J O N E S 📕 J O N E S

ARCHITECTS LANDSCAPE ARCHITECTS PLANNERS

105 SOUTH MAIN STREET SUITE 300 SEATTLE, WASHINGTON 98104 USA p 206 624 5702 • f 206 624 5923

MEMORANDUM

25 May 2021 DATE

PROJECT NAME	Seattle Indian Health Board Leschi Fence
SDIC PERMIT PROJECT NUMBER	#6813506
ARCHITECT CONTACT	Megan Nielsen Hegstad mnhegstad@jonesandjones.com
DISTRIBUTED TO	Seattle Department of Construction and Inspections 700 Fifth Ave Suite 2000 P.O. Box 34019 Seattle, WA 98124-4019

CORRECTIONS

ORDINANCE

No	Item	Res	ponse
01	Description of Proposed Work	•	Complete.
02	Site Plan	•	Complete.
03	Scale Drawings (existing and proposed)	•	Complete.
04	Construction Details	•	Complete.
05	Photographs of existing features.	•	Complete.
06	Photo of color/material samples.	•	Photo of boar
07	Lighting Specifications	•	N/A
08	Statement of Owner Consent	•	Owner's repre

- 09 Fee
- Please upload a comprehensive packet with the site plan, existing AC conditions photos, the sample photo of the board form concrete, 1 updated plans/drawings/construction details and specifications
- under "Plan set". You do not need to reattach the corrections response document.

- rd form concrete attached.
- Owner's representative has confirmed this ٠ has been received.
- Owner's representative has confirmed all ٠ fees have been paid by the owner and there are no outstanding unpaid fees.
- Packet attached. •

- AC Specifications for the proposed graffiti coating. We do not have a
 recommendation other than for a product that will work well with the board form concrete material.
- AC Payment of the application fee. Payment can be made through the3 Seattle Services Portal.
- AC From March corrections notice: Per our recent conversation, I also advise submitting a narrative describing the options that had been explored and why this is the preferred alternative. As we discussed, staff has concerns about the opacity of the wall and likelihood of it becoming a canvas for graffiti. I am concerned that the design of the wall is not consistent with intent of Chapter 23.66 of the land use code, due to the length blank façade. Optional designs that

allow greater visual porosity are recommended.

- Graffiti coating manufacturer specifications attached. This product or equal will be applied to all exposed faces of the fence.
- Will be provided by Owner.
- Concrete is needed for the safety of the staff and patients at the non-profit clinic as it serves the needs of the community.
- Our review of 23.66.336 indicates the • proposed fence is in keeping with the intent of the chapter and with the adjacent conditions. The proposed concrete material is within the B.1 noted selection of earthen materials. The gray color is found nearby in the adjacent building and bridge structures in keeping with B.2. The textured board form concrete surface is noted as preferred per B.3. B.4 is followed at the primary street facades along S Weller Street and 12th Avenue S. Our understanding is that 23.66.336 B.4. does not apply as the fence location is not the primary street facade. The fence is located at the rear of the property facing a path and the interstate.
- Over time the proposed trellis plantings are anticipated to grow up the North face of the wall and over the South face of the wall, further softening the appearance of the wall within the landscape.
- Graffiti coating is proposed to alleviate concerns of graffiti on the wall prior to the plants growing in.
- Other materials were considered and found to not be appropriate to the life safety needs of the location. The current chainlink does not meet the safety needs. Wood and porous metal can both be graffiti painted as well and are not bulletproof. Lexan can be painted and is beyond the available budget of the nonprofit Owner serving the community.

END OF CORRECTIONS

Attachments:

Requested compiled document package



AERIAL SITE VIEW



COLORED CONCRETE STUCCO ACROSS 12TH.



CONCRETE FENCES VISIBLE ACROSS BRIDGE.





WELLER AND 12TH.

TRANSPARENCY MAINTAINED AT PRIMARY STREET FRONTS ALONG

FENCE SITE IS ON A PATH, NOT A PRIMARY STREET FRONT



SITE NOT VISIBLE FROM DEARBORN STREET BELOW



SCALE AND COLOR WILL BLEND WITH ADJACENT SURROUNDINGS



SITE NOT VISIBLE FROM DEARBORN STREET BELOW



SCALE AND COLOR WILL BLEND WITH ADJACENT SURROUNDINGS







DASHED LINE NOTES APPROXIMATE LOCATION OF CAST IN PLACE CONCRETE WALL TO REPLACE EXISTING BLACK FENCE.



BASE MATERIAL FINISH: BOARD FORM CONCRETE WITH MATTE ANTI-GRAFFITI COATING



OVER TIME NORTH FACE GREEN TRELLIS PLANTS ARE ANTICIPATED TO GROW OVER TO SOUTH FACE OF WALL.



BEFORE YOU DIG. www.washington811.com

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MEMORANDUM

DATE 28 March 2021

CORRECTIONS

ORDINANCE

No Item

- *O1* Scale drawings (elevations and sections) showing the existing conditions and separate scale drawings showing the proposed work on both and east and south facades.
 - a. Include the location of the building and any trees or landscaping present along the length of the property line in the elevations (sheet A100)
 - b. We had discussed the SPD recommendation of stepping the wall on the east side, but that is not reflected in the plans. We also discussed fire access. Have you had the chance to consult with the Fire Department and are any modifications proposed in response to the feedback?

Response

 a. See A100 Site plan shows existing trees and notes that 1 existing tree will be removed. All others to remain. Existing and proposed elevations show the same.

b. See A100 Elevations show the new proposed lowering of the wall to the east of the site for the width of the parking lot. Per the previous design, the beginning of the wall is still set back 20'-10" from east sidewalk. And per email from Roland Falb on behalf of the SFD FMO Plan review, "We are not staffed to provide a site visit as you requested. I searched the SDCI permit data base and found the construction permit for this project. The SDCI did not route the plans to the Fire Department for review because the Seattle Fire Code doesn't apply to this project. After a look at the plans I can confirm that the Seattle Fire Code does not apply to this project and we have no concerns regarding the project."

- *02* Since the elevation shows diagonal marks for the trellis wires on the north face, it's not clear what the south face will look like. Please provide an enlarged detail. Will the panels have visible connections between them.
- See A100 Elevations updated annotations. The trellis wires are on the north face, the south face will be CIP boardformed concrete with an anti graffiti coating. There will be no visible connections, as it is cast in place. The "panels" are where the concrete wall steps down to accommodate slope in grade at a regular interval.

- *03* The foundation plan on sheet 4 suggests that the foundation may impact existing plantings and trees, not shown in elevation on sheet A100. Please confirm how the plans will impact existing plantings. If trees or other landscaping needs to be altered, that should be included in your application.
- *04* Sheet S2.01, detail 5 shows a stepped condition, but I don't see the notation else where in the plans. Please provide details about where this step will occur.
- 05 Is there a graffiti coating? If so, please provide specifications
- 06 Updated, signed statement of owner consent form signed by both the owner and the applicant.
- *07* Payment of the application fee. Payment can be made through the Seattle Services Portal.

END OF CORRECTIONS

Attachments:

Updated Drawing Set and statement of owner consent

- See updated A100 site plan and elevations. Existing trees have been noted on the elevations (they were noted on the site plan previously). Site plan notes have been updated to reflect 1 existing tree to be removed, the rest to remain.
- The stepping of the footing will occur as the wall steps to accommodate the change in slope in grade as shown in the elevations.
- There will be. We have not chosen a specific one yet. Is there one recommended by ISRD. It will be clear.
- attached
- Will be paid by SIHB

