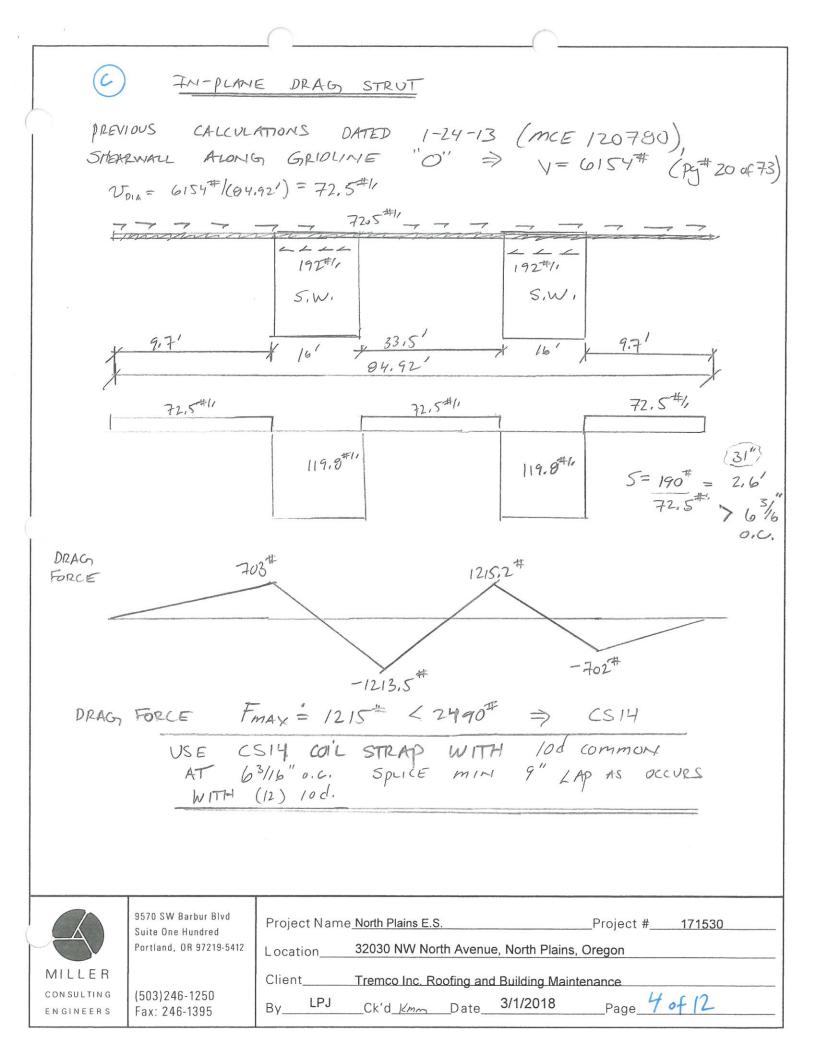
		×				\				
Building Code:	2014 Oregon Strue	ctural Specialty C	ode							
Soils Report	No Soil	s Report by:		N/A		Dated:	N/A			
Soil Bearing	: 1500 PSF			Retaining Walls:	No					
Equivalent Fluid	Pressure (active):	N/A	PCF	Passive bearing	g:	N/A	PCF	Friction:	N/A	
Structural System	: Building Structure									
Vertical System	: Existing 1992 Constr	uction		Lateral Sys:	Existing 1992 Co	Instruction		-		
	Element	Roof	Floor	Corridor	Garage					
	Load Type	Dead	Dead	Dead	Dead					
Basic Design	Value (PSF)	15	15	15	10					
Loads:			Floor Live	Corridor Live	Deck Live					
						2.4				
			1000	1						
Lateral Design Par	ameters:									
				Wind Spe	ed (3 sec Gust):	130	MPH			
		Exposure	С	_						
Importance Factors				I <sub>S</sub> =		l <sub>i</sub> =		R	isk Cat: IV	
	(ice w/ win	d)	(seismic)		(snow)		(ice)			
Seismic Design										
Seisine Design				8	Latitude:	45.602441		7		
Seismic design para	meters are based on p	ublished			Longitude:	123.006155				
values from the USC	GS web site.				2% PE in 50 years, 0	2 sec SA = Ss		_		
					2% PE in 50 years, 1	0 sec SA = S1				
Seismic Parameters	from previous seismic	upgrade								
calculations complet	ed in 2012 are as follow	ws:			(Site class B para	ameters are indic	ated on th	is page, for a	ctual site class	
Sds=0.7										
Sd1=0.41							U			
Soil Reprid   NA   Date:   NA     Soil Bearing:   1500   PSP   Relation Walk:   NA   PCF     Editivater Fluid Pressure (active):   NA   PCF   Passive bearing:   NA   PCF     Soil Bearing:   NA   PCF   Passive bearing:   NA   PCF   Prictor:   NA     Soil Bearing:   Editivation   Lateral Syst: Exciling 1992 Construction     Lateral Design   Lateral Design Passives:   Dated   Dated   Dated   Construction     Value (PSP)   15   15   16   100   Loss:   Loss:   Mint Design Passives:   North History:										
