

#### **ADDENDUM NO. 2**

**DATE:** January 27, 2022

PROJECT: EUPTA New Transportation Facility

OWNER: The Eastern Upper Peninsula Transportation Authority

BID DATE: Friday, February 18, 2022

The following shall be incorporated into the Contract Documents dated 23 AUGUST 2021.

#### **GENERAL**

General information for bidders from Pre-Bid Meeting that occurred on January 26, 2022.

Pre-Bid Meeting Agenda Pre-Bid Sign-In Sheet Request for Information Form Sanitary Sewer EGLE Permit Wetland EGLE Permit

SR-001 Knotwood Substitution Request Approval

#### **SPECIFICATIONS**

None Issued.

#### **DRAWINGS**

#### **E-601 ELECTRICAL SCHEDULES**

Updated MCB rating to say NONE.

End of Addendum No. 2



### Pre-Bid Meeting Agenda EUPTA Transportation Facility

Architect will conduct a Prebid meeting as indicated below:

- 1. Meeting Date: January 26, 2022
- 2. Meeting Time: 1:30 PM
- 3. Location: EUTPA Transportation Facility 4001 I 75 Business Spur, Sault S Marie, MI 49783 And Zoom Meeting: 935 4393 0464, 155933
- 1. Introductions:
  - a. Owner Eastern UP Transportation Authority
  - b. Architect OHM Advisors
  - c. Structural Engineer OHM Advisors
  - d. Mechanical/Electrical Engineer OHM Advisors
  - e. Civil/Landscape OHM Advisors
- 2. Project Overview:
  - a. Demolition of Existing Structure
    - 1) Hazardous Materials within building and included in Project Manual with Quantities
    - 2) See 00 31 26 EXISTING HAZARDOUS MATERIAL INFORMATION
  - b. Main Building
    - 1) New Building
      - a) Admin Office Portion
      - b) North & South Garages
      - c) Machine Shop & Maintenance Bay
      - d) Wash Bay
  - c. Outbuilding
    - 1) Heated and Cold Storage
  - d. Site Improvements
    - 1) Well
    - 2) EGLE Wetlands Permit
  - e. Off Site Improvements
    - 1) Sanitary Sewer
    - 2) EGLE Sewer Permits
- 3. Procurement and Contracting Requirements:
  - a. Advertisement for Bids.
  - b. Instructions to Bidders.
  - c. Bidder Qualifications.
  - d. Bonds.
  - e. Insurance.
  - f. Bid Security.
  - g. Prevailing Wage
    - 1) Included in Appendix of Project Manual (page 1333 is start)
  - h. MDOT Forms
  - i. Bid Form, Attachments and Selection Criteria
  - j. Notice of Award.



- 4. Communication during Bidding Period:
  - a. Obtaining documents.
  - b. Access to Project Web site.
  - c. **Bidder's Requests for Information.** Direct all questions to the OHM Project Manager, Kevin Koets, at <a href="Mevin.Koets@ohm-advisors.com">Kevin.Koets@ohm-advisors.com</a>. Questions and answers will be shared by addendum and publicly posted on EUPTA's website at www.eupta.net.
  - d. Bidder's Substitution Request/Prior Approval Request.
  - e. Alternates
    - 1) SECTION 01 23 00 ALTERNATES
  - f. Allowances
    - 1) SECTION 01 21 00 ALLOWANCES
    - 2) Voluntary Alternates are encouraged!
  - g. Unit Prices
    - 1) SECTION 01 22 00 UNIT PRICES
  - h. Substitutions following award.
  - i. Addenda.
- 5. Contracting Requirements:
  - a. Agreement.
    - 1) 3rd Party Agreement per MDOT
  - b. The General Conditions.
  - c. Other Owner requirements.
- 6. Schedule:
  - a. Project Schedule.

January 19, 2022 Documents on Quest Pre-bid Meeting
January 19, 2022 to February 9, 2022 Respond to RFIs
February 9, 2022 Pre-Bid RFI Cut Off

February 18, 2022 Bids Due

May 26, 2023 Final Completion\*\*

\*\*Contractors to provide overall schedule duration for construction with Bids.

- b. Other Bidder Questions
- 7. Post-Meeting Addendum.



Project: EUTPA Transportation Facility Pre-bid Meeting

Project No.: 77816-21-0010

www.ohm-advisors.com Date: January 26, 2021, at 1:30 p.m.

Name	Representing	Phone (area)	E-Mail
Pete Paramski	EUPTA	906-632-2898	paramskip@eupta.net
Akemi Gordon	EUPTA	906-632-2898	agordon@eupta.net
Kevin Koets	OHM Advisors	248-506-6607	Kevin.koets@ohm-advisors.com
Amanda Porath	OHM Advisors	231-344-1153	Amanda.porath@ohm-advisors.com
Ben Hopper	J. Ranck Electric	906-630-4773	bhopper@jranck.com
Randy McGahey	McGahey Construction	906-440-6305	ashmuncreek@sbcglobal.net
Marc Jalques	Nomad Construction	906-440-0700	nomad@lighthouse.net
Chris Weber	Grand Traverse Construction	231-929-1000	cweber@grandtraverseconstruction.com
Alec LaPoint	A-Wall Masonry	906-297-8017	aleclapoint@yahoo.com
Casey Layer	Burton Excavating	906-632-2641	casey@burtonexcavating.com
Chuck Lindstrom	MDOT	906-201-1699	lindstromc@michigan.gov
Adam Case	RCL Construction Co. Inc.	517-256-7100	adam@rclconstruct.com
Jeff Roy	Roy Electric Company, Inc.	906-630-8878	royelectric@lighthouse.net
Steven Bonicatto	Gundlach Champion	906-779-2303	sbonicatto@gcfirst.com
Ricky LaHaie	E.F. Wilkinson & Sons	231-445-2815	richardl@efwilkinson.com



### REQUEST FOR INTERPRETATION (RFI)

il:
- i



### **NOTICE OF AUTHORIZATION**

Permit Number: WRP030081 v. 1 Date Issued: August 3, 2021 Site Name: 17 - Eastern UP Transportation Authority Facility - wetlands **Expiration Date: August 3, 2026** The Michigan Department of Environment, Great Lakes, and Energy (EGLE), Water Resources Division, P.O. Box 30458, Lansing, Michigan 48909-7958, under provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, specifically: Part 31, Floodplain Regulatory Authority of the Water Resources Protection. ☐ Part 301, Inland Lakes and Streams. □ Part 303, Wetlands Protection. ☐ Part 315, Dam Safety. ☐ Part 323, Shorelands Protection and Management. ☐ Part 325, Great Lakes Submerged Lands. ☐ Part 353, Sand Dunes Protection and Management. Authorized activity: Construct a new EUPTA transportation facility that will include a public bus terminal, office space, vehicle storage garages, vehicle maintenance bays, and a vehicle wash bay. Place a total of 141 cubic yards of fill in 0.08 acres of wetland for a portion of the access driveway surrounding the facility.

To be conducted at property located in: Chippewa County, Waterbody: wetland Section 24, Town 47N, Range 01W, Soo Township

All work shall be performed according to the attached plans and permit conditions.

#### Permittee:

Eastern UP Transportation Authority 4001 I 75 Business Spur Sault Ste. Marie, Michigan 49783

Issued By:

John Gustafson Marquette District Office Water Resources Division 906-203-9887

This notice must be displayed at the site of work.

Laminating this notice or utilizing sheet protectors is recommended.

Please refer to the above permit number with any questions or concerns.



# MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY WATER RESOURCES DIVISION PERMIT

Issued To:		
Eastern UP Transp 4001 I-75 Business Sault Ste. Marie, M	•	TA)
Permit No: Submission No.: Site Name: Issued: Revised: Expires:	WRP030081 v.1 HP9-P83B-P6AVA 17 - Eastern UP Transpor August 3, 2021 August 3, 2026	tation Authority Facility - wetlands
Water Resources D	, ,	epartment of Environment, Great Lakes, and Energy (EGLE), is of the Natural Resources and Environmental Protection Act, ally:
⊠ Part 303, Wetlar □ Part 315, Dam S	Safety	Part 323, Shorelands Protection and Management Part 325, Great Lakes Submerged Lands Part 353, Sand Dunes Protection and Management dplain Regulatory Authority)
Permission is hereb and permit condition  Authorized Activity	ns, to:	ttee assurance of adherence to State of Michigan requirements
Construct a new EUPTA transportation facility that will include a public bus terminal, office space, vehicle storage garages, vehicle maintenance bays, and a vehicle wash bay. Place a total of 141 cubic yards of fill in 0.08 acres of wetland for a portion of the access driveway surrounding the facility.  All work shall be performed according to the attached plans and permit conditions.		

Waterbody Affected: wetland

Property Location: Chippewa County, Soo Township, Town/Range/Section 47N01W24

#### Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee, in exercising the authority granted by this permit, shall not cause unlawful pollution as defined by Part 31 of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.