ABBREVIATIONS

FP FIREPROOF

PSI

@ AT Ø DIAMETER OR ROUND # POUND OR NUMBER AB ANCHOR BOLT ABE AVERAGE BUILDING ELEVATION ABV ABOVE ACT ACOUSTIC TILE ACW ALUMINUM-CLAD WOOD AD AREA DRAIN ADJ ADJUSTABLE, ADJACENT AFF ABOVE FINISH FLOOR AHJ AUTHORITY HAVING JURISDICTION AHU AIR HANDLING UNIT ALT ALTERNATE ALUM/AL ALUMINUM AP ACCESS PANEL APPD APPROVED APPROX APPROXIMATE ARCH ARCHITECTURAL ASF ABOVE SUBFLOOR AVG AVERAGE BAL BALANCING BD BOARD BE BATH FAN EXHAUST BEL BELOW BEY BEYOND **BLDG** BUILDING BLK BLOCK, BLOCKING BM BENCH MARK BO BOTTOM OF BOT BOTTOM BRK MTL BRAKE METAL BTWN BETWEEN CSC CHIEF SEATTLE CLUB C to C CENTER TO CENTER CAB CABINET CAP CAPACITY CG CORNER GUARD CHT BABY CHANGING TABLE CIP CAST-IN-PLACE CJ CONTROL JOINT CL CENTERLINE CLG CEILING CLKG CAULKING CLO CLOSET CLR CLEAR CMU CONCRETE MASONRY UNIT COL COLUMN CONC CONCRETE COND CONDITION CONN CONNECTION CONST CONSTRUCTION CONT CONTINUOUS CONTR CONTRACTOR CORR CORRIDOR/CORRUGATED CPT CARPET CT CERAMIC TILE CTR CENTER CUST CUSTOM CWP CLEAR WALL PANEL D DEEP (DIM)/DRYER DE DRYER EXHAUST DEPT DEPARTMENT DET/DTL DETAIL DF DRINKING FOUNTAIN **DIA** DIAMETER DIAG DIAGONAL **DICA** DRILLED-IN CONC ANCHOR DIM DIMENSION DIR DIRECTION DIV DIVISION DN DOWN DP DAMPROOFING DO DITTO DOM DOMESTIC DR DOOR DS DOWNSPOUT (EXTERIOR) DW DISHWASHER DWG DRAWING (E) EXISTING E EAST EA EACH EL ELEVATION ELEV ELEVATOR ELEC ELECTRICAL EMER EMERGENCY EMR ELEVATOR MACHINE ROOM EQ EQUAL EQJ EARTHQUAKE JOINT EQPT EQUIPMENT EPL EMERGENCY PATHWAY LIGHTING EST ESTIMATE; ESTIMATED EW EACH WAY EXC EXCAVATED EXH EXHAUST EXIST EXISTING EXP EXPOSED EXPANEXPANSION EXT EXTERIOR FAB FABRICATED FB FLUSH BEAM FC FIBER CEMENT COMPOSITE FD FLOOR DRAIN FE FIRE EXTINGUISHER FF FINISH FLOOR/ FACTORY FINISHED

FRM	FROST PROOF HOSE BIB FRAMING	PSI PT PRESS	P
PAN			F
FRZR	FIRE RETARDANT FREEZER	PTN	P
FSD	FULL SIZE FIRE SEPARATION DISTANCE	QTR QTY	Q Q
	FOOT OR FEET FOOTING	R	R
	GAUGE	RB RD	R R
GALV	GALLON GALVANIZED	REC REF	R R
GFI	GENERAL GROUND FAULT INTERRUPTER	REFR REINF	
CON	GLASS FIBER REINFORCED	REQD RET	R R
GND	GLASS GROUND	REV RF	R R
GR	GOVERNMENT GRADE	RFG RH	R R
GWB	GALVANIZED SHEET METAL GYPSUM WALL BOARD	rigid Rl	R R
GYP		RM RND	R R
HC	HOSE BIB HANDICAP/HOLLOW CORE	R/O RO	R R
HDR	HEAD/HEAVY DUTY HEADER	ROW RUB	R R
HDWR	HARDWOOD HARDWARE	RWL	R
	HOLLOW METAL	S SALV	
HOR/	HOLLOW	SAM SBC	
HP	HORIZONTAL HIGH POINT	SCHE	
HT	HOUR HEIGHT	SCW SD	S
	HOT WATER HEATER	SECT SF	S
ID	INTERNATIONAL BUILDING CODE INSIDE DIAMETER INCHES	SH SHT	S S
INCL	INCLUDE (D) (ING)	SHTG SID	S S
INSUL	INCREASE INSULATION	SIM Sl	S S
INTM	INTERIOR INTERMEDIATE	SPEC	S
	INTUMESCENT INVERT	SPRT SQ	S
JST JT	JOIST JOINT	SST STC	S
L	LONG/LENGTH	STD STIFF STL	
LAM	LAMINATE LAVATORY	STOR STFNT	S
LE	LAUNDRY FAN EXHAUST LEFT HAND	STRUC	
LIN	LINEAR/LINEAL LOCATION	SUSP SYM	S
	LOW POINT	SYS	
LTG	LIGHTING LEVEL	T T & G	T T
	MATERIAL	T-STA TC	T T
MAX MC	MAXIMUM MEDICINE CABINET	TD TEL	
	MEDIUM DENSITY FIBERBOARD MECHANICAL	TEMP TEM	
	MEMBRANE MANUFACTURER	thk Thru	
	MINIMUM MISCELLANEOUS	то тос	Т
MO	MOLDING MASONRY OPENING	top Toil	Т
MOT MTD	MOTORIZED MOUNTED	TOP TOP	۰C
MET/M	I TL METAL	TOSF TOW	T
N (N)	NORTH NEW	TP TRANS	SL
NAT NEG	NORTH NEW NATURAL FINISH NEGATIVE NOT IN CONTRACT	TRTD TV	Т
NIC NO or a	NOT IN CONTRACT # NUMBER	TWP TYP	
	NOMINAL NOT TO SCALE		
	OVERALL	UNFIN UNO/U	
OD	ON CENTER OUTSIDE DIAMETER	VAP VAR	
ОН	OVERFLOW DRAIN OPPOSITE HAND/OVERHEAD	VAR VB VCT	V
OPNG	ORDINARY HIGH WATER OPENING	VENT VERT	V
OVHD	OPPOSITE OVERHEAD	VERT VEST VFY	V
	OPEN-WEB STEEL JOIST OUNCE	VIF	
(P) P	PROPOSED FIELD PAINTED		V V
(NO	FIELD PAINTED T FACTORY FINISHED) PARALLEL	VS VTR	V V
PART	PARALLEL PARTITION PRECAST	w	W
PERF	PRECAST PERFORATED PERPENDICULAR	W/ W/O	W W
PKG	PARKING PLATE/PROPERTY LINE/PLASTIC	WAIN WC	N N
	PLASTIC LAMINATE	WD WDW	W W
PLY	PLYWOOD PANEL	WSEC WGL	W
PNT	PAINT(ED) POLISH/POLISHED	WH WIND	N N
PPL	POLISH POLISHED POLISHED PLATE PAIR	WP WR	N N
PREFA	B PREFABRICATE(D)	WRB WS	N N
PROJ	PROJECT/PROJECTION PROPERTY	WT WWM	N N
	PROXIMITY	YD	Y

POUNDS PER SQUARE INCH POINT/POINT OF TANGENCY	
SSURE TREATED	\bigwedge
FIELD PAINTED OT FACTORY FINISHED)	X
PARTITION	
QUARTER QUANTITY	
RISER/RADIUS/RESISTANCE	
RUBBER BASE	$\langle X (Ax.x) \rangle \rangle$
ROOF DRAIN RECEIVE	
REFERENCE R REFRIGERATOR	
F REINFORCED	↓ X'−X"
D REQUIRED RETURN	
REVERSE/REVISED/REVISION ROOF	
ROOFING	$\overline{\mathbf{X}}$
RIGHT HAND D RIGID INSULATION	X.XXX
RAIN LEADER (INTERIOR) ROOM	
ROUND	
RANGE/OVEN ROUGH OPENING	X'-X"
RIGHT-OF-WAY RUBBER	
RAINWATER LEADER (INDOORS)	
SOUTH	
/ SALVAGE (D) SELF-ADHESIVE MEMBRANE	
IBC w/ SEATTLE AMENDMENTS SOLID CORE	
ED SCHEDULE	
SOLID CORE WOOD SMOKE DETECTOR	
SECTION	S.FEC
SQUARE FEET / STOREFRONT SHELF	
SHEET S SHEATHING	
SIDING	R.FEC
SIMILAR SLOPE	
SEALANT SPECIFICATIONS	
SPORT FLOORING (RUBBER)	F.ANN.
SQUARE STAINLESS STEEL	
SOUND TRANSMISSION CLASS STANDARD/STUD	×
F STIFFENER	, A
STEEL R STORAGE	
I T STOREFRONT J CT STRUCTURAL	XXX
SUBSTITUTE	\sim
SUSPENDED SYMMETRICAL	X
SYSTEM	
TOP/TREAD/TOILET/TEMPERED	
G TONGUE&GROOVE AT THERMOSTAT	
TOP OF CURB TRENCH DRAIN	X.X >
TELEPHONE	
TEMPORARY/TEMPERATURE/ MPERED	
THICK(NESS) J THROUGH	$\langle \chi \rangle$
TOP OF	
TOP OF CONCRETE P OF CURB	
TOILET TOPPING/TOP OF PLATE	X
P OF PARAPET TOP OF SUBFLOOR	
TOP OF WALL	\smile
TOP OF PAVEMENT ISL TRANSLUCENT	×
D TREATED TELEVISION	
TRANSLUCENT WALL PANEL	X.XXX
TYPICAL	
UNDERWRITERS' LABORATORY N UNFINISHED	
UON UNLESS NOTED OTHERWISE	{X #}
VAPOR BARRIER	
VARIES/VARIABLE VINYL BASE	X'-X" 🔔
VINTL DAGE VINYL COMPOSITION TILE VENTILATION	FINISH FLOOR LEVEL
r ventical	
VESTIBULE VERIFY	
VERIFY IN FIELD	DOR.NO
VERTICAL GRAIN VOLATILE ORGANIC COMPOUNDS	
VOLUME VINYL SHEET/SHEET VINYL	
VENT THROUGH ROOF	
WEST/WIDE/WASHER	
WITH WITHOUT	
N WAINSCOT	
WATER CLOSET WOOD	
/ WINDOW C WASH. STATE ENERGY CODE	
WIRE GLASS	
WALL HUNG WINDOW	
WATERPROOF(ING) MEMBRANE WATER REPELLENT	
WEATHER RESISTANT BARRIER WEATHERSTRIP	
WEIGHT	
N WELDED WIRE MESH	