Solie Report     No.     Date:     NA.     POR       Solie Report     100     Prof.     Retaining Value:     NA     PCF     Passive bearing:     NA     PCF     Findulary Value:     NA     PCF     Findulary Valu										
Soil Report   Boils Report   NA   PCF   Relating Wills: No   Date: NA     Equivalent Fluid Pressure (active):   NA   PCF   Passible bearing:   NA   PCF   Fination:   NA     Structural System:   Details:   NA   PCF   Passible bearing:   NA   PCF   Fination:   NA     Structural System:   Details:   NA   PCF   Passible performance   NA   PCF   Fination:   NA     Structural System:   Details:   NA   PCF   Passible performance   NA   PCF   Fination:   NA     Basic Design:   Detail:   Detail:   Detail:   NA   PCF   Passible performance   NA     Under Serie:   Defail:   Detail:   Detail:   Defail:   NO   Defail:   Defail:   NO     Under Serie:   Defail:   Defail: <td< td=""></td<>										
Soil Report   Boil Report by:   NA   Date:   NA     Soil Report Into   PSF   Relative Marine Walks:   NA   PCF   Paskve bearing:   NA   PCF   Product System:   Product System:   NA   PCF   PCF   Product System:   PCF   Product System:										
	ng Engineers, Inc. is no	ot responsible for	waterproofing, flas	shing, protection o	f the building enve	elope or work as	designed a	and/or provid	ed by other	
building trades.										