- D. All work shall be completed in accordance with the approved plans and specifications submitted with the application and/or plans and specifications attached to this permit.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with 2013 PA 174 (Act 174) and comply with each of the requirements of Act 174.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits, or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify EGLE within one week after the completion of the activity authorized by this permit.
- J. This permit shall not be assigned or transferred without the written approval of EGLE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific state act, federal act, and/or rule under which this permit is granted.
- L. All dredged or excavated materials shall be disposed of in an upland site (outside of floodplains, unless exempt under Part 31 of the NREPA, and wetlands).
- M. In issuing this permit, EGLE has relied on the information and data that the permittee has provided in connection with the submitted application for permit. If, subsequent to the issuance of a permit, such information and data prove to be false, incomplete, or inaccurate, EGLE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
- N. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents, and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representative of the permittee, undertaken in connection with this permit. The permittee's obligation to indemnify the State of Michigan applies only if the state: (1) provides the permittee or its designated representative written notice of the claim or cause of action within 30 days after it is received by the state, and (2) consents to the permittee's participation in the proceeding on the claim or cause of action. It does not apply to contested case proceedings under the Administrative Procedures Act, 1969 PA 306, as amended, challenging the permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.
- O. Noncompliance with these terms and conditions and/or the initiation of other regulated activities not specifically authorized shall be cause for the modification, suspension, or revocation of this permit, in whole or in part. Further, EGLE may initiate criminal and/or civil proceedings as may be deemed necessary to correct project deficiencies, protect natural resource values, and secure compliance with statutes.
- P. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity from EGLE. Such revision request shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by EGLE prior to being implemented.
- Q. This permit may be transferred to another person upon written approval of EGLE. The permittee must submit a written request to EGLE to transfer the permit to the new owner. The new owner must also submit a written request to EGLE to accept transfer. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties that includes all the above information may be provided to EGLE. EGLE will review the request and, if approved, will provide written notification to the new owner.
- R. Prior to initiating permitted construction, the permittee is required to provide a copy of the permit to the contractor(s) for review. The property owner, contractor(s), and any agent involved in exercising the permit are held responsible to ensure that the project is constructed in accordance with all drawings and specifications. The contractor is required to provide a copy of the permit to all subcontractors doing work authorized by the permit.
- S. Construction must be undertaken and completed during the dry period of the wetland. If the area does not dry out, construction shall be done on equipment mats to prevent compaction of the soil.

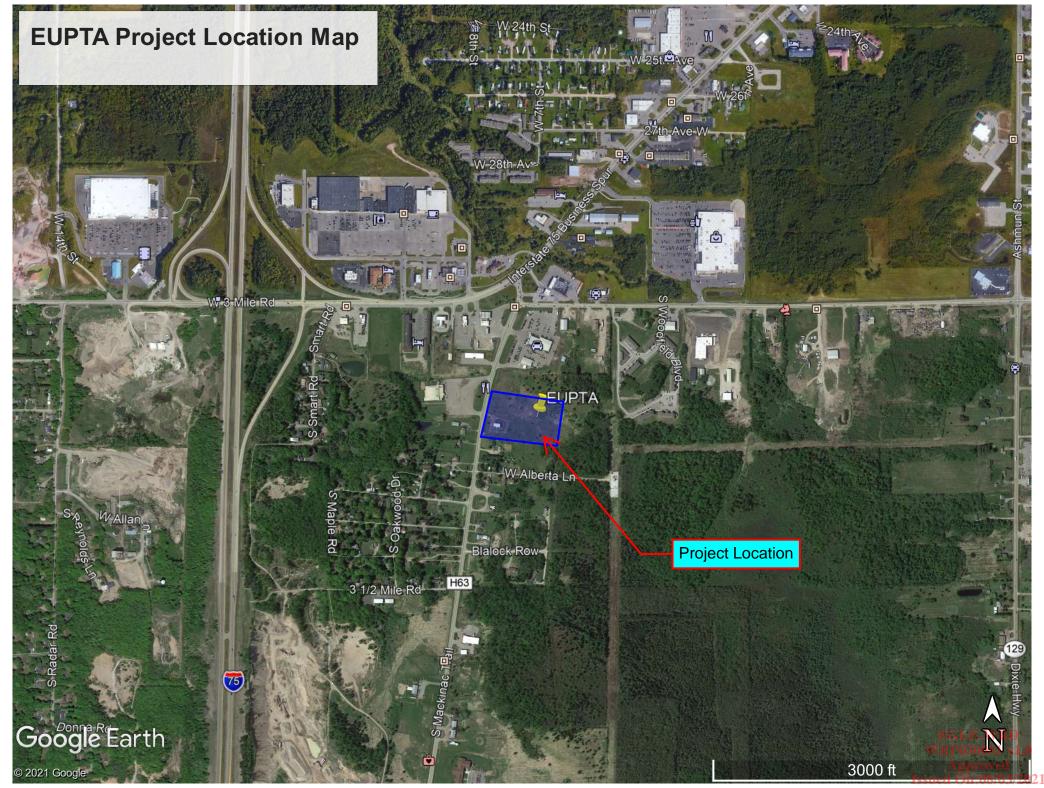
- T. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from the County Enforcing Agent (CEA).
- U. Authority granted by this permit does not waive permit requirements under the authority of Part 305, Natural Rivers, of the NREPA. A Natural Rivers Zoning Permit may be required for construction, land alteration, streambank stabilization, or vegetation removal along or near a natural river.
- V. The permittee is cautioned that grade changes resulting in increased runoff onto adjacent property is subject to civil damage litigation.
- W. Unless specifically stated in this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the water body are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- X. For projects with potential impacts to fish spawning or migration, no work shall occur within fish spawning or migration timelines (i.e., windows) unless otherwise approved in writing by the Michigan Department of Natural Resources, Fisheries Division.
- Y. Work to be done under authority of this permit is further subject to the following special instructions and specifications:
  - Authority granted by this permit does not waive permit or program requirements under Part 91 of the NREPA or the need to acquire applicable permits from the CEA. To locate the Soil Erosion Program Administrator for your county, visit <a href="https://www.mi.gov/eglestormwater">www.mi.gov/eglestormwater</a> and select "Soil Erosion and Sedimentation Control Program" under "Related Links."
  - The authority to conduct the activity as authorized by this permit is granted solely under the provisions
    of the governing act as identified above. This permit does not convey, provide, or otherwise imply
    approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's
    obligation to acquire any local, county, state, or federal approval or authorization necessary to conduct
    the activity.
  - 3. No fill, excess soil, or other material shall be placed in any wetland, floodplain, or surface water area not specifically authorized by this permit, its plans, and specifications.
  - 4. This permit does not authorize or sanction work that has been completed in violation of applicable federal, state, or local statutes.
  - 5. The permit placard shall be kept posted at the work site in a prominent location at all times for the duration of the project or until permit expiration.
  - 6. This permit is being issued for the maximum time allowed and no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by EGLE, will be for a five-year period beginning on the date of issuance. If the project is not completed by the expiration date, a new permit must be sought.
  - 7. All fill/backfill shall consist of clean inert material that will not cause siltation nor contain soluble chemicals, organic matter, pollutants, or contaminants. All fill shall be contained in such a manner so as not to erode into any surface water, floodplain, or wetland. All raw areas associated with the permitted activity shall be stabilized with sod and/or seed and mulch, riprap, or other technically effective methods as necessary to prevent erosion.

- 8.All dredge/excavated spoils including organic and inorganic soils, vegetation, and other material removed shall be placed on upland (non-wetland, non-floodplain or non-bottomland), prepared for stabilization, and stabilized with sod and/or seed and mulch in such a manner so as to prevent and ensure against erosion of any material into any waterbody, wetland, or floodplain.
- 9. Unless specifically stated under the "Permitted Activity" of this permit, construction pads, haul roads, temporary structures, or other structural appurtenances to be placed in a wetland or on bottomland of the waterbody are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
- 10. This permit is limited to authorizing the construction as specified above and carries with it no assurances or implications that associated lake, stream, wetland or floodplain areas can be developed and serviced by the structures authorized by this permit.
- 11. Prior to the start of construction, all adjacent non-work wetland areas shall be protected by properly trenched sedimentation barrier to prevent sediment from entering the wetland. Orange construction fencing may be installed as needed to prohibit construction personnel from entering or performing work in these areas. Sedimentation barrier shall be maintained daily throughout the construction process. Upon project completion, the accumulated materials shall be removed and disposed of at an upland site. The sedimentation barrier shall then be removed in its entirety and the area restored to its original configuration and cover.

Issued By:

John Gustafson Marquette District Office Water Resources Division 906-203-9887

cc: Soo Township Clerk Chippewa County CEA OHM Advisors





Know what's **below. Call** before you dig.