WELDED WIRE MESH

YD YARD DRAIN

GENERAL NOTES

FG FINISH GRADE

FEC FE CABINET

FIN FINISH(ED)

FLASHFLASHING

FLEX FLEXIBLE

FOC FACE OF CONCRET

FOIC FURNISHED BY OWNER

INSTALLED BY CONTRACTOR

FOM FACE OF MASONRY FOS FACE OF STUD

FOF FACE OF FINISH

FLR FLOOR

FP FACTORY PRIME PAINTED

FS FEDERAL SPECIFICATION

- ALL WORK SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF THE SEATTLE EXISTING BUILDING CODE (SEBC) (ADOPTED THE 2015 INTERNATIONAL EXISTING BUILDING CODE), AND ALL OTHER APPLICABLE CODES
- CONTRACTOR SHALL FIELD CHECK ALL DIMENSIONS AND VERIFY LOCATION OF WORK WITH THE ARCHITECTS. NO SCALE MEASUREMENTS SHALL BE USED AS DIMENSIONS FOR WORK. LARGER SCALED DETAILS AND DRAWINGS SHALL TAKE PRECEDENCE OVER SMALLER. NOTIFY THE ARCHITECT WHENEVER DIMENSION DISCREPANCIES ARISE.
- CONTRACTOR IS SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITION OF THE JOB SITE, INCLUDING SAFETY, PROTECTION OF THE PROPERTY, AND THE LIKE DURING PERFORMANCE OF THE WORK
- CONTRACTOR SHALL PROVIDED METHODS, MEANS, AND FACILITIES REQUIRED TO PREVENT CONTAMINATION OF SOIL, WATER OR ATMOSPHERE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE OWNER'S WORK AND/OR SUPPLIED ITEMS THAT ARE FURNISHED BY OWNER AND INSTALLED BY CONTRACTS OR ARE NOT IN CONTRACT, BUT ARE ATTACHED TO THE CONTRACTOR'S WORK.
- 6. BUILDING IS TO BE FULLY SPRINKLERED.

- 8. DRAWINGS ISSUED FOR CONSTRUCTION PRIOR TO FINAL PERMITTING APPROVAL ARE SUBJECT TO REVISIONS. VERIFY CONSTRUCTION DOCUMENTS CONFORM TO PERMIT DRAWINGS BEFORE PROCEEDING WITH WORK. NOTIFY ARCHITECT WHENEVER DISCREPANCIES ARISE.
- 9. DIMENSIONS ARE TO: FACE OF MASONRY (FOM), FACE OF CONCRETE (FOC), OR FACE OR STUD (FOS) UNLESS NOTED OTHERWISE (UNO)
- DIMENSIONS INDICATED AS CLEAR (CLR) OR FINISH (FIN) ARE TO FINISH FACE. 10. GRADING MUST BE STABILIZED BY OCTOBER 31. NO EXCAVATION TO BE PERFORMED BETWEEN OCTOBER 31
- AND APRIL 1 WITHOUT AN APPROVED DRY SEASON GRADING EXTENSION LETTER FROM DPD.
- CONFIRMATION BY EARTHWORK SUBCONTRACTOR.

GRAPHIC SYMBOLS

BUILDING ELEVATION

INTERIOR ELEVATIONS

SPOT ELEVATION

DETAIL BUBBLE

CEILING ELEVATION

STRUCTURAL GRID BUBBLE

SURFACE MOUNTED FIRE EXTINGUISHER CABINET

RECESSED FIRE EXTINGUISHER CABINET

FIRE ALARM REMOTE ANNUNCIATOR

BUILDING SECTION LOCATOR

WALL SECTION LOCATOR

WALL TYPE

WINDOW TYPE

DETAIL CUT

DETAIL CUT

FLOOR HEIGHT TRANSITION

DATUM LINE (R)

DOOR TAG

KING COUNTY ASSESSOR'S PARCEL NUMBERS 3170100415

PROJECT LOCATION 611 12TH AVE. S. SEATTLE WA, 98104

PROJECT DATA

LEGAL DESCRIPTIONS SYNDICATE ADD POR TR DESG SYNDICATE RIDGE DAF - BEG NE COR LOT 2 BLK 5 SYNDICATE ADD TH E ALG ELY EXT OF N LN SD LOT 2 133 FT TO TPOB TH S AT R/A TO SD N LN 107 FT TH E 18 FT TH S 50 FT TH E 27 FT TH S 83 FT TO S LN SYNDICATE RIDGE (N LN S LANE ST) TH N 89-59-32 E ALG SD N LN S LANE ST 252 FT TH N 0-0-32 E 239.96 FT TO S LN S WELLER ST TH W ALG SD S LN 297.04 FT TO TPOB AKA PARCEL 2 SEA LLA 8604774 REC 8701020310

ZONING DMC 85/75-170

SDCI PROJECT # 6813506 (BUILDING PERMIT)

PROJECT DESCRIPTION INSTALLATION OF THE NEW FENCE ALONG THE SOUTH AND EAST PROPERTY LINES PER PLAN

DIRECTORY

<u>OWNER</u> Seattle Indian Health Board 611 12th Ave S Seattle, WA 98104 Ryan Gilbert T: 206.324.9360 Ext.1106 E:ryang@sihb.org

ARCHITECT Jones and Jones 105 South Main Street Suite 300 Seattle, WA 98104 T 206.624.5702 E: hhargesheimer@jonesandjones.com

Heather Hargesheimer

GENERAL CONTRACTOR

STRUCTURAL ENGINEER Lund Opsahl 1201 First Ave South Suite 310 Seattle, WA, 98134 T:206.402.5156 E: sroberge@lundopsahl.com

Shawn Roberge

7. ALL FURRED WALLS SHALL HAVE VERTICAL AND LATERAL DRAFTSTOPS PER SBC.

11 DESTINATION OF EXCAVATION SOILS TO BE DETERMINED. DPD WILL BE NOTIFIED OF DISPOSAL SITE AFTER

DRAWING INDEX

GENERAL G001 COVER SHEET

SURVEY

ARCHITECTURAL A100 NEW AND EXISTING PLAN AND ELEVATIONS

STRUCTURAL S101 S201

STRUCTURAL GENERAL NOTES FENCE FOUNDATION PLAN AND DETAILS

VICINITY MAP

SITE













GENERAL REQUIREMENTS

SUMMARY OF WORK

Project consists of cast in place footings for new non-structural pre-cast concrete security walls as shown on these Contract Documents used in coordination with the Architectural and other discipline's documents.

GOVERNING CODE

All design and construction shall conform to the 2015 International Building Code and local jurisdiction amendments.

Reference to ASTM and other standards shall refer to the latest edition designated by IBC Chapter 35. Refer to the specifications for information in addition to that covered by these structural notes and drawings.

DOCUMENTS

Structural Documents shall be used in conjunction with Architectural Documents for all bidding and construction. Drawings indicate general and typical details of construction. Typical details and general notes shall apply even if

not specifically denoted on plans, UNO. Where conditions are not specifically indicated similar details of

construction shall be used, subject to review and approval by the Architect and the SER. Existing structural information, designated as (E) on the structural drawings, has been compiled from information furnished by various sources and is not necessarily field-verified by the engineer. Dimensions relating to existing structures are intended for use as guidelines only; all dimensions shall be field-verified by the contractor prior to start of construction. Notify the Architect of any discrepancies.

These Contract Documents and any materials used in preparation of them, including calculations, are the exclusive property of the SER and can be reproduced only with the permission of the SER.

WARRANTY

The SER has used that degree of care and skill ordinarily exercised under similar circumstances by members of the profession in this locale and no other warranty, either expressed or implied, is made in connection with rendering professional services.

OWNER RESPONSIBILITY

The owner shall retain a Special Inspector to perform the special inspection requirements required by the building official and as outlined in the Special Inspection section below.

DESIGN CRITERIA

BUILDING CATEGORY Structural Risk Category II

Importance factors for snow and seismic are listed with the loading criteria.