Seile Report   No   Soile Report   NA   PCF   Retaining Wolfs;   No   Dated:   NA     Editionation Full Pressure (active):   NA   PCF   Passive bearing:   NA   PCF   Fricture 3 system:     Structure 3 system:   Design 1992 Construction   Lateral System:   Design 1992 Construction   Lateral System:   Design 1992 Construction     Lateral System:   Design 1992 Construction   Lateral System:   Design 1992 Construction   Lateral System:   Design 1992 Construction     Lateral Design Pasameters:   Use of 1992 10 0   Doed   Doed   100   40     Under Design:   Science Control of Use 10 Design 1000 Line   Lateral Design 1000 Line   C   100   Lateral Design MCH     Elsemic Design   C   C   Wind Speed (2 see Gust):   100   Lateral Design MCH   Lateral Design MCH   Lateral Design 1000 Line   Lateral Design 1000 Line   C(500 Vinfo)   Risk Cat:   M     Selemic Design   Lateral Design 1000 Line   C(500 Vinfo)   Risk Cat:   M     Selemic Des										
Soil Report   Boil Report   INA   Date:   NA     Soil Bearing:   1900   PSF   Returning Walls:   NA   PCF   Pretrieting Walls:   NA     Bailt Design   Editional Presson (Edition):   NA   PCF   Passive bearing:   NA   PCF   Pretrieting Walls:   NA     Bailt Design   Edition (1922 Conduction)   Laters! Sys:   Edition (1922 Conduction)   Laters! Sys:   Edition (1922 Conduction)     Laters!   Sys:   Edition (1922 Conduction)   Laters! Sys:   Edition (1922 Conduction)   Laters!   Sys:   Edition (1922 Conduction)     Laters!   Date   Total   PCF   Pretriction Conduction										
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		Location	32030 NIM No	th Avenue Not	h Plains					
	Portland, OR 97219	Location.	32030 1400 140	nin Avenue, Non						_
MULER		01	T							
	(503)246-1250	Client:	I remco Inc. Ro	ooting and Buildi	ng Maintenance					_
	FAX: 246-1395								7	12
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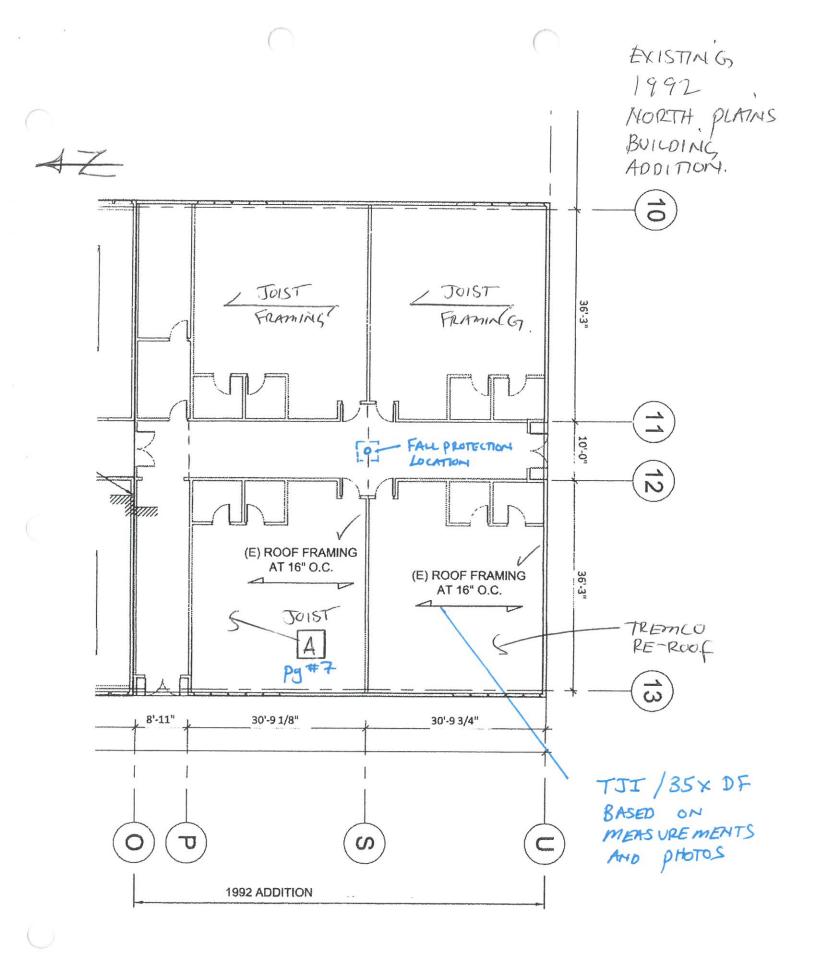