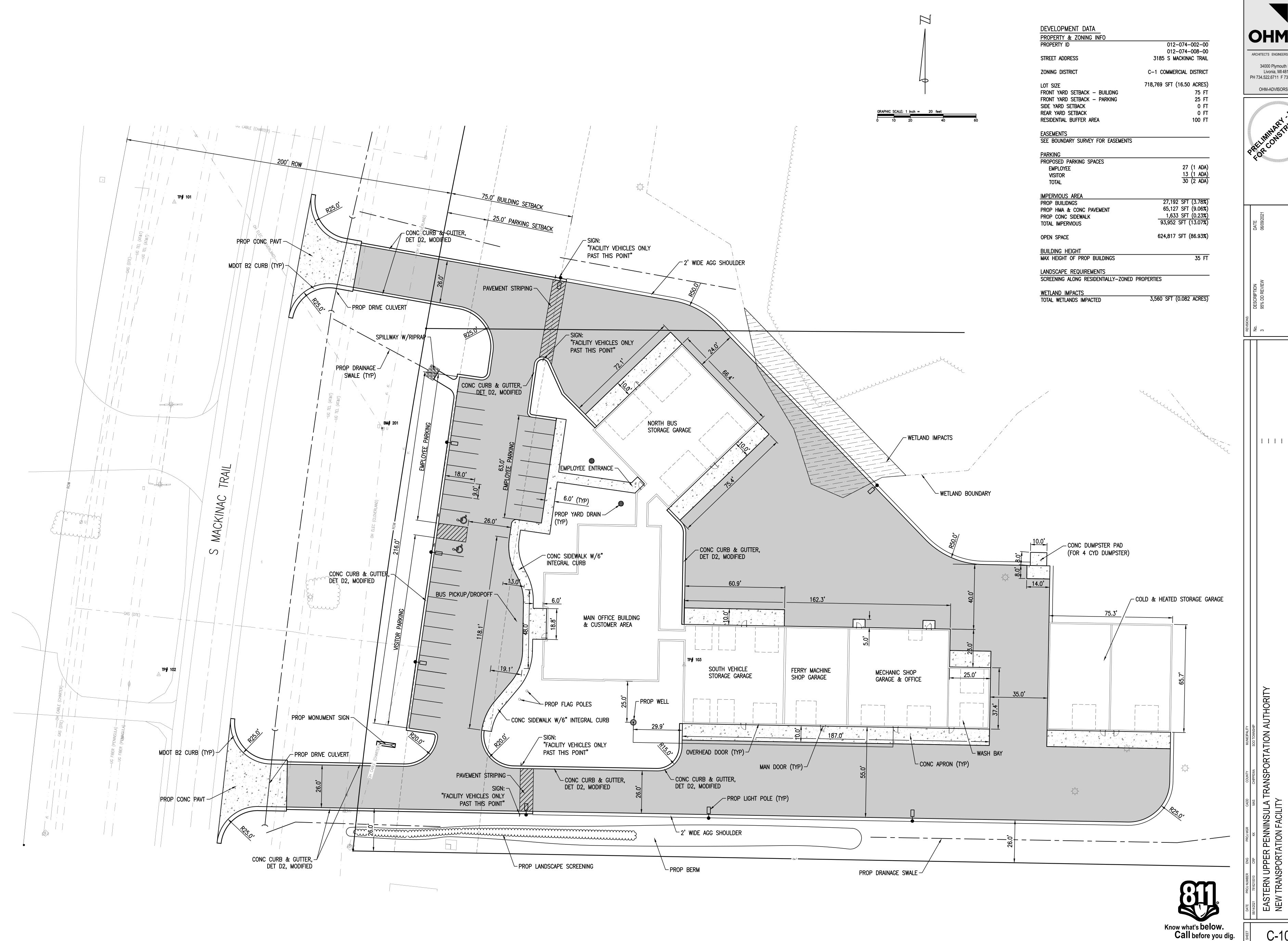
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ARCHITECTS ENGINEERS PLANNERS 34000 Plymouth Road Livonia, MI 48150 PH 734.522.6711 F 734.522.6427 OHM-ADVISORS.COM

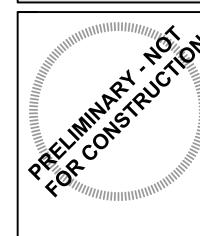


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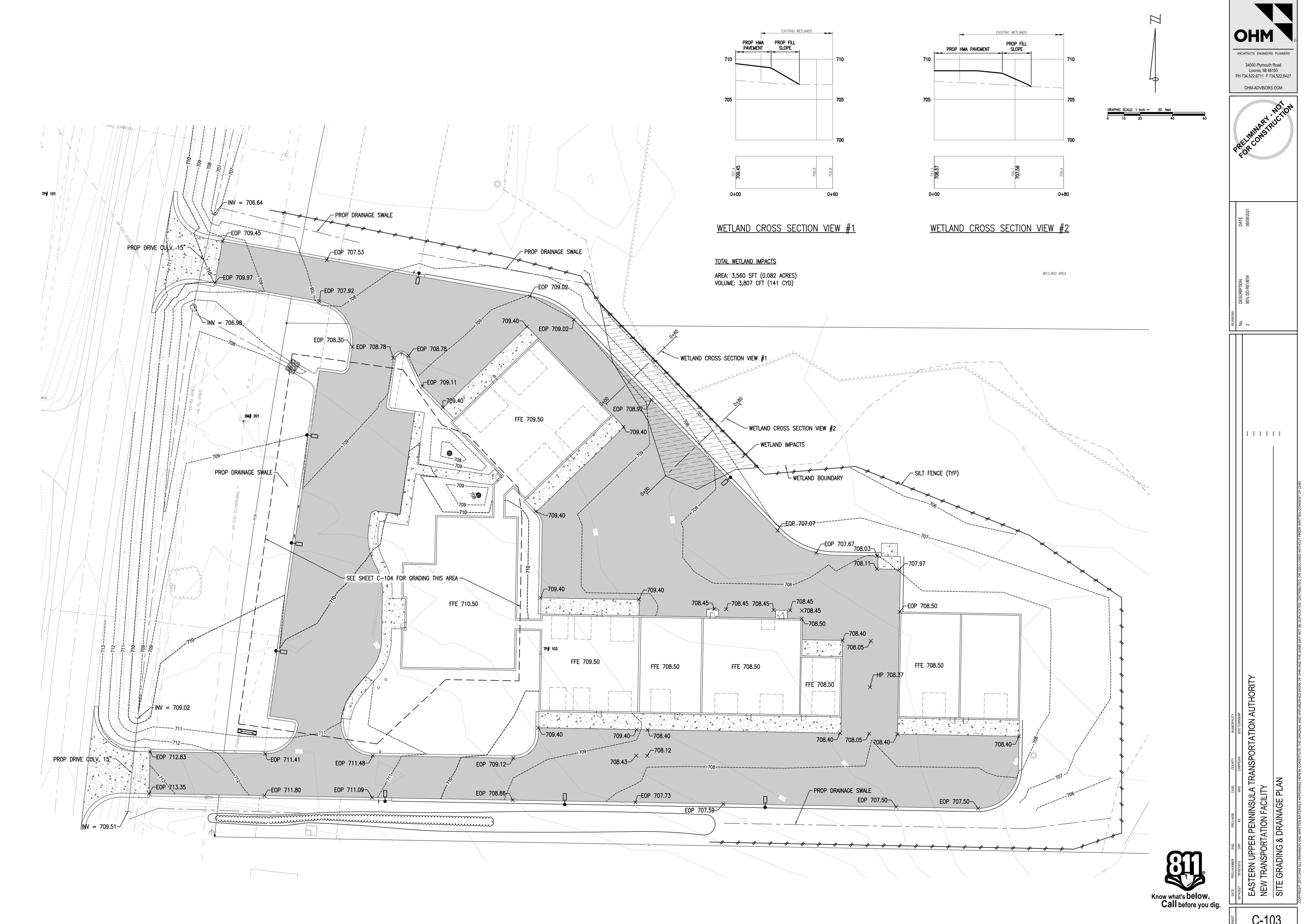


ARCHITECTS ENGINEERS PLANNERS

34000 Plymouth Road Livonia, MI 48150 PH 734.522.6711 F 734.522.6427 OHM-ADVISORS.COM



C-102<sub>EG</sub>



C-103<sub>EG</sub>

# MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY WATER RESOURCES DIVISION PERMIT FOR CONSTRUCTION OF WASTEWATER SYSTEMS

SITE NAME:	Sault Ste Marie CM
PERMITEE CONTACT NAME:	Dave Boyle, PE
PERMITEE CONTACT PHONE NUMBER:	(906) 632-5733
PERMITEE CONTACT EMAIL:	dboyle@saultcity.com
SITE COUNTY:	Chippewa

PERMIT NUMBER:	P41003310 v. 1
PERMIT ISSUED DATE:	July 28, 2021
ISSUED TO:	City of Sault Ste Marie
PROJECT NAME:	EUPTA New Transportation Facility
PROJECT LOCATION:	S. Mackinac Trail

APPLICATION SUBMISSION NUMBER:	HP7-374W-VAMEV
ALLEGATION OCCUMENTS INCIDENT	. III /-ULTVV-V/NIVILV

**REQUIRED NOTIFICATIONS**: The permittee shall provide <u>Startup Notification</u> (just prior to excavation) and <u>Completion Notification</u> (upon completion of the project) per the permit schedules in MiWaters.