LATERAL LOADS - WIND

Numbering below is per IBC Section 1603.1.4: 1. Ultimate Design Wind Speed (3-second gust): V_{ult} = 110 mph

- Nominal Design Wind Speed: V_{asd} = 85 mph 2. Risk Category: II
- 3. Wind Exposure: B 4. Internal Pressure Coefficient = +/- 0.18

Additional Info:

- 5. Topographic factor: $K_{zt} = 1.37$ 6. Directionality factor: $K_d = 0.85$ 7. Enclosure classification: Open
- 8. Gust Effect Factor: G = 0.85
- 9. Design Base shear: V = 1.632 kips 10. Analysis procedure: Directional

LATERAL LOADS - EARTHQUAKE

- Numbering below is per IBC Section 1603.1.5: 1. Risk Category: II
- 2. Seismic Importance Factor: $I_e = 1.0$
- 3. Mapped Spectral Response Acceleration Parameters: $S_s = 1.411 \text{ g};$ $S_1 = 0.492 \text{ g}$ 4. Site Class: D; $F_A = 1.0$; $F_V = 1.5$
- 5. Design Spectral Response Acceleration Parameters: $S_{DS} = xxx g$; $S_{D1} = xxx g$
- 6. Seismic Design Category: D 7. Design Base Shear: 4.4 kips
- 9. Seismic Response Coefficient: $C_S = 0.452$
- 10. Response Modification Coefficient: R = 2.511. Analysis Procedure: Equivalent Lateral Force Procedure

Additional Items:

Building Location: 47.5972829° N, -122.3179333° W Wall Height = 10 feet

CONTRACTOR PERFORMANCE REQUIREMENTS

DESIGN DOCUMENTS

Contractor shall verify all dimensions and all conditions at the job site, including building and site conditions before commencing work, and be responsible for same. All discrepancies shall be reported to the Architect before proceeding with work. Any errors, ambiguities and/or omissions in the contract documents shall be reported to the Architect immediately, in writing. No work is to be started before correction is made.

Contractor shall verify and/or coordinate all dimensioned openings and slab edges shown on the contract documents. Some dimensions, openings and embedded items are shown on the structural drawings. Others may be required. Refer to architectural drawings for size and location of curbs, equipment pads, wall and floor openings, architectural treatment, embeds required for architectural items and dimensions. Refer to mechanical, plumbing, electrical and fire protection drawings for size and location of all openings for ducts, piping, conduits, etc. Submit openings to architect for review.

Do not scale drawings. Use only field verified dimensions. When electronic plan files are provided for the Contractor's detailing convenience, it shall be noted that the electronic files are not guaranteed to be dimensionally accurate. The Contractor uses them at their own risk. The published paper documents are the controlling Contract Documents. Electronic files of detail sheets and notes will not be provided.

CONTRACTOR-INITIATED CHANGES

Contractor-initiated changes shall be submitted in writing to the Architect for review and acceptance prior to fabrication or construction. Changes shown on shop drawings only will not satisfy this requirement.

INSPECTIONS

The Contractor shall coordinate with the building department for all building department required inspections. **TEMPORARY SHORING AND BRACING**

The Contractor shall provide temporary bracing as required until all permanent connections and stiffening have been installed. The Contractor is responsible for the strength and stability of all partially completed structures including but not limited to concrete or masonry walls, steel framing and erection aids. The Contractor shall, at their

discretion, employ the aid of a licensed Structural Engineer to design all temporary bracing and shoring necessary to complete the work described in these contract documents. The Contractor shall be responsible for all required safety standards, safety precautions and the methods, techniques, sequences or procedures required in performing their work. For concrete construction refer to ACI 318 - Section 26.11.2 "Removal of Formwork".

SAFETY PROCEDURES

Contractor shall be responsible for all safety precautions and the methods, techniques, sequences or procedures required to perform the Contractor's work. The Structural Engineer has no overall supervisory authority or actual and/or direct responsibility for the specific working conditions at the site and/or for any hazards resulting from the actions of any trade contractor. The Structural Engineer has no duty to inspect, supervise, note, correct, or report any health or safety deficiencies to the Owner, Contractors, or other entities or persons at the project site.

SHOP DRAWINGS AND SUBMITTALS

SHOP DRAWING & SUBMITTAL REVIEW (including Deferred Structural Components) The contractor must review and stamp the shop drawings & submittals for review. SER will only review submittals for items shown on SER documents. Submittals for Deferred Structural Components will receive cursory review by SER for loads imposed on primary structure. SER will review shop drawings for general conformance with design concept of the project and general compliance with the information given in the Structural Contract Documents. Review of submittals does not constitute approval or acceptance of unauthorized deviation from Contract Documents.

Corrections or comments made on shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications.

Contractor responsible for:

- Reviewing, approving, stamping and signing submittals prior to submittal to Architect and SER • Timing submittals to allow two weeks of review time for the SER and time for corrections and/or resubmittal
- Conformance to requirements of the Contract Documents
- Dimensions and guantities • Verifying information to be confirmed or coordinated
- Information solely for fabrication, safety, means, methods, techniques and sequences of construction
- Coordination of all trades

Resubmittals shall be clouded and dated for all changes to the submittal. Only clouded portions of resubmittal will be reviewed and SER's review stamp applies to only these areas.

SUBSTITUTIONS

Substitutions shall be submitted in writing prior to submittal of shop drawings. Shop drawings bearing substitutions will be rejected. Submit engineering data to substantiate the equivalence of the proposed items. The SER's basic services contract does not include review of substitutions that require re-engineering of the item or adjacent structure. Nor does the SER's contract cover excessive review of proposed substitutions. The fees for making these reviews and/or redesign shall be paid by the contractor. Reviews and approvals shall not be made until authorization is received.

SHOP DRAWINGS AND SUBMITTALS (con't)

SUBMITTALS

- processed by the SER, the Contract Documents control and shall be followed. Construction sequence description
- Contractor quality control testing procedures when required in specifications
- Concrete mix designs
- Concrete construction joint plans Concrete accessories material specification, size and location
- Fabrication shop AISC Certification

INSPECTIONS

INSPECTIONS BY BUILDING OFFICIAL The building official, upon notification, shall make structural inspections as required by local ordinance. The inspection by the building official per IBC Section 110 will be separate from and in addition to the special inspection and structural observation mentioned subsequently.

SPECIAL INSPECTIONS

A Special Inspector shall be hired by the owner to perform the following special inspections per IBC Section 1704. See the specifications for additional requirements for special inspection and testing. The architect, structural engineer, and building department shall be furnished with copies of all inspection reports and test results.

Each contractor responsible for the construction of a seismic force resisting system, designated seismic system, or component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner prior to the commencement of work on the system or component. The written statement shall be in accordance with IBC Section 1704.4.

See IBC Chapter 17: "Special Inspections and Tests" for more detailed requirements.

SPECIAL INSPECTIONS AND TESTS OF SOILS (PER IBC 1705.6)

Varification and Inspection	Frequency		Reference	
Verification and Inspection	Cont.	Periodic	Reference	
Verify materials below shallow foundations are adequate to achieve the design bearing capacity		Х		
Verify that excavations are extended to proper depth and have reached proper material		Х		
Perform classification and testing of compacted fill materials		Х		
Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill	Х			
Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly		Х		

SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION (PER IBC 1705.3)

Verification	and	Inspecti
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pect reinforcement and verify	[,] placeme

Verifying use of required design mix

Prior to concrete placement, fabricate spe perform slump and air content tests, and temperature of the concrete

Inspection of concrete and shotcrete place application techniques

Verify maintenance of specified curing te

Inspect formwork for shape, location and concrete being formed

Shop drawings and material submittals shall be submitted to the Architect and SER prior to any fabrication or construction for the following structural items. Submittals shall include one reproducible and one copy; reproducible will be marked and returned. If deviations, discrepancies, or conflicts between shop drawings submittals and the contract documents are discovered either prior to or after shop drawing submittals are

	Frequ	uency		
tion	Cont.	Periodic	Reference	
nent		х	IBC 1908.4 ACI 318: 20, 25.2, 25.3, 26.6.1-3	
		X	IBC 1904.1, 1904.2, 1908.2, 1908.3, ACI 318: CH. 19, 26.4.3, 26.4.4	
pecimens for strength tests, d determine the	Х		IBC 1908.10 ACI 318: 26.4, 26.12 ASTM C172, C31 Seattle DCI DR 14-2014	
acement for proper	Х		IBC 1908.6, 1908.7, 1908.8 ACI 318: 26.5	
emperature and techniques		Х	IBC 1908.9 ACI 318: 26.5.3- 26.5.5	
d dimensions of the		Х	ACI 318: 26.11.1.2(b)	

GEOTECHNICAL

GENERAL CRITERIA

Allowable soil pressure and lateral earth pressure are assumed and therefore must be verified by a Geotechnical Inspector or the building official. If soils are found to be other than assumed, notify the Structural Engineer for possible foundation redesign.

Unless noted otherwise, footings shall be centered below columns or walls.

INSPECTIONS

All prepared soil-bearing surfaces shall be inspected by the owners Geotechnical Inspector (or building official) prior to placement of reinforcing steel and concrete. Inspections shall be made per IBC Table 1705.6.