2 of 12

1992	ADDITION	TO TIE TO 1960 WEST WING
Roof	MASS => [	36.25'(2) + 10'][70,5'][15psF] = 87,244#
$\frac{1992 \text{ ADDITION} \text{ TO THE TO } 1960 \text{ WEST WINJEG}}{\text{Roof } \text{MASS} \Rightarrow \left[ 36.25'(2) + 10' \right] \left[ 70, 5' \right] \left[ 15 \text{ psf} \right] = 87,244' \\ \perp \text{ WALLS} \Rightarrow (8 \text{ psf}) (13'_{2}) (36.25') (3) = 5655^{\text{H}} \\ \neq = 92895^{\text{H}} \\ \text{MININTIE PER ASCE } 7-10  12.1.3 \\ 0.1335_{\text{DS}} \text{W}_{\text{P}} \text{ OR } 57_{0} \text{W}_{\text{P}} \\ 0.25_{\text{DS}} \text{W}_{\text{P}} = (0.2)(0.7)(92895^{\text{H}}) = 13006^{\text{H}} \text{ CONTROL} \\ 0.05 \text{W}_{\text{P}} = (0.05)(92895^{\text{H}}) = 4645^{\text{H}} \\ \text{TIES AT } 4' 0.C. \Rightarrow F_{\text{P}} = 158^{\text{H}} (4') = 632^{\text{H}} (\text{USD}) \\ \text{Fp} = 632^{\text{H}} (0.7) = 443^{\text{H}} (\text{ASD}) < 1030^{\text{H}}  475^{\text{H}} < 1030^{\text{H}} \\ \text{USE } CS20 \text{ TIES AT } 40'''_{0.C.} \text{ WITH} \text{ MININ}  4'-0'' \text{ LENG} \\ \text{TO } \frac{1960}{1960} \frac{(\text{ONSTRUCTION})}{(\text{ONSTRUCTION})} \\ \text{Netion } 413^{\text{H}} / 172^{\text{H}} \text{INFIL } 2.6 < 5 \\ \text{USE } \frac{(5)}{100} \text{ Contract} \text{ Sign } \text{MITS300 WITH} \text{ Iody} \\ \text{Fp} = 475^{\text{H}} < 0.675' \\ \text{CHECK} (N) \text{ MTS30 STRAP.} \\ \text{OK} \\ \text{Fp} = 443^{\text{H}} < 575' \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55 \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55, \text{ Cost} \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55, \text{ Cost} \\ \text{CHECK} (N) \text{ MTS30 STRAP.} \\ \text{OK} \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55, \text{COST} \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55, \text{COST} \\ \text{CHECK} (N) \text{ MTS30 STRAP.} \\ \text{OK} \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55, \text{COST} \\ \text{Fp} = 443^{\text{H}} < 575^{\text{CHECK}} = 0.55, \text{COST} \\ \text{Fp} = 473^{\text{H}} < 575^{\text{CHEC}} = 0.55, \text{COST} \\ \text{FF} = 473^{\text{H}} < 575^{\text{CHEC}} = 0.55, \text{COST} \\ \text{CHECK} (N) \text{ MTS30 STRAP.} \\ \text{TOST} = 0.55, \text{COST} \\ \text{FF} = 473^{\text{H}} < 575^{\text{CHEC}} = 0.55, \text{COST} \\ \text{FF} = 473^{\text{H}} < 575^{\text{CHEC}} = 0.55, \text{COST} \\ \text{CHECK} (N) \text{ COST} \\ \text{CHECK} \\ \text{CHECK} (N) \text{ COST} \\ \text{CHECK} (N)  COST$		
2=	92895#	
MIN.	TIE PER A	SCE 7-10 12,1.3
0.13	33505 Wp	OR 5% Wp
0.2	$S_{ps}W_p = (0, 0)$	$(2)(0.7)(92999^{\#}) = 13006^{\#} \iff Controls$ $(92899^{\#}) = 4645^{\#}$
Fp=	13006# /82.	5'=> 158+11
TIES	AT 4'0.	$C_{,} = F_{p} = 158^{\# 1/2}(4') = 632^{\#}(USD)$
10d (	отток Э	Z'= 172#/NAIL (1030#/6NAILS)
NREG	0= 443 <sup>#</sup> /172 <sup>#</sup>	INAIL = 2,6 < 5 USE (5) /oc common FIRST BAY
	9,5'+1-	Fp= 443# < 595# A35 CLIP. O.K.
	B 32#	USE MTS30 AT 48"O.C. WITH (14) IOd × 1/2 PER STRAP AHD A35 CLIP AT 48"O.C.
A	9570 SW Barbur Blvd Suite One Hundred Portland, OR 97219-5412	Project Name North Plains E.S. Project # 171530 Location 32030 NW North Avenue, North Plains, Oregon
MILLER CONSULTING ENGINEERS	(503)246-1250 Fax: 246-1395	Client <u>Tremco Inc. Roofing and Building Maintenance</u> By LPJ Ck'd Kmm, Date 3/1/2018 Page 3 of 12
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	D	V= 475 <sup>#</sup> ∋	<695# A35 (LIPS AT 48"	D.C. O.K.
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		9570 SW Barbur Blvd	Project Name <u>North Plains E.S.</u>	Project # <u>171530</u>
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EXISTING JOIST CAPACITY VERIFICATION CONT'D APPERES EXISTING ROOF JOISTS MOST LIKELY TRUS JOIST TJI/35X DE ARE ACCEPTABLE 16" O.C. SPACING FOR REPLACEMENT ROOF 51/2 PSF (DEAD LOAD ABY DECKING) 9570 SW Barbur Blvd Project Name\_North Plains E.S. Project #\_\_\_\_171530 Suite One Hundred Portland, OR 97219-5412 Location 32030 NW North Avenue, North Plains, Oregon MILLER Client\_\_\_\_\_ Tremco Inc. Roofing and Building Maintenance CONSULTING Page 8 of 12 (503)246-1250 \_\_\_\_Ck'd\_ Knimy Date 3/1/2018 LPJ Βv ENGINEERS Fax: 246-1395