### ISSUED UNDER THE AUTHORITY OF THE DIRECTOR OF THE DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE)

Issued By:	Reviewed By:
Sit W Cillade	[SAME]
Scott Richards, PE	[SAME]
Environmental Engineer	

cc: Chippewa County Health Department via email: contact@chippewahd.com Chris Powell, PE – OHM Advisors via email: chris.powell@ohm-advisors.com

#### **GENERAL PERMIT CONDITIONS**

- a. This **PERMIT** only authorizes the construction, alteration, addition, or improvement of the wastewater system as described herein and is issued solely under the authority of Part 41 of Act 451.
- b. Issuance of this **PERMIT** does not authorize any violation of federal, state, or local laws or regulations, nor does it obviate the need to obtain other permits or approvals from EGLE or other units of government as may be required by law.
- c. This **PERMIT** expires two (2) years after the above date of issuance unless construction starts prior to the expiration date in accordance with R 299.2939(2) of the Part 41 Administrative Rules.
- d. Any portion of the herein described facilities <u>constructed prior to the date of issuance</u> is not authorized by this **PERMIT** and is a violation of Act 451.
- e. No sewer shall be placed into service unless and until the outlet sewer has been constructed, tested, and placed into service.
- f. Failure to meet any condition of this **PERMIT** or any requirement of Act 451 constitutes a violation of Act 451.
- g. The applicant must provide notice of impending construction to public utilities and comply with the requirements of the Underground Facility Damage Prevention and Safety Act, PA 174 of 2013, as amended (MISS DIG).
- h. All earth changing activities must be conducted in accordance with Part 91, Soil Erosion and Sedimentation Control, of Act 451.
- i. All construction activity, including groundwater dewatering, impacting wetlands shall be conducted in accordance with Part 303, Wetlands Protection, of Act 451.
- j. If water withdrawal, via dewatering activities, is associated with this project, authorization under Part 327 is required for new or increased large quantity withdrawals over 100,000 gallons per day. A Part 327 permit is required for new or increased large quantity withdrawals over 2,000,000 gallons per day.

#### SPECIAL PERMIT CONDITIONS

- 1. There shall be no visible turbidity in the storm water runoff or water from site dewatering operations that is discharged to the surface waters of the State due to construction activity associated with this project.
- 2. A construction permit for the activities regulated under the provision of the Soil Erosion and Sedimentation Control Act shall be obtained and all control measures shall be installed prior to starting any construction work authorized under this permit.
- 3. Sanitary sewer pipe shall comply with and be installed in accordance with current ASTM designation.
- 4. Minimum isolation distance of 10' horizontal and 18" vertical between sewer and water mains.
- 5. Trench: Provide min. 4" clearance around pipe in rock, boulders and large stones.
- 6. Unless unfeasible due to maintaining sanitary service, all pipe shall be tested for leakage, infiltration/exfiltration not to exceed 100 gallons per inch of pipe diameter per mile per day.
- 7. If contaminated soils are encountered, please contact the EGLE RRD UP District Supervisor.

- 8. This permit only authorizes construction of the sanitary facilities listed herein. This permit does not authorize work in regulated wetland/stream areas. Proper permits must first be obtained from this Department before any work in regulated wetland/stream areas commence.
- 9. Upload as-built record documents in electronic (.pdf) format per the schedule established in MiWaters.

#### **FACILITIES DESCRIPTION**

563' of 15" gravity sewer in Chippewa County Road Commission ROW along S Mackinac Trail from approximately 420' south of S Mackinac Trail and W 3 Mile Rd intersection, south for 563'.



### SUBSTITUTION REQUEST

(During the Bidding/Negotiating Stage)

Form Version: June 2004

Project:	Substitution Request Number: SR-001
	From:
To:	Date:
	A/E Project Number:
Re:	
Specification Title:	
Section: Page:	Article/Paragraph:
Proposed Substitution: Address:	Phone:
Trade Name:	Model No.:
Attached data includes product description, specifications of the request; applicable portions of the data are clearly in	s, drawings, photographs, and performance and test data adequate for evaluation dentified.
	he Contract Documents that the proposed substitution will require for its proper
substitution.  Submitted by:	esign, including A/E design, detailing, and construction costs caused by the
Signed by: Jeff Jablonski	
Firm:	
Address:	
Telephone:	
A/E's REVIEW AND ACTION	
	e with Specification Section 01 25 00 Substitution Procedures. ecordance with Specification Section 01 25 00 Substitution Procedures. materials.
G: 11	
Signed by: Kevin Koets	Date: 2022-01-27

#### IT'S NOT WOOD, IT'S ALUMINUM

#### **PRODUCT COMPARISON**

	LONGBOARD® (Aluminum)	KNOTWOOD™ (Aluminum)
Material	Marine Grade Aluminum Alloy	Marine Grade Aluminum Alloy
Colors	18 Exterior Wood Grain 14 Solid Colors	32 Advertised Wood Grain 60 Advertised Solid Colors
Installation	Bottom Up Install • Tongue and Groove Cladding •	Top Down OR Bottom Up Install • Interlocking Cladding •
Labor	Minimum 2 laborers – (not interlocking nor self supporting) • Bottom Up install •	Minimum 1 laborer (interlocking and self supporting)  • Top Down install •
Repair / Replacement	Top down removal to reach damage. Typically requires reinstalling more cladding.	Bottom up removal to reach damage. Replace only damaged cladding.
Trims	Cladding – limited trim options	Cladding – multiple trim options
Dimensions	12' and 24' length	Standard 18' 6" length
Warranty	Aluminum Material – 50 yrs     Woodgrain Finish – 15 yrs (excludes close proximity to salt water)	Aluminum Material – Limited Lifetime     Woodgrain Finish – 15 yrs (includes close proximity to salt water)

#### Some of the benefits confirmed by various installers of Knotwood™ Cladding...

- · Lower cost materials and installation labor
- Adjustable gap reveal for desired look and resistance to water penetration
- Single person installation
- · Easy ground level damage replacement
- · Multiple trims for ease of install
- Knotwood™ is available in other systems that can match color of cladding

























INTERLOCKING
(Self supporting)



















# Knotwood Typical Details



Prepared by: PVE, LLC

2000 Georgetowne Drive, Suite 101 Sewickley, PA 15143 Phone ... (724) 444-1100



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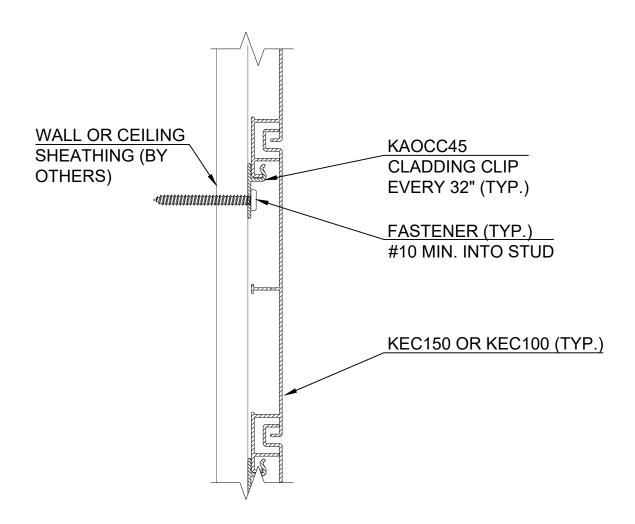


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Typical 1"x4" Narrow Batten (KEB10025F)	B-17
Typical 1"x6" Narrow Batten (KEB15025F)	B-18
Typical 1-1/2"X5/8" Self-Mating Batten (KESM3816)	B-19
Typical 2-1/2"X5/8" Self-Mating Batten (KESM6516)	B-20
Typical 4"X5/8" Self-Mating Batten (KESM10016)	B-21
Typical 6"X5/8" Self-Mating Batten (KESM15016)	B-22
Typical 6"X6" Self-Mating Batten (KESM150150)	B-23
Typical 8"X8" Self-Mating Batten (KESM200200)	B-24
<u>PERGOLAS</u>	
Typical Pergola with Building Connection	P-1
Typical Batten Connection	P-2
Typical Upper Post Connection	P-3
Typical Post Basenlate Connection	P-4





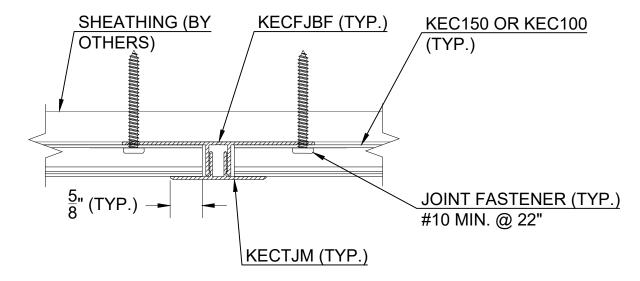
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL ATTACHMENT DETAIL



# KNOTWOOD TYPICAL DETAILS CLADDING

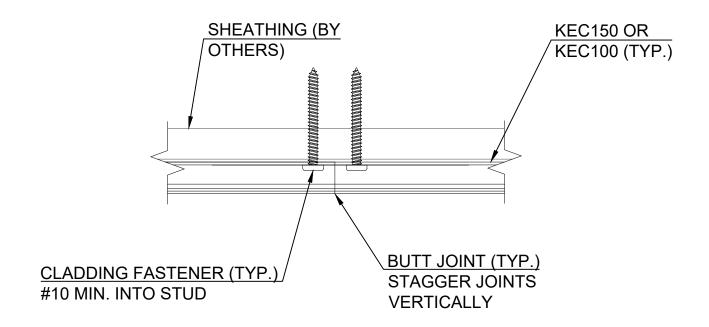


NOTE: JOINT FASTENERS SHALL BE INSTALLED THROUGH BOTH CLADDING BOARD (KEC150) AND JOINT CLIP (KECFJBF).