BEARING VALUES

All footings shall bear on undisturbed soil and shall be lowered to firm bearing if suitable soil is not found at elevations shown. Exterior footings shall bear a minimum of 18" below the finished ground surface. Footing elevations shown on plans (or in details) are minimum depths and for guidance only; the actual elevations of footings must be established by the Contractor in the field working with the Geotechnical Inspector.

Allowable vertical bearing soil pressure = 1,500 psf

SUBGRADE PREPARATION Prepare subgrade per the Geotechnical Report, summarized as follows: All footings shall be cast on undisturbed firm natural soils that are free of organic materials. Footing excavation shall be free of loose soils, sloughs, debris and free of water at all times. If organic silt and/or fill material is encountered at subgrade elevations, overexcavate a minimum of 2'-0" below the design foundation subgrade elevation prior to placing footings. The overexcavated areas shall be backfilled with structural fill compacted to 95% proctor per ASTM D-1557 or a

EXISTING UTILITIES

lean concrete mix.

The Contractor shall determine the location of all adjacent underground utilities prior to any excavation, shoring, pile driving, or pier drilling. Any utility information shown on the plans and details are approximate and not verified by the SER. Contractor is to provide protection of any utilities or underground structures during construction.

DRAINAGE

Drainage systems, including foundation, roof and surface drains, shall be installed as directed by the Geotechnical Report. Vapor retarder placed below slab-on-grade shall conform to ASTM E 1643 and ASTM E

RETAINING WALLS

Grade on either side of concrete walls shall not vary by more than 12", UNO. Slope of backfill shall not exceed 2H to 1V, UNO. Backfill behind all retaining walls with free draining, granular fill installed per the Geotechnical Report. Provide for subsurface drainage. Design pressures used for the design of retaining walls are based on drained conditions.

Active earth pressure (restrained/unrestrained) = 50/35 PCF

Passive earth pressure = 350 PCF Coefficient of friction (factor of safety of 1.5 included) = 0.35

Provide temporary shoring for tops of walls if backfill is placed prior to the supporting structure being constructed. Supporting structure is the floor framing and sheathing completely installed and attached to perpendicular walls.

CONCRETE

Portland cement:	Type 1, ASTM C150
Fly ash (if used):	ASTM C618 class F or C
Slag cement (if used):	ASTM C989
Lightweight aggregates:	lightweight aggregates shall not be used without prior approval of SER and building department
Normal weight aggregates:	ASTM C33
Sand equivalent:	ASTM C33
Water:	Potable per ASTM C94
Air entraining admixtures:	ASTM C260
Chemical admixtures:	ASTM C494
Flowable concrete admixtures:	ASTM C1017

Durability requirements of concrete mixes shall conform to building code. These requirements include watercementitious material ratios, minimum compressive strengths, air entrainment, type of cement, and maximum chloride ion content.

CONCRETE STRENGTH REQUIREMENTS TABLE

Location	Strength f'c Ana Size		Max W/C	Total Air	Exposure Categories and Classes			
	(psi)	Agg Size	Ratio	Content	F	S	w	с
Foundations, stem walls	4,000	1"	0.44	4.5%	F1	SO	W0	C1

CONCRETE MIXTURES

Mixes shall be proportioned to meet compliance requirements of ACI 318 Section 26.4.3. Slump, W/C ratio, admixtures and aggregate size will be determined by the contractor. Submit documentation of concrete mixture characteristics for review by the SER before the mixture is used and before making changes to mixtures already in use. Documentation shall comply with ACI 318 Section 26.4.4 or City of Seattle Director's Rule 11-2014.

All concrete, including slab on grade, shall contain an acceptable water-reducing admixture conforming to ASTM C494 and be used in strict accordance with the manufacturer's recommendations.

All concrete which is exposed to freezing and thawing in a moist condition or exposed to deicing chemicals shall contain an air entraining agent, conforming to ASTM C260. Total air content shall be adjusted per ACI 318 for mix designs with smaller nominal aggregate size. The amount of entrained air shall be measured at the discharge end of the placing nozzle. Entrained air shall be as noted ± 1.0% by volume. Air-entrainment shall not be used at slabs that will receive a smooth, dense, hard-troweled finish.

Trucks hauling plant-mixed concrete shall arrive on-site with a field ticket indicating the maximum gallons of water that can be added at the site not to exceed the total water content in the approved mix design.

Concrete shall be deposited as nearly as practicable in its final position to avoid segregation due to rehandling or flowing. Concrete shall be thoroughly consolidated by suitable means during placement and shall be thoroughly worked around reinforcement, embedded items, and into corners of forms.

FORMWORK AND ACCESSORIES

Concrete construction shall conform to ACI 301 "Specifications for Structural Concrete" and the Building Code, including testing procedures. See specifications and/or architectural documents for formwork requirements. Installation shall adhere to ACI 301. Conduits and pipes of aluminum shall not be embedded in concrete construction.

See architectural drawings for exact locations and dimensions of door and window openings in all concrete walls. See mechanical drawings for size and location of mechanical openings through concrete walls. See architectural drawings for all grooves, notches, chamfers, feature strips, color, texture, and other finish details at all exposed concrete surfaces, both cast-in-place and precast. See structural details for reinforcing around openings.

Contractor shall submit the proposed locations of construction joints to the Architect for acceptance before starting construction. Erico Lenton Formasaver (IAPMO-UES-ER-0129) may be used as an alternate to the roughened joint. All construction, control, and isolation joints for slabs on ground shall be in accordance with the typical details.

Concrete accessories and embedded items shall be coordinated with Architectural and all other Contract Documents and suppliers' drawings before placing concrete. Wet-setting of anchor rods, reinforcing, hardware, etc. is not allowed in concrete. Anchor rods, reinforcing, hardware, etc. shall be firmly tied in place prior to concrete placement.

Refer to Architectural documents for waterstops, damp proofing, and soil retaining wall drainage requirements at concrete and at concrete joints (construction joints, slab to wall joints, curb to slab joints, etc).

CURING AND FINISHES

Protect and cure freshly placed concrete per ACI 305.1 in hot conditions, ACI 306.1 in cold conditions, and ACI 308.1 " Specification for Curing Concrete". All exposed edges and corners shall have 3/4" chamfer, UNO. Concrete flatwork shall be sloped to provide positive drainage. Coordinate finish with architectural contract documents.

At the time of application of finish materials or special treatment to concrete, moisture content of concrete shall conform to requirements in finish material specifications. Where vapor sensitive coverings are to be placed on slabs on grade, conform strictly to slab covering manufacturer's recommendations regarding vapor retarder and granular fill requirements below the slab.

CONCRETE CRACK MAINTENANCE

Cracking occurs in concrete structures due to inherent shrinkage, creep, and the restraining effects of walls and other structural elements. Most cracking due to shrinkage and creep will likely occur over the first two years of the life of the structure; further concrete movement due to variations in temperature may persist. Cracks that result in water penetration will need to be repaired to protect reinforcing. Other cracking may be repaired at the owner's discretion for aesthetical reasons or performance of applied finishes. Prior to repairing cracks, a structural engineer should be consulted to provide direction on which cracks to repair and on whether observed cracks may affect the strength of the structure.

PROCEDURES

Bars shall be bent cold.

SFR Mechanical connection of continuous reinforcing bar shall be used where shown on documents and may be substituted for lap splices if approved by the SER. Such connections shall develop at least 125% of the specified yield strength of the bar. Acceptable connectors shall be the Erico Lenton Plus Standard Coupler (ER-3967),

Bars partially embedded in concrete shall not be field bent, unless specifically so detailed or approved by the

Dayton Superior Bar-Lock L Series (ER-5064), or approved equal.

not permitted.

REINFORCEMENT IN CONCRETE AND MASONRY

REINFORCING STEEL

Reinforcing steel shall conform to ASTM A615 (including supplement S1), Grade 60, Fy = 60,000 psi, except any bars specifically so noted on the drawings shall be Grade 40, Fy = 40,000 psi.

Reinforcing steel shall be detailed (including hooks and bends) in accordance with ACI 315 "Details and Detailing of Concrete Reinforcement". Lap all reinforcement in accordance with "The Reinforcing Splice and Development Length Schedule" on these documents. If table is not provided, lap all reinforcing by 40 bar diameters. Provide corner bars at all wall and footing intersections.

Reinforcing steel shall be adequately supported to prevent displacement during concrete and grout placement.

Welding or tack welding of reinforcing bars to other bars or to plates, angles, etc, is prohibited, except where specifically approved by the SER. Where welding is approved, it shall be done by AWS/WABO-certified welders using E9018 or approved electrodes. Welding procedures shall conform to the requirements of AWS D1.4. Any Grade 60 reinforcing bars indicated on drawings to be welded shall conform to ASTM A706. Reinforcement complying with ASTM A615 (S1) may be welded only if material property reports indicating conformance with welding procedures specified in AWS D1.4 are submitted. Welding within 4" of cold bends in reinforcing steel is





^{6.} Refer to concrete cover table for minimum concrete cover requirements.