# **TJI Joist Section Properties**

			Maximum Resistive Moment ( 1)			Ma	iximum Resistive Shea	r (2)	El TJI Joist	El (3) TJI Jolst with Nailed Plywood	EI (3) TJI Joist with Gue-Nailed Plywood
	Joist	Depth	100%	115%	125%	100%	115%	125%	Only	Floor Sheathing	Floor Sheathing
	Series	(in.)	(FtIbs.)	(Fllbs.)	(FtIbs.)	(lbs.)	(lbs.)	(lbs.)	10 <sup>6</sup> lbs. in. <sup>2</sup>	10 <sup>6</sup> lbs. in. <sup>2</sup>	10 <sup>6</sup> lbs. in. <sup>2</sup>
	TJI/35X	10	4 165	4790	5205	1565	1795	1955	250	284	312
	TJI/35X	12	5270	6065	6585	1750	2010	2185	385	434	472
	TJI/35X	14	6360	7340	7975	1935	, 2225	2415	550	615	667
	TJI/35X	16	7490	8615	9360	2 120	2435	2650	745	828	895
	TJI/35X	18	8605	9900	10755	2305	2650	2880	970	1075	1158
	TJI/35X	20	9725	11185	12155	2490	2860	3110	1230	1358	1460
	TJI/35X	22	10845	124/5	13555	26/0	3070	3335	1524	1678	1801
	TJI/35X	24	11965	13760	14955	2785	3200	3480	1950	2031	2177
DOW.	TJI/35X	26	13085	15050	16355	2900	3335	3625	2115	2318	2481
22	TJI/35X	28	14205	16340	17755	2900	3335	3625	2615	2861	3057
9	TJI/35X	30	15330	17630	19160	2930	3335	3625	3055	3336	3562
	TJI/55E	12	8 180	94 10	10225	1750	2010	2 185	597	652	696
	TJI/55E	14	9905	11395	12380	1935	2225	24 15	354	927	986
	TJI/55E	16	11640	13390	14550	2120	2435	2650	1161	1255	1332
	TJI/55E	18	13375	15385	16715	2335	2650	2880	1519	1637	1732
	TJI/55E	20	15120	17390	18900	2490	2860	3110	1931	2076	2 192
	TJI/55E	22	16860	19390	2 1075	2670	3070	3335	2397	2572	2711
	TJI/55E	24	186 10	21405	23260	2735	3200	3480	2919	3 126	3290
	TJI/55E	26	20360	234 15	25450	2950	3390	3685	3499	3740	3929
Wob	TJI/55E	28	22110	25430	27635	3030	3480	3785	4140	4417	4633
	TJI/55E	30	23855	27435	29815	3115	3580	3890	4340	5155	5397
	TJI/55	12	10 130	11650	12660	1750	2010	2 185	716	773	8 19
	TJI/55	14	12265	14 105	15330	1935	2225	2415	1025	1102	1162
2	TJI/55	16	144 10	16575	18010	2 120	2435	2650	1393	1492	1571
	TJI/55	18	16560	19045	20700	2305	2650	2880	1823	1947	2045
5	TJI/55	20	18720	21530	23400	2490	2860	3110	2317	2458	2590
	TJI/55	22	20875	24010	26090	2670	3070	3335	2876	3057	3204
	TJI/55	24	23040	26500	28800	2785	3200	3480	3503	3720	3892
	TJI/55	26	25210	28995	3 15 10	2950	3390	3685	4200	4452	4654
Web	TJI/55	28	27375	31485	34215	3030	3480	3785	4968	5251	5490
	TJI/55	30	29540	33975	36925	3115	3580	3890	5810	6141	6408