### **TYPICAL SPLICE DETAIL**



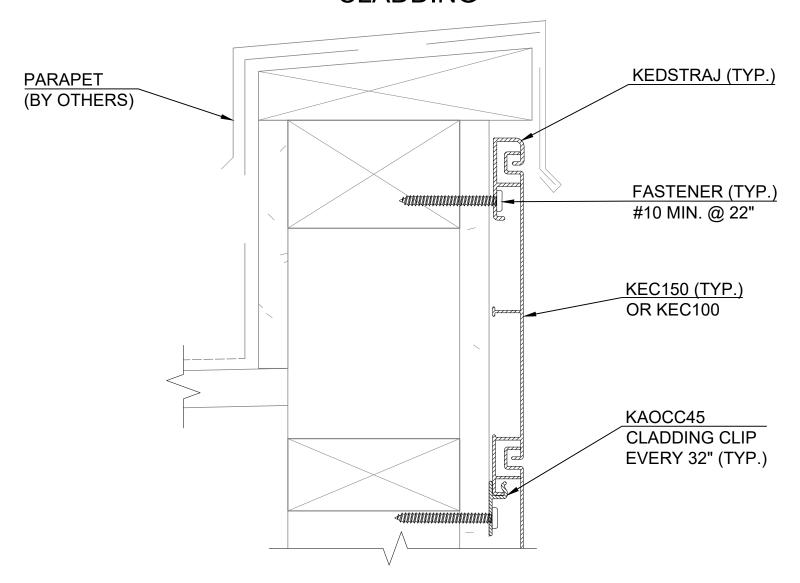
# KNOTWOOD TYPICAL DETAILS CLADDING



### **TYPICAL BUTT JOINT DETAIL**



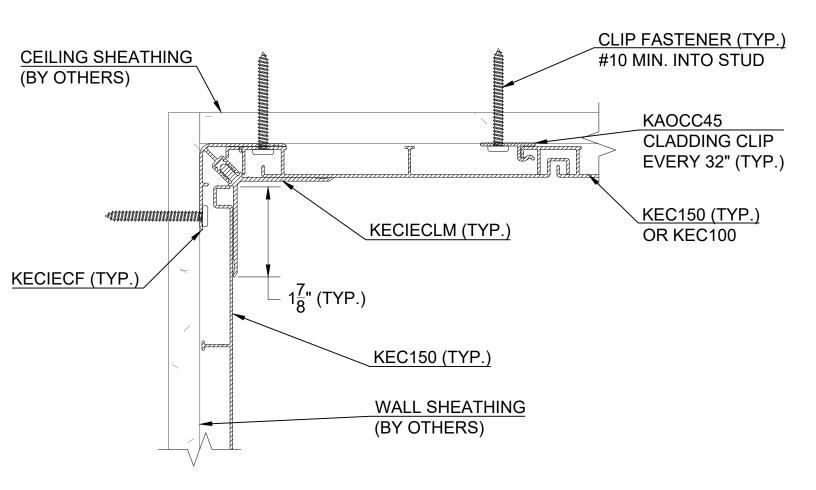
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL STARTER/PARAPET DETAIL



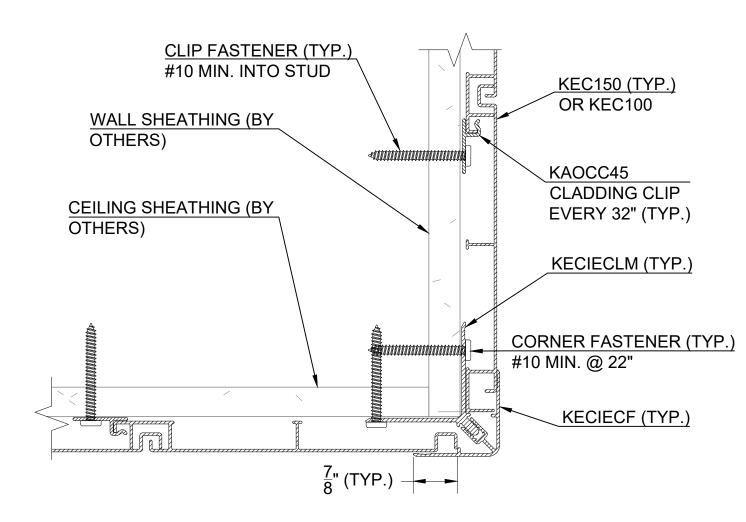
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL WALL TO CEILING INSIDE CORNER DETAIL



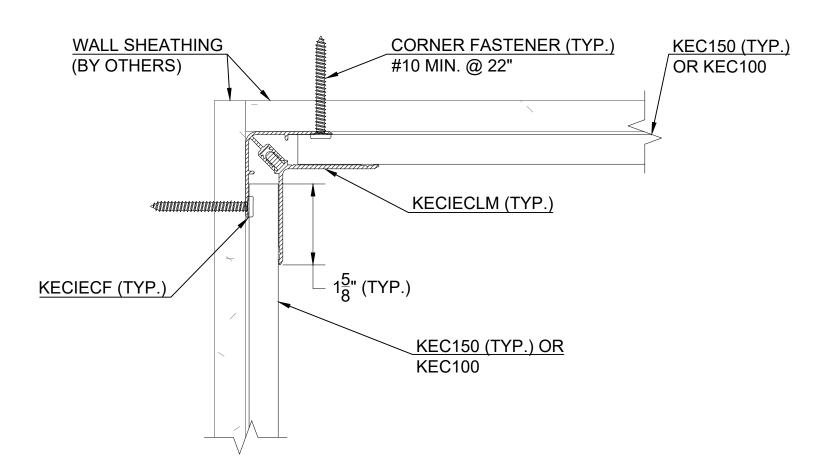
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL WALL TO CEILING OUTSIDE CORNER DETAIL



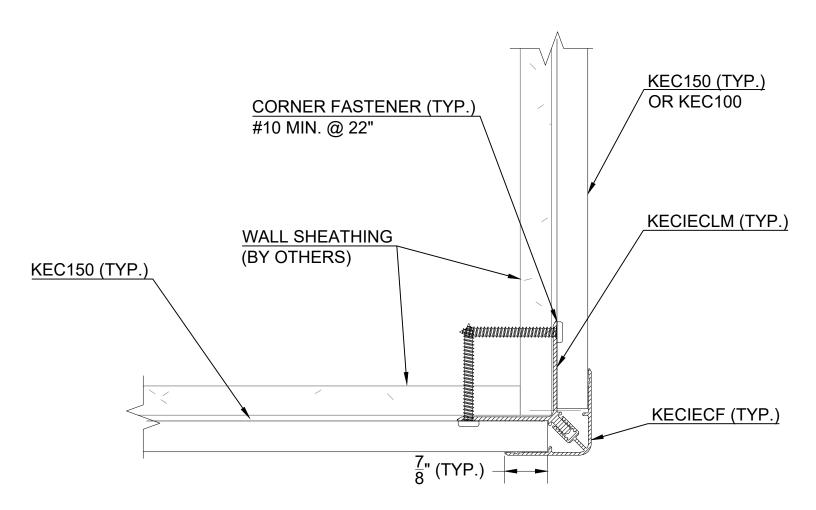
# KNOTWOOD TYPICAL DETAILS CLADDING



### **TYPICAL WALL TO WALL INSIDE CORNER**



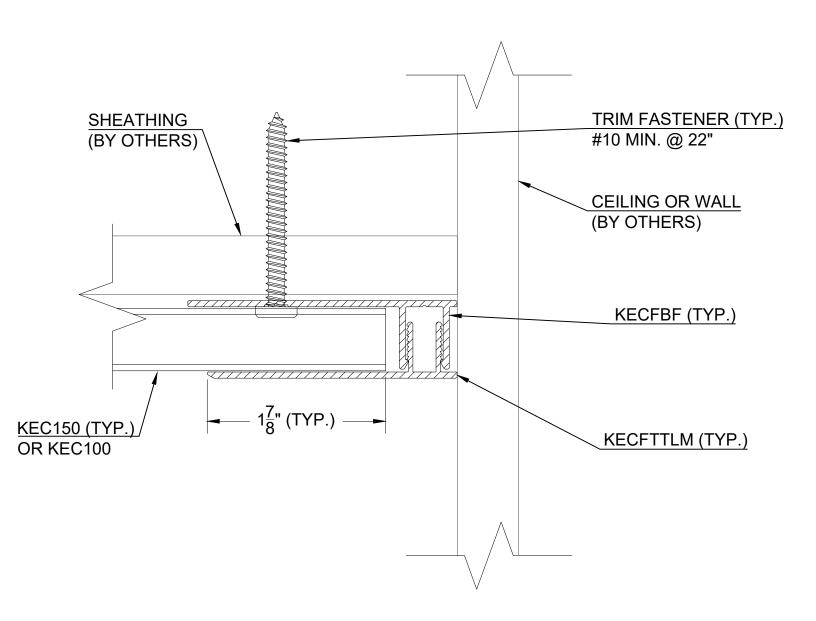
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL WALL TO WALL OUTSIDE CORNER