9 Reinforcing Bar Lap Splice & Development Length Tables

Reinforcing Bar Location	Minimum Concrete Cover
s cast against and permanently exposed to earth	3"
xposed to earth or weather (#6 bars and larger)	2"
xposed to earth or weather (#5 bars and smaller)	1 1/2"
ns w/ bars enclosed in stirrups, ties or spiral reinforcement	1 1/2"
terior faces of walls (#11 bars and smaller)	3/4"
r slabs	(Refer to plan notes)
veen longitudinal bars in columns and boundary elements	1 1/2" or 1.5db
veen parallel bars in a layer	1" or db
veen (2) or more parallel layers	1"

1 C = 4,000						
Bar Size		lice Lengths Ls)	Developm	aight Bar ent Lengths Ld)	Min Hooked Bar Embedment Lengths	
	Top Bars	Other Bars	Top Bars	Other Bars	(Ldh)	
#3	25"	19"	19"	15"	8"	
#4	32"	25"	25"	19"	10"	
#5	41"	31"	31"	24"	12"	
#6	49"	37"	37"	29"	15"	
#7	71"	54"	54"	42"	17"	
#8	81"	62"	62"	48"	19"	
#9	91"	70"	70"	54"	22"	
#10	102"	79"	79"	61"	25"	
#11	114"	87"	87"	67"	27"	









STRUCTURAL CALCULATIONS

#20-192-01

Security Wall and Site Features 611 12th Ave, Seattle, WA 98104

for Jones and Jones Architects Landscape Architects Planners

Feburary 1, 2021





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Client			Project No.	

Designer AC

Date 2/



12/17/2020

ATC Hazards by Location

Search Information

Address:	611 12th Ave S, Seattle, WA 98144, USA
Coordinates:	47.5972829, -122.3179333
Elevation:	169 ft
Timestamp:	2020-12-17T20:03:16.371Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



Basic Parameters

Name	Value	Description
S _S	1.411	MCE _R ground motion (period=0.2s)
S ₁	0.492	MCE _R ground motion (period=1.0s)
S _{MS}	1.693	Site-modified spectral acceleration value
S _{M1}	* null	Site-modified spectral acceleration value
S _{DS}	1.129	Numeric seismic design value at 0.2s SA
S _{D1}	* null	Numeric seismic design value at 1.0s SA

* See Section 11.4.8

Additional Information

Name	Value	Description
SDC	* null	Seismic design category
Fa	1.2	Site amplification factor at 0.2s
Fv	* null	Site amplification factor at 1.0s
CR _S	0.901	Coefficient of risk (0.2s)
CR ₁	0.895	Coefficient of risk (1.0s)
PGA	0.602	MCE _G peak ground acceleration
F _{PGA}	1.2	Site amplification factor at PGA
PGA _M	0.723	Site modified peak ground acceleration

12/17/2020		ATC Hazards by Location
ΤL	6	Long-period transition period (s)
SsRT	1.411	Probabilistic risk-targeted ground motion (0.2s)
SsUH	1.566	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	2.957	Factored deterministic acceleration value (0.2s)
S1RT	0.492	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.55	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	1.234	Factored deterministic acceleration value (1.0s)
PGAd	1.035	Factored deterministic acceleration value (PGA)

* See Section 11.4.8

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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Project	GI	12 th	AVE	SECURITY	WALL Sheet	.a
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DETERMINE WIND PRESSURE ON PRECAST CONC. WALL ·SOLID FREESTANDING WALLS / SIGNS (ASCE 7-16, 29.3) $F = Q_h G C_f A_s$ (EQ 29.3-1) $\frac{KNOWNS}{Q_{1b}} = 0.00256 K_{2} k_{2+} k_{4} k_{6} V^{2} (1b/f_{1}^{2}) (26.10)$ G = 0.85 (26.10) $C_f = 1.5$ (Fig 29. (Fig 29.3-1) BASED ON B = B' = 0.8 A:= (10' (8') = 80 f12 (SITE PLAN ELEVATIONS) (BASED ON EXPOSURE B) (TAB. 26-10-1) K= = 0.57 K21 = 1.37 (SEATTLE WIND MAPS) (SEC 26.6) $K_{d} = 0.85$ (TA826.9-1) Ke = 1.0 V = 97 mph (SEC 26.5) $\frac{CALCS}{Q_{h} = 0.00256(0.57)(1.37)(0.85)(1.0)(97)^{2}} = 16 \text{ PSF} = Q_{h}$ $F = 16 PSF (0.85) (1.5) (80 fi^2) = 1632 \# = F$ SINCE WALL = B' LONG ASSUME DISTRIBUTED LOAD @ TOP OF WALL FROM WIND AS 1632# = 204 PLF WIND 204 PLF ALONG CONC. A SECURITY WALL 10 NAX

	A	
		JND
9	OPS	AHL

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Client					11.000		Project No.	

Designer AC

Date 12/17

WT. OF WALL . WT. OF WALL = 150 PCF (10') (8') (8"/12") = 8,000 # · FOOTING = 150 PCF (14"/12") (81) (551) = 7,000 # ETOT = 15,000 # OF THE WALL WILL RESIST OVERTURNING THIS DEAD LOAD AND SLIDING ·OVERTURNING MOMENT DUE TO SEISMIC = 2710 # (5') MTOT = 13,550 # - f+

		VE	Sheet	3
	Subject L' SHAPE F	OOTING	Page No.	
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PSAHI .	Designer A-C		Date	12/22
OFDAIL	www.lundopsahl.com Tel: 206.402.5	;156		·
CHECK FOOTING	FOR "L" SHAPE	DESIGN		
1 1	一個的方			

1.167'	SEISMIC W, WALL = 8K	=2.7K @	CENTER OF	WALL	
A 10"	WTFOOT = 7 K				
	2.5'			SELSMIC	RESISTING
EMA	OVERTURNING = 2.7 (6.167') - OVERTURNING	7*(2.5')	16.7 K-Ft =	= 24.2 k-f+	
CHECK	BEARING TIS	00 # -14 =	0.5'=e=1	M P	
SINCE	$e^{*}e^{*} < \frac{k}{6} = e_{k}$	= 5'-ö'' = 0.1	$33' \longrightarrow e$	$erg = \frac{M}{S} +$	e A
CBRG	$= \frac{7,500 \text{ H} - \text{f} \text{H}}{\left(\frac{5'(3')^2}{6}\right)}$	- +	15,000# 5' (8')	$=\frac{7,500}{53.3}$ +	375
	Corg = 516 ps	f < Pallou	u = 1500 psf	OK	









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Subject 🚽	+20-	- 192 - 01		Page No.	
Client				Project No.	
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CHECK FOOTING REINFORCING • PBRG = 1500 PSF (ASSUMED ALLOWABLE) → 1.4 (1,500)=2100 C=2.1 KSF (12") = 2.1 KLF BUT REIN. STILL OK) 1.421 $\frac{1}{2.1} = \frac{1}{2} = \frac{$ 1.42' DETERMINE MIN. REIN. $\rightarrow A_{symin} = \frac{M_{max}}{\Phi Fy (.9d)} = \frac{2.12 \text{ k} - ft (12")}{0.9 (60 \text{ k} \text{ s}i) (.9 \cdot 10.5")}$ As, min = 0.05 in2 SINCE #4 @ 12" OC = Asprov = 0.2 h2 > Asimin OK TEMP. REIN. MAY CONTROL TAB 24.4.3.2 -> MIN. REIN. = MAX (0.0018 (60,000) OR 0.0014 $e = 0.0014 \leftarrow A_{s} \Rightarrow A_{s,min} = 0.0014(12")(1.42' \cdot 12")$ $= 0.286 \text{ in}^{2}/\text{per foot span of footing}$ $= 0.286 \text{ in}^{2}/\text{per foot span of footing}$ SINCE #4 @ TOP & BOT. = Asipor = 0.2(2) = 0.4 in2 > Asimin #4 @ 12" OC TOP/BOT OK





SECTION 099600 - HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes surface preparation and the application of high-performance coating systems on the following substrates:
 - 1. Exterior Substrates:
 - a. Concrete, vertical and [horizontal] surfaces.
- B. Related Requirements:
 - 1. Section 051200 "Structural Steel Framing" for shop priming of structural steel with primers specified in this Section.
 - 2. Section 055213 "Pipe and Tube Railings" for shop priming pipe and tube railings with coatings specified in this Section.
 - 3. Section 099113 "Exterior Painting" for general field painting.
 - 4. Section 099123 "Interior Painting" for general field painting.

1.3 DEFINITIONS

- A. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- B. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- C. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product indicated.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials , from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Coatings: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

2.