Maximum Resistive Moment values may be increased 4% for repetitive member usage.
For possible increases in shear capability refer to NER 200.
For deflect on calculation only.

(ONT'C

#### **Repetitive Member Design**

Structural wood products used repetitively can be shown to share loads between adjacent members, increasing the total load carrying capacity of the system.

The criteria for increases in flexural stresses for repetitive member usage is as follows:

- 1) 3 or more members are adjacent.
- 2) Member spacing is 24" on center or less.
- 3) The members are joined by tranverse load-distributing elements (decking) adequate to support the design load.

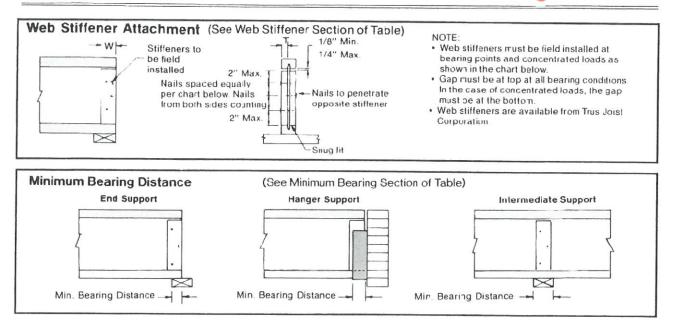
Products with greater consistency, such as MICRO=LAM lumber, logically are given less

credit for repetitive member increases; therefore, it has been determined that the increase in flexure shall be 7% for products utilizing machine stress rated grades of solid sawn lumber and 4% for products utilizing MICRO=LAM lumber.

Increases, where appropriate, are so indicated in the load tables.