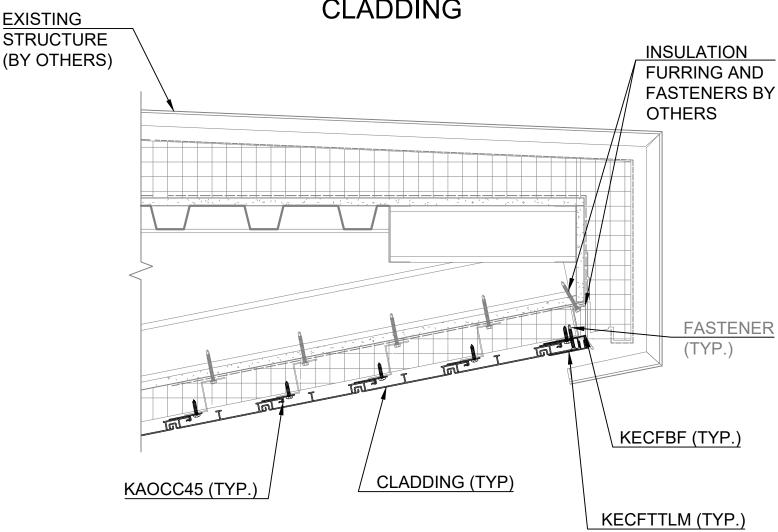
# KNOTWOOD TYPICAL DETAILS CLADDING



### **TYPICAL EDGE TRIM DETAIL**



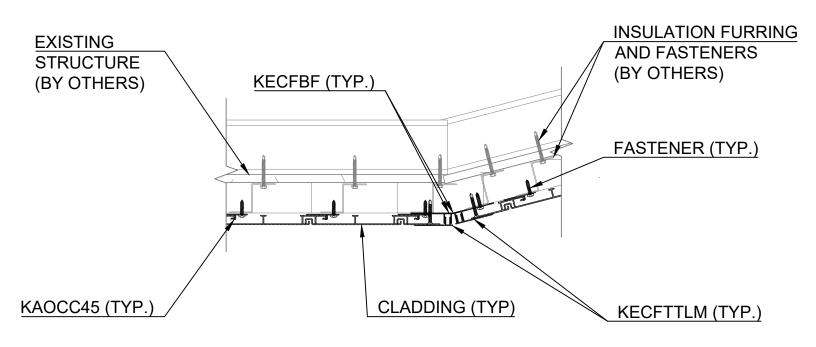
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL SLOPED SOFFIT DETAIL



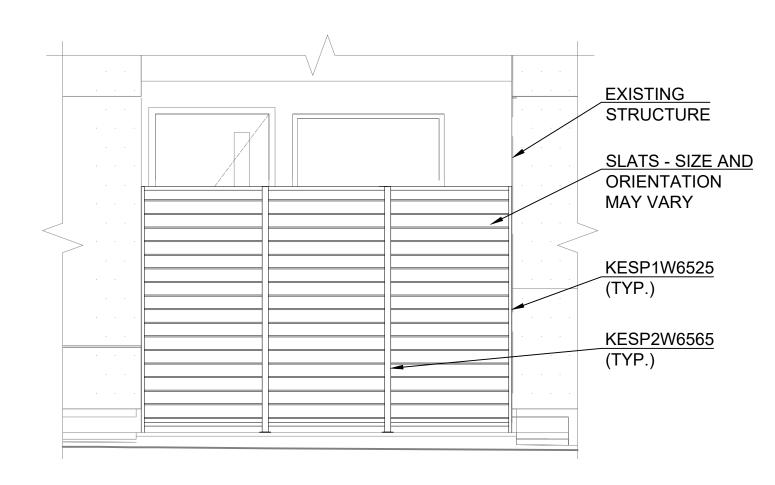
# KNOTWOOD TYPICAL DETAILS CLADDING



### TYPICAL SLOPED TO FLAT SOFFIT DETAIL



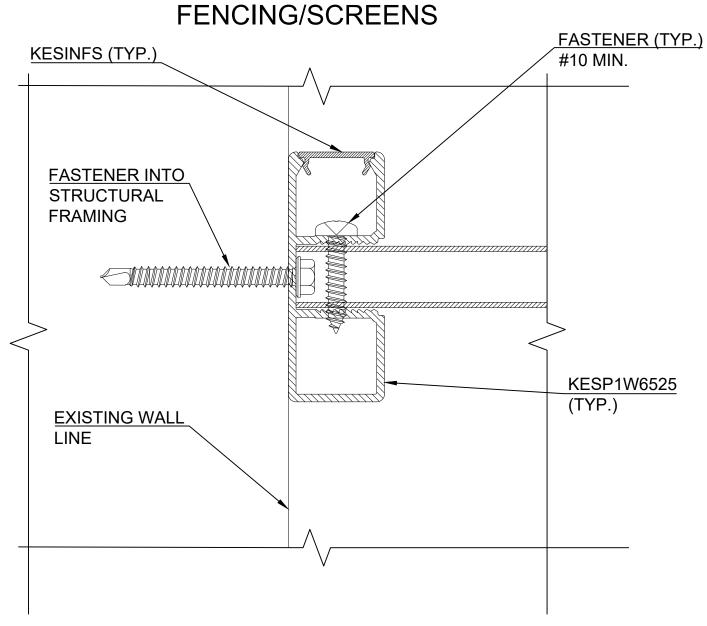
# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS



### **TYPICAL GENERAL USE ELEVATION VIEW**



## KNOTWOOD TYPICAL DETAILS

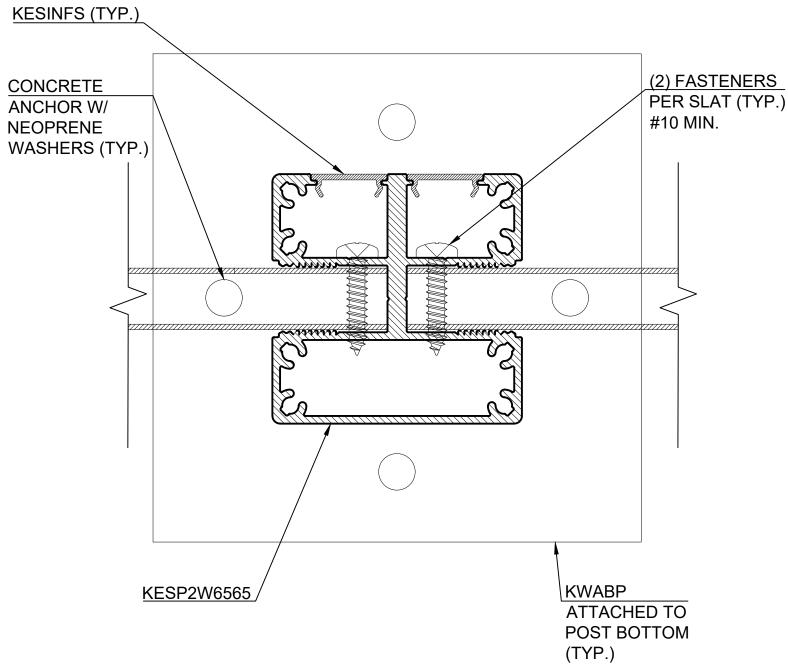


#### TYPICAL ONE-WAY POST AT EXISTING WALL



#### **KNOTWOOD TYPICAL DETAILS**

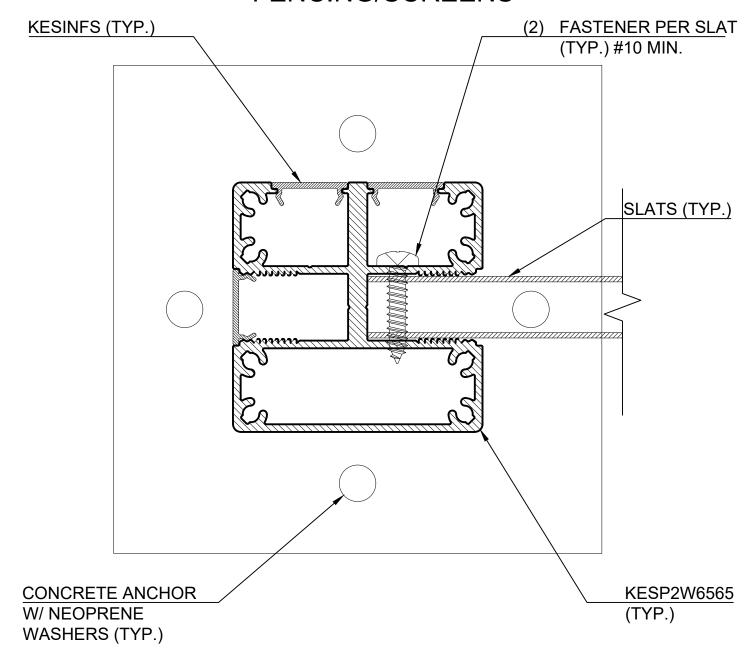
FENCING/SCREENS



TYPICAL 2-1/2"X2-1/2" TWO-WAY POST DETAIL



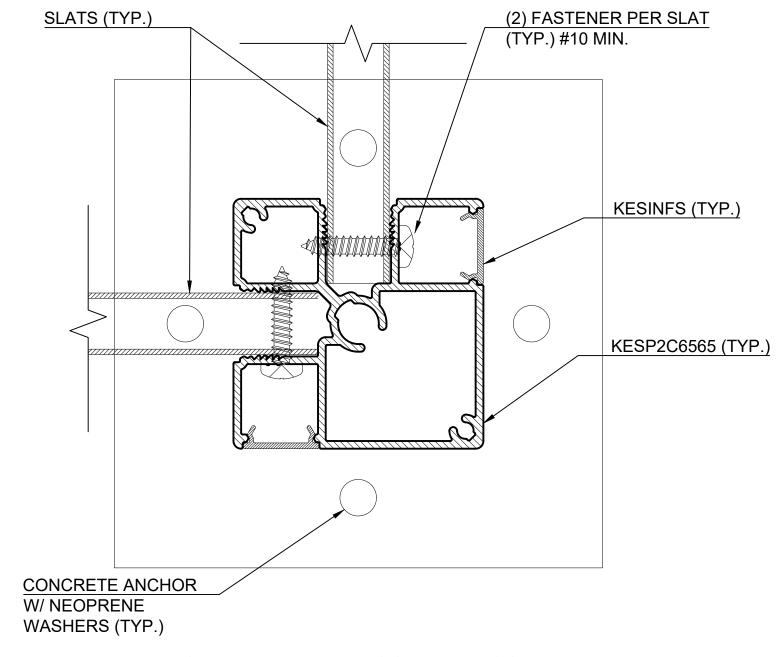
# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS



#### TYPICAL 2-1/2"X2-1/2" TWO-WAY END POST DETAIL



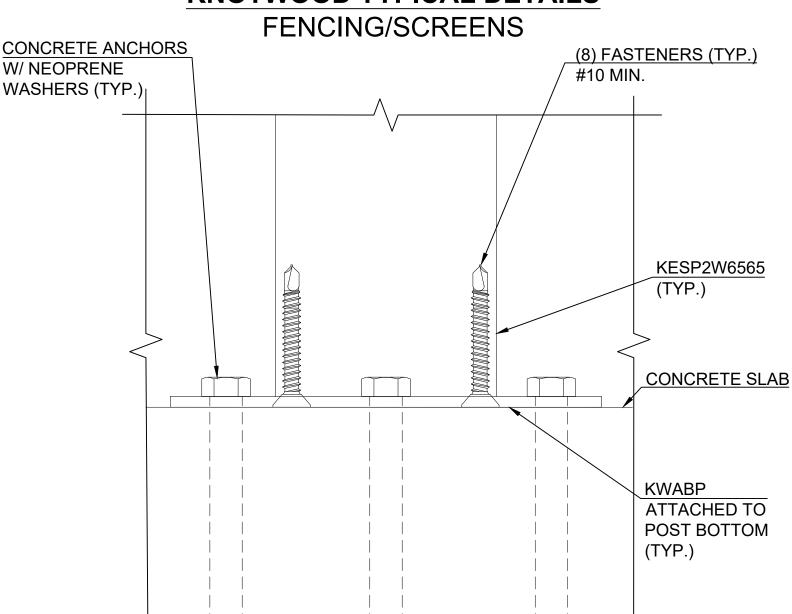
# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS



**TYPICAL 2-1/2"X2-1/2" CORNER POST DETAIL** 



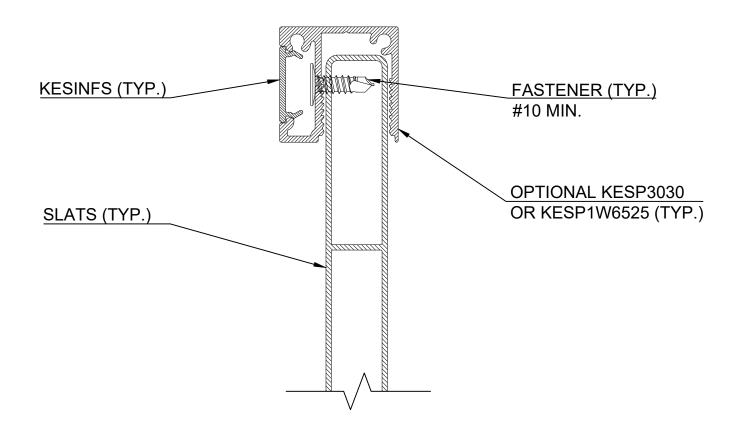
#### **KNOTWOOD TYPICAL DETAILS**



#### TYPICAL 2-1/2"X2-1/2" POST BASEPLATE DETAIL



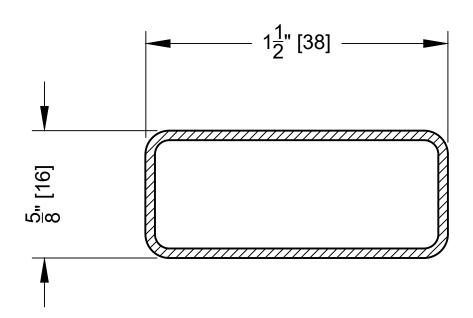
# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS



#### TYPICAL TOP OR BOTTOM RAIL DETAIL



# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS

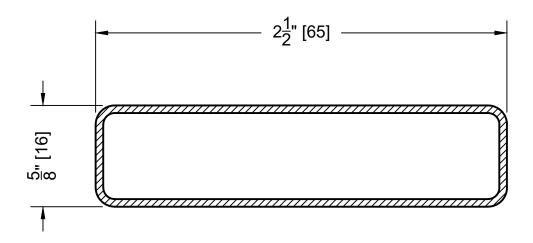


**TYPICAL 1-1/2" SLAT (KES3816)** 





# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS

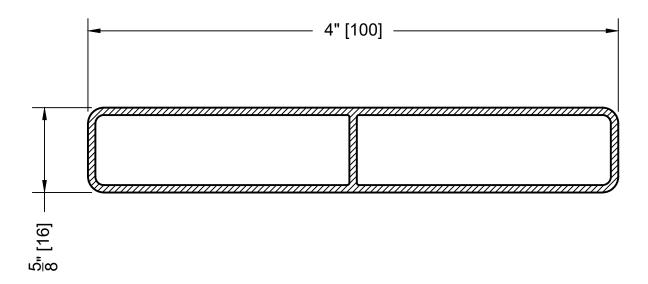


**TYPICAL 2-1/2" SLAT (KES6516)** 





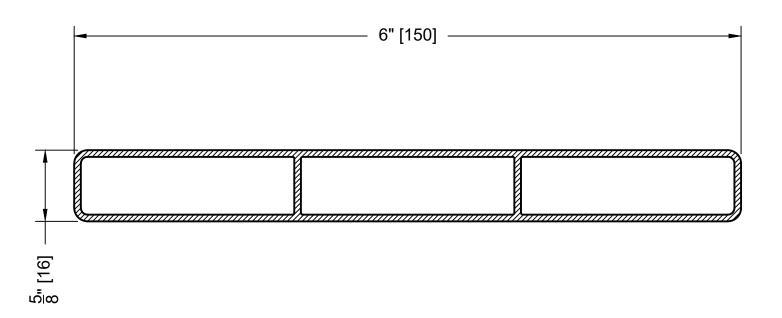
# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS



#### **TYPICAL 4 INCH SLAT (KES10016)**



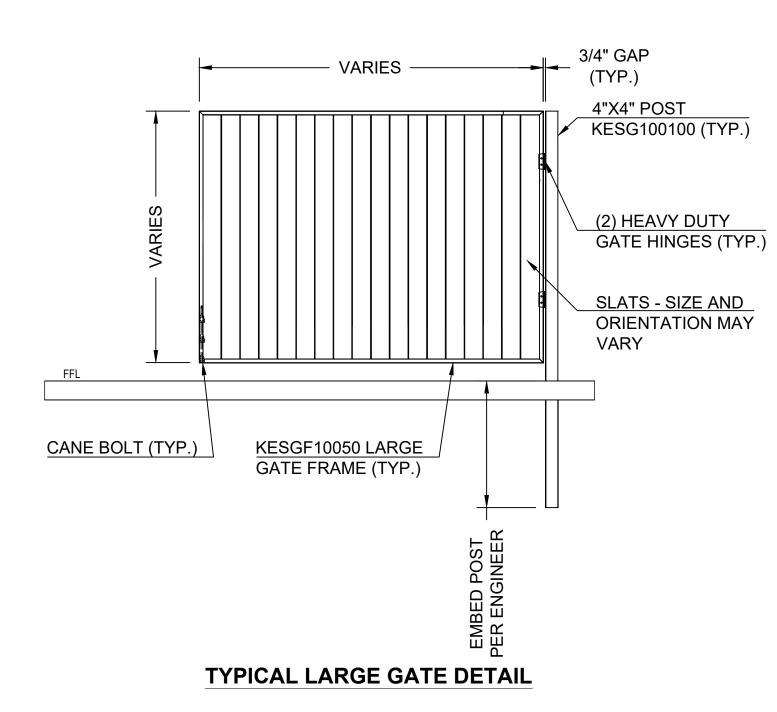
# KNOTWOOD TYPICAL DETAILS FENCING/SCREENS



#### **TYPICAL 6 INCH SLAT (KES15016)**

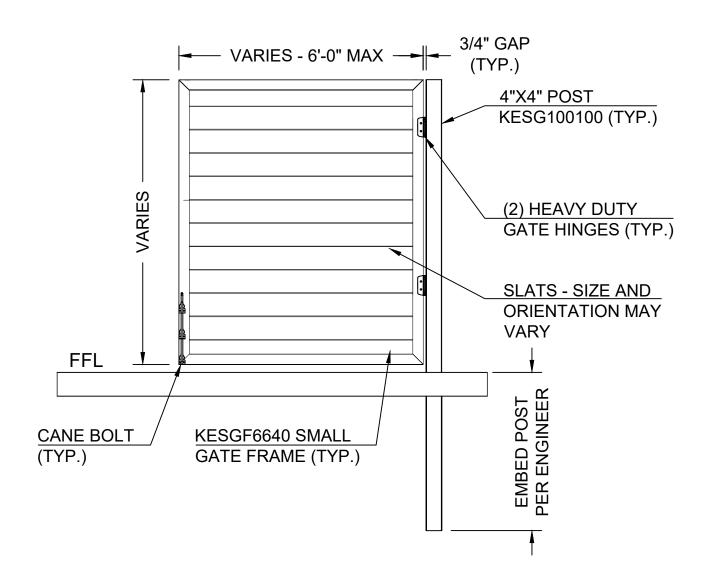


# KNOTWOOD TYPICAL DETAILS GATES





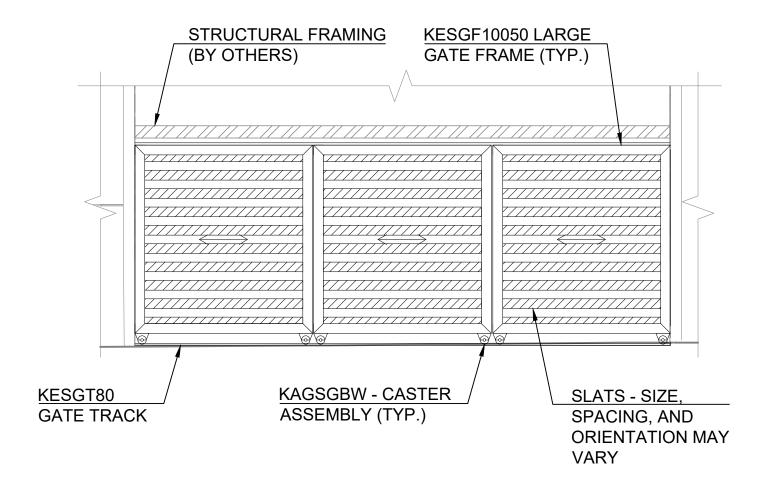
## KNOTWOOD TYPICAL DETAILS GATES



#### TYPICAL SMALL GATE DETAIL



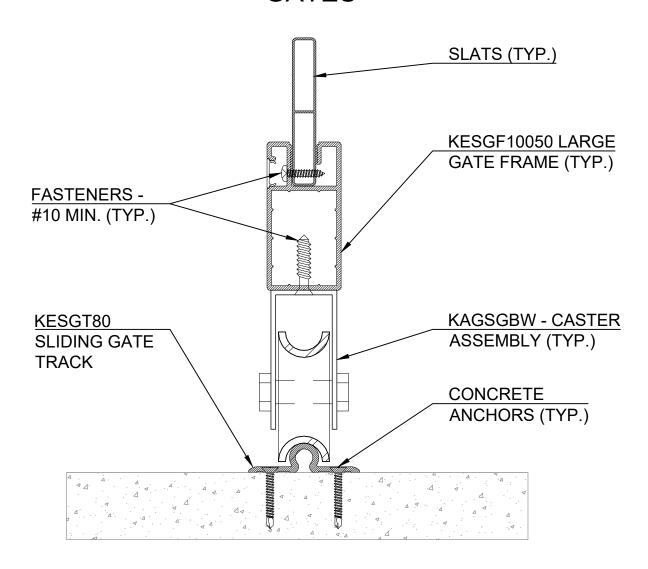




#### **TYPICAL SLIDING GATE DETAIL**



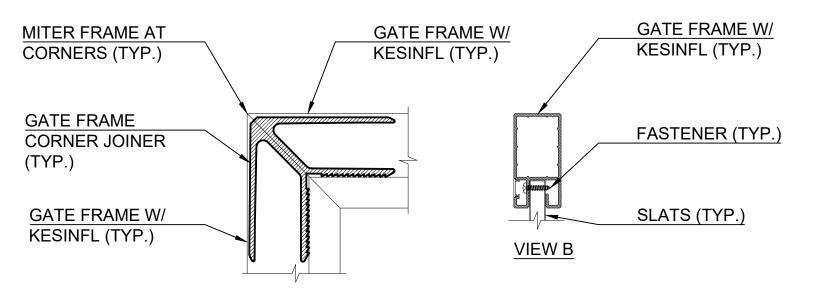


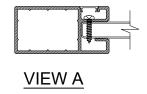


#### TYPICAL SLIDING GATE CASTER/TRACK DETAIL



## KNOTWOOD TYPICAL DETAILS GATES

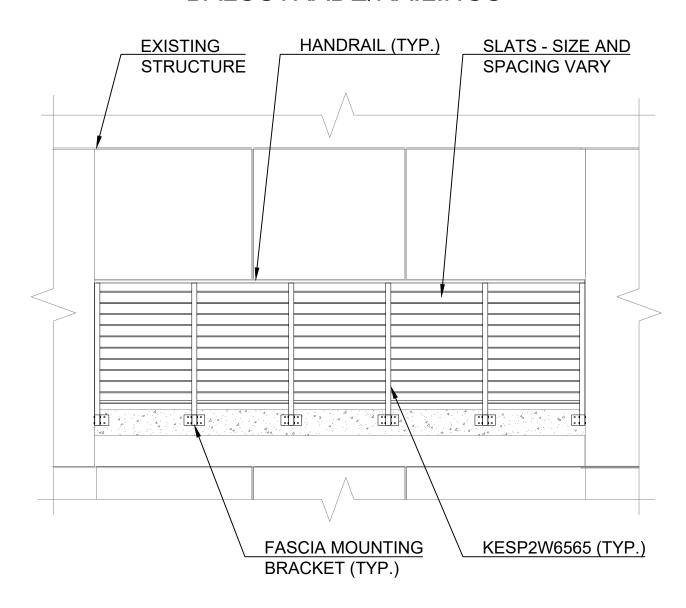




#### **TYPICAL GATE FRAME CORNER DETAIL**



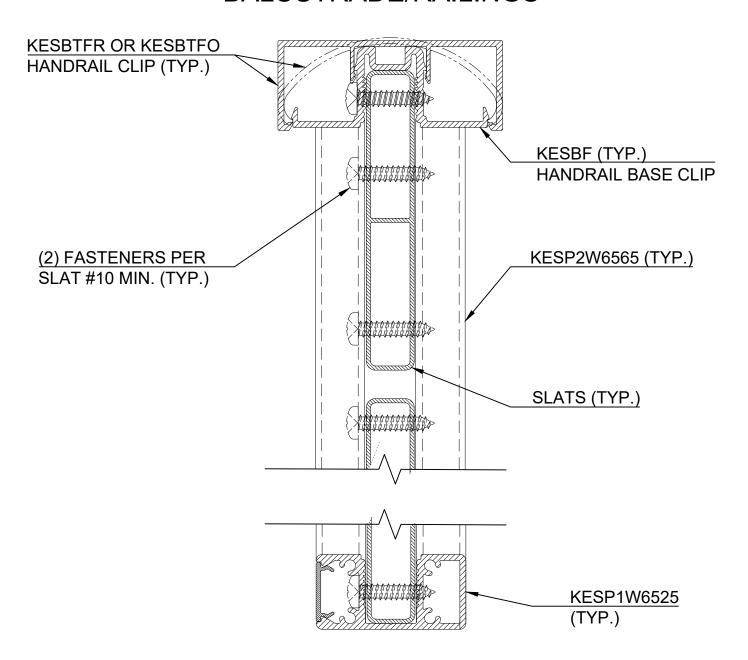
## KNOTWOOD TYPICAL DETAILS BALUSTRADE/RAILINGS



#### TYPICAL FASCIA MOUNT RAILING