- A. Mockups: Apply mockups of each coating system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each coating system.
 - a. Wall and Ceiling Surfaces: Provide samples of at least 100 sq. ft..
 - b. Other Items: Architect will designate items or areas required.
 - Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.
- C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Monochem Permashield or equal.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior High-Performance Coating Schedule or Interior High-Performance Coating Schedule for the coating category indicated.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
 - 3. Products shall be of same manufacturer for each coat in a coating system.
- C. Colors: Clear Matte Finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 - 1. Clean surfaces with pressurized water. Use pressure range of 1500 to 4000 psi at 6 to 12 inches.
 - 2. Abrasive blast clean surfaces to comply with SSPC-SP 7/NACE No. 4.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:
 - 1. SSPC-SP 7/NACE No. 4.
 - 2. SSPC-SP 11.
 - 3. SSPC-SP 6/NACE No. 3.
 - 4. SSPC-SP 10/NACE No. 2.
 - 5. SSPC-SP 5/NACE No. 1.
- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.
- H. Aluminum Substrates: Remove loose surface oxidation.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 - 1. Use applicators and techniques suited for coating and substrate indicated.

- 2. Coat surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, coat surfaces behind permanently fixed equipment or furniture with prime coat only.
- 3. Coat backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- 4. Do not apply coatings over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.
- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage to work of other trades by cleaning, repairing, replacing, and recoating, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.5 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

- A. Concrete Substrates, Vertical Surfaces:
 - 1. Graffiti Coating:
 - a. Prime Coat: Monochem Aquaseal ME12.
 - b. Intermediate Coat: Monochem Permashield Non-Sacrificial
 - c. Topcoat: Monochem Permashield Non-Sacrificial
 - 1) Monochem by Chemex Industries Inc. 3 Chattanooga Irvine, CA 92620

END OF SECTION 099600

MONOCHEM



PRODUCT DESCRIPTION:

PERMASHIELD NON-SACRIFICIAL is a one component, water based copolymer plastic coating that dries to a clear hard, non-yellowing film. It protects the surface and prevents the penetration of spray paint, marking pens, chemical attacks, crayons and lipstick into the substrate.

BASIC USES:

PERMASHIELD NON-SACRIFICIAL may be used on most interior or exterior, bare or painted surfaces. It is used for graffiti control and to protect against fog, mildew, corrosion, fumes and salt spray. It also leaves the surface easy to clean.

Product Qualifications			
Cal Green	Yes		
SCAQMD	Yes		
CARB	Yes		
LEED (New Construction)	Yes		
LEED (New Schools / CHPS)	Yes		

CALTRANS APPROVAL NUMBER: 08-09-019

The Office of Health and Safety Services has approved the use of **PERMASHIELD NON-SACRIFICIAL** by Caltrans employees.

PREPARATION:

All surfaces must be clean and dry (< 15% moisture), free from adhesion affecting contaminants like dust, dirt, oil, scale, rust, etc. Mortar joints should be sound, cracks that are larger than hairlines should be sealed/caulked or filled. Any other repairs or improvements which may be necessary to insure a sound surface must be conducted before the application of **PERMASHIELD NON-SACRIFICIAL**. All preparation, caulking of joints or cracks must be allowed to cure prior to application of **PERMASHIELD NON-SACRIFICIAL**. Alkali or efflorescence on the surface should be treated or cleaned with a neutralizing agent such as a solution of muriatic acid diluted (4:1 water: muriatic acid). Allow the surface to dry for minimum of 48 hours or until moisture level is less than 15%, before proceeding with the application of **PERMASHIELD SYSTEM**.

Free standing type walls (ex. planters, retaining walls) require that all the moisture exposed wall sides (cap, backside, and sides if applicable) be sealed from moisture to avoid hydrostatic pressure. This can be achieved with one coat of **AQUASEAL ME12** or by painting. Contact our technical department to confirm the specific application information.

NOTE: Red brick masonry or naturally stained deep colored block might show haziness after the application of **PERMASHIELD NON-SACRIFICIAL.** This accentuation is normal and expected from all film forming clear glossy coatings. Test an area for approval before proceeding with entire job.

TECHNICAL DATA: Composition Acrylic Co-Polymer Solids by Weight (ASTM D2369) 28% ±2 Density 1.032-1.044 g/cm³ Flash Point None Drying Time 30 minutes Curing Time 72-96 hours Color Clear Sheen Gloss (5400) or Low Gloss (5300) Odor Mild VOC Compliancy. <100 g/L</td> UV Resistance Excellent

APPLICATION:

STIR OR SHAKE WELL BEFORE USING

PERMASHIELD NON-SACRIFICIAL may be applied over sealed surfaces and properly primed wood and metal. Make sure to test the adhesion to each surface type prior to proceeding with the desired application.

NPAINTED MOISTURE ABSORBENT SURFACES:

- A. <u>Base Coat</u>: AQUASEAL ME12 (clear, flat, penetrating sealer) must be applied to the entire exterior elevation of unpainted/unsealed walls. It is intended for use on porous surfaces to protect against water penetration and to help neutralize alkaline on the surface. Alkaline causes cracking and flaking of paint and coatings.
 - Allow AQUASEAL ME12 to dry for 24 hours before top coating with PERMASHIELD NON-SACRIFICIAL. The approximate coverage rate: 60-110 sq/ft per gallon depending on the surface porosity. Allow the product run down 8-10 inches and backroll in all the material (Refer to Aquaseal ME12 Technical Bulletin for proper application and coverage rates).

B. <u>Top Coat</u>: Apply **PERMASHIELD NON-SACRIFICIAL** to the specified elevation where graffiti protection is desired. Apply by brush, roller, airless sprayers or conventional spray equipment at normal painting pressure with a tip size ranging from .010 to .015.

- Apply PERMASHIELD NON-SACRIFICIAL at 300-400 sq/ft per gallon, per coat, depending on the texture and porosity of the surface being top coated and the method of application.
- Two to three coats are recommended where markings are expected from pencils, pens and felt pens.
- Three to four coats are recommended where spray can paint may be expected.
- Apply enough coats of PERMASHIELD NON-SACRIFICIAL to ensure the surface is pinhole free.
- Allow 30-45 minutes in between coats. Apply succeeding coats only after the previous coating has cleared out.
- C. <u>Remover</u>: CITRUS CLEAN (9700), water base graffiti remover/cleaner.



UPDATED JULY 2014

MONOPOLE

INC

ITEM NO. 5300, 5400

- ALWAYS TEST the removal process using **CITRUS CLEAN** on each surface type and paint coating before proceeding with entire application to ensure suitability and the desired results.
- Allow the test areas to dry thoroughly before inspecting.
- Do not dilute, use-as-is over the **PERMASHIELD NON-SACRIFICIAL** coating.
- CITRUS CLEAN (9700) is the only cleaner recommended for graffiti removal with the PERMASHIELD NON-SACRIFICIAL. Spray the CITRUS CLEAN on the graffiti and allow it to set for 2 to 3 minutes (do not allow the cleaner to dry on the surface). Then use a nylon hard bristle scrub brush or scour pad, to work the cleaner into the graffiti. Spray more cleaning solution to maintain a wet surface and to remove the dissolved graffiti. Continuous wet scrubbing is the key to removing the graffiti. After the complete removal, rinse the cleaned area well with water. Do not use solvents such as M.E.K. or lacquer thinners for cleaning before using CITRUS CLEAN.

SPECIAL NOTE:

CITRUS CLEAN tends to soften **PERMASHIELD NON-SACRIFICIAL COATINGS**. This is temporary and **PERMASHIELD** will return to its original hardness when dry. For complete instructions and cautions, please refer to the **CITRUS CLEAN** technical data sheet.

PAINTED SURFACES:

If the surface is painted for the full elevation skip **AQUASEAL ME12** and conduct a test patch to ensure the proper adhesion and performance.

Caution: Painted & Stucco Surfaces

PERMASHIELD GRAFFITI RESISTANT COATINGS are clear non-yellowing products and may be used over latex painted or unpainted surfaces. However, on rare occasions certain pigmented paints and stuccos contain a biocide that may create yellowing when top coated with a clear graffiti resistant coating. Yellowing can be severe and normally appears within 3-7 days of direct sunlight exposure, particularly during hot weather.

Allowing freshly painted and stucco surfaces to fully cure (~1-2 weeks minimum for paint and 28 days for fresh stucco) before applying a clear graffiti resistant coating will minimize the effect if it is occurring. Consult the manufacturer of the paint coating and/or stucco to determine the full curing time.

To ensure proper results, we require applying a small test patch on each of the different paints and stucco surfaces prior to product application. It is very important that these test patches receive direct UV exposure. Allow the test areas 4-7 days of dry time in the direct sunlight and then check for ambering. Monopole is not responsible for yellowing, whitening, discoloration, or any other consequential damages associated with the application of our **PERMASHIELD GRAFFITI RESISTANT COATINGS**. The end-user shall determine the product's suitability and assumes all risks and liability. Under no circumstances will Monopole pay labor charges

APPLICATION GUIDELINES:

- Do not apply PERMASHIELD NON-SACRIFICIAL to non porous surfaces.
- Do not apply PERMASHIELD NON-SACRIFICIAL over oil based or glossy painted surfaces.
 PERMASHIELD NON-SACRIFICIAL must be allowed
- PERMASHIELD NON-SACRIFICIAL must be allowed to cure for a minimum of 72 hours (ideally 5 days) before exposing it to graffiti attacks.
- Do not apply heavy or overlap.
- Do not roll while the coating is drying or curing.
- No rundowns. Use a dry roller to pick up excess materials running down, otherwise **PERMASHIELD NON-SACRIFICIAL** can dry looking milky or chalky.
- Apply when the surface temperature is between 55°F and 90°F. Do not apply if rain, moisture or dew is eminent within 24 hours after application.
- Do not apply if the moisture content in the wall exceeds 15%.
- Apply at the packaged consistency.