Legacy Literature See Note on Front Cover

# Web Stiffeners / Bearing Distances



					Web Stiffene	r Requirements				Min. Bearin	ng Distance
-	End Support or Hanger Support		Intermediate TJI Joist Support		Web Stiffeners Required at Concentrated	Number of Nails	Min, Web	Nin. Web Stiffener	End Support	Intermediate	
	TJI Joist Depth/Series	Web Stiffeners Required?	Number of Nails Required	Web Stiffeners Fequired?	Number of Nails <sup>(1)</sup> Required	Loads Greater Than (LBS.)	Requirec at Concentrated Load	Stiflener Width "W" (Inches)	Thickness "T" (Inches)	or Hanger Support <sup>(2)</sup> (Inches)	TJI Joisl (1) Support (Inches)
	10 TJI 35X	Yes	3-8d	Yes	3-81	605	2-8d	2-5!16"	3/8 m	2"	3%"
	12 TJI 35X	Yes	3-8d	Yes	3-81	710	2-8d	2-5!16"	26"	2%"	3%"
	14 TJI 35X	Yes	4-8d	Yes	6-81	810	3-8d	2-5/16"	76"	25"	31/5"
	16 TJI 35X	Yes	5 8d	Yes	7-81	915	5-8d	2.5! 16"	76"	2"*"	3%
	18 TJI 35X	Yes	6-8d	Yes	8-81	1015	3-8d	2-5! 16"	56"	215"	5%"
	20 TJI 35X	Yes	6-8d	Yes	9-81	1115	4-8d	2-5,'16"	5a.	23	5%
	22' TJI/35X	Yes	7-8d	Yes	11-Ed	1220	4-8d	2-5/16"	5g"	3"	5%"
	24 TJI 35X	Yes	8-8d	Yes	12-8d	1320	4-8d	2-5,'16"	76"	3"	51/2"
	26 TJI 35X 28 TJI 35X	Yes	8-8d	Yes	12-Ed	1385	5-8d	35"	3/4" **	3%	7"
n		Yes	8-8d	Yes	12-8d	1450	5-8d	35"	34.14	31/2"	7"
ő		Yes	8-8d	Yes	12-8d	1450	6-8d	312"	3:4 ** 0	3%"	7"
	10 TJI 55E 55	Yes	3-10d	Yes	3-1Cd	610	2-10d	35"	1%"	2	312"
	12 TJI 55E 55	Yes	3-100	Yes	3-10d	/10	2-10d	312"	1%"	2	3',2"
	14 TJI 55E 55	Yes	4-10d	Yes	6-10d	B10	2-10d	315"	1%"	2	3',"
	16 TJI/55E 55	Yes	5-10d	Yes	7-10d	985	2-10d	312"	1%	2	3',"
	18 TJI 55E 55	Yes	6-10d	Yes	h01-8	1080	2-10d	35"	1%	2'4"	3'>"
	20 TJI 55E 55	Yes	6-10d	Yes	9-100	1180	2.10d	312"	1%*	217	5'"
	22 TJI 55E 55	Yes	7-10d	Yes	11-100	1280	2-10d	3%"	116"	2'	5',"
	24' TJI/55E/55	Yes	8-10d	Yes	12-100	1375	2-10d	31/2"	1152	3	5'3"
ام	26" TJI: 55E / 55 28" TJI/ 55E / 55	Yes	5-10d	Yes	11-10d	1475	2·10d	31/2"	152	3'."	7"
\$	28 TJI/55E/55	Yes	6-10d	Yes	11-10d	15 15	2·10d	315"	1%"	3'.	7.
	30 TJI 55E 55	Yes	6-10d	YES	12-10d	1560	2-10.1	315"	115	315"	7"

(1) Dimensions shown are for maximum load. Specific application may permit reduction in this criteria. (2) The minimum bearing length may be reduced for joists supported by hangers it supplemental nai attachment to the end web stiffener is provided.

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\*Web stiffener should be 34" MICRO = LAM lumbar or equivalent stiffress.

Legacy Literature See Note on Front Cover

BLOCKING TO WEB CONNECTION of ULTIMATE -(N) 12 " 3153 (20) SDS 1/4×3/2 SCREWS 12 NITIS 13" (4) HGA10 3" EACH END OF 2" BEAM. C 3" +1p. 13/4×14 2.0E LVL NREGO. = 3153\*  $\frac{3153^{*}}{\begin{bmatrix} 157^{*}(1.6)(2/2.42) \end{bmatrix}} = 15.18 \angle 20$  $\begin{bmatrix} 157^{*}(1.6)(2/2.42) \end{bmatrix}$ USE (20) SDS <sup>11</sup>4 × 3<sup>1</sup>2 WOOD SCREWS MICRULAM BLOCKING RIPPED to FIT. BETWEEN EXISTING FLANSES TYP. (42" LONG) BLOCKING TO WEB OF EXISTING TJI  $M = 3153^{\#} (2.5')/4 = 1970^{\#'} < 6103^{\#'} (1.6) = 9765^{\#'} a.k.$   $Y = 3153^{\#} < 3552^{\#}$   $X = 0 \text{ for } 0 \text{ fo$ Y = 3153 \* < 3552 \* 2 INCLUDES CO = 1.6 IX13 2.0E LVL MICROLLAM BLOCKING RIPPED FROM 1314×14 15 ACCEPTABLE Project Name\_\_\_\_North Plains E.S. 9570 SW Barbur Blvd 171530 Project # Suite One Hundred 32030 NW North Avenue, North Plains, Oregon Portland, OR 97219-5412 Location Tremco Inc. Roofing and Building Maintenance MILLER Client CONSULTING (503)246-1250 LPJ 3/1/2018 Page 12 . F12 Ck'd Kmm Date By\_ Fax: 246-1395 ENGINEERS