CLEAN UP:

Clean equipment with water when materials are still wet. Use a lacquer or paint thinner.

PACKAGING:

PERMASHIELD NON-SACRIFICIAL is packaged in onegallon cans and five-gallon pails.

STORAGE:

50°F - 90° F PROTECT FROM FREEZING

SHELF LIFE:

One year in a closed container.

WARRANTY INFORMATION: MONOPOLE believes that the information in this publication is an accurate description of the typical characteristics and/or uses of the product or products. It is your responsibility to thoroughly test the product in your specific application to determine its safety and performance capabilities. Since use of this product is beyond our control, MONOPOLE, INC. cannot assume any risk or liability for results obtained when not used according to our specifications and directions. Unless MONOPOLE provides a specifically written statement of fitness for a particular use, MONOPOLE'S sole warranty is that the product will meet its current sales specifications. MONOPOLE disclaims any other expressed or implied warranties, including the warranty of merchantability and fitness for use. Your exclusive remedy and MONOPOLE'S sole liability for breach of warranty is limited to a refund of the purchase price or replacement of any product proven to be defective. In no event shall the seller be liable for any loss of profits or other consequential damages, including labor charges.



Chemex Industries, Inc.

3 Chattanooga, Irvine, CA 92620 • Phone: 714-832-8441 • Fax: 714-832-8103

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Safety Data Sheet

Monopole, Inc.

Product Name: Permashield Non-Sacrificial

Monopole Inc. encourages and expects you to read and understand the entire SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1: Identification

Product Name: Permashield Non-Sacrificial

COMPANY IDENTIFICATION

Monopole, Inc. 4661 Alger Street Los Angeles, CA 90039 Tel: (818) 500-8585 Fax: (818) 502-0818

EMERGENCY TELEPHONE NUMBERS:

Health Emergency:: (818) 500 - 8585 Poison Center....:: (800) 222 - 1222 Chemtrec....:: (800) 424 - 9300

SECTION 2: Hazard Identification

GHS Classification

Skin irritation: Eye irritation: Specific target organ toxicity: single exposure Category 2 Category 2 Category 3 (Respiratory system)

May cause skin irritation.

GHS Label Elements Hazard pictograms:

Hazard statements:

Precautionary statements:

May cause eye damage/irritation. May cause respiratory irritation. May cause drowsiness or dizziness. **Prevention:** Do not breathe dust, mist, gas, vapors or spray.

Use only outdoors or in a well-ventilated area. Wear protective gloves. In case of inadequate ventilation wear respiratory protection. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134) or regional standards. **Response:**

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.



Issue Date: January 2016

Product Code: 5300, 5400

IF IN EYES: Rinse with water for several minutes. Call a doctor or emergency medical facility if you feel unwell. If experiencing respiratory symptoms: Call a doctor ore emergency medical facility. Wash contaminated clothing before reuse. **Storage:** Store locked up. Store in well-ventilated place. Keep container tightly closed. **Disposal:** Dispose of contents and container in accordance with existing federal, state, and local environmental control laws.

SECTION 3: Composition/Information on Ingredients

Hazardous Components	% (by weight)	CAS#	Classification
Acrylic polymer(s)	25-30%	Not Hazardous	
2(2 - Butoxyethoxy)ethanol	6%	112-34-5	Skin Irritation - Category 2 Eye Irritation - Category 2 Respiratory Irritation - Category 3
Water		7732-18-5	

SECTION 4: First Aid Measures

Inhalation: Move to fresh air. If victim is not breathing, give artificial respiration. If victim's breathing is difficult, give oxygen. Call a physician.

Skin Contact: Wash skin with soap and water. Wash contaminated clothing before reuse. If skin irritation persists, call a physician.

Eye Contact: Flush eyes thoroughly with water for 15-20 minutes while holding eyelids apart. If eye irritation persists, consult a specialist.

Ingestion: Do not induce vomiting. Immediately give victim 1-2 glasses of water. Never give anything to an unconscious person. Call a physician.

SECTION 5: Fire Fighting Measures

Flash Point: Non-Flammable, Non-Combustible

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: No data available.

Fire Fighting Instructions: Wear self-contained breathing apparatus and full protective equipment.

SECTION 6: Accidental Release Measures

Personal Precautions: Use Personal Protective Equipment. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes or clothing. Material can create slippery conditions.

Environmental Precautions: Do not allow into any sewer, on the ground or into any body of water. Dike to collect large liquid spills.

Steps To Be Taken In Case Material Is Released Or Spilled: Use personal protective equipment. Cover spill with sawdust, sand, oil dry or other absorbent material. Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

SECTION 7: Handling and Storage

Safe Handeling: Use personal protective equipment. Avoid contact with eyes, skin, or clothing. Wash thoroughly after handling. Wash clothing after use. Do not store or consume food, drink, or tobacco in areas where they may become contaminted with this material. Avoid breathing vapors or mist. Ensure adequate ventilitation, especially in confined areas.

Storage Conditions: Store temperatures: 34°F - 100°F. Keep from freezing – product stability may be affected. Stir well before use. Keep container tightly closed.

SECTION 8: Exposure Controls and Personal Protection

Exposure Guidelines: Exposure Limits

Hazardous Components	CAS#	TWA (OSHA)	TLV (ACGIH)
2(2-Butoxyethoxy)ethanol	112-34-5	None Known	25 ppm

Engineering Controls: Use only with adequate ventilation.

Personal Protection – *Routine Handeling*

Eye/Face Protection: Wear safety glasses with side-shields.

Skin and Body Protection: Wear protective gloves and protective clothing.

Respirator Protection: Wear appropriate NIOSH approved respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that the limits are within recommended exposure guidelines.

Protective Clothing / Skin Contact: Where there is potential for skin contact have available and wear as appropriate impervious gloves and apron. Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing and flush affected areas with cool water.

SECTION 9: Physical and Chemical Properties

Appearance and Odor: Slight Odor, Milky White Liquid pH: 7-7.5 Boiling Point: 100°C (212°F) Water Flash Point: Noncombustible Flammable Limits: LEL: Not Applicable UEL: Not Applicable Specific Gravity (H20=1): 1.032 - 1.044 g/cm³ Water Solubility: Dilutable Evaporation Rate: <1 Water VOC: < 100 g/L

SECTION 10: Stability and Reactivity

Hazardous reactions: None known.

Chemical Stability: Stable

Materials to Avoid (Incompatibility): None known.

Hazardous Decomposition Products: Thermal decomposition may yield acrylic monomers.

Conditions to Avoid: Extremes of temperature and direct sunlight.

SECTION 11: Toxicological Information

There is no data available for this material.

SECTION 12: Ecological Information

There is no data available on the adverse effects of this material on the environment.

SECTION 13: Disposal Considerations

Environmental Precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Waste Disposal Method: Dispose of in accordance with Local, State, and Federal Regulations. Regulations may vary in different locations. DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER.

SECTION 14: Transportation Information

DOT Proper Shipping Name: Not regulated.

IATA Proper Shipping Name: Not regulated.

IMO Proper Shipping Name: Not regulated (Not dangerous for transport).

State Regulations: California - None.

Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations.

SECTION 15: Regulatory Information

Toxic Substance Control Act: All chemicals comprising this product are listed on or exempt from the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986): There are no chemical present known to the state of California to cause cancer or reproductive toxicity.

SARA 313: Section 313 of Title III of the Superfund Amendments and Reauthorization act of 1986. This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard:	Yes
Chronic health hazard:	No
Fire hazard:	No
Sudden release of pressure hazard:	No
Reactive hazard:	No

CERCLA

This material does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to the release of this material.

SECTION 16: Other Information				
NFPA	Health Hazards 1	Flammability 0	Instability 0	
HMIS	Health Hazards 1	Flammability 0	Physical Hazards 0	Personal Protection X

USER'S RESPONSIBILITY: A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions, in addition to those described herein, are required. Any health hazard and safety information herein should be passed on to your customers or employees, as the case may be.

DISCLAIMER: To the best of our knowledge, the information contained herein is accurate, but no representation, guarantee or warranty, expressed or implied, is made as to the accuracy, reliability or completeness of the information. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Monopole Inc. urges persons receiving this information to make their own determination as to the information's suitability and completeness for their particular application. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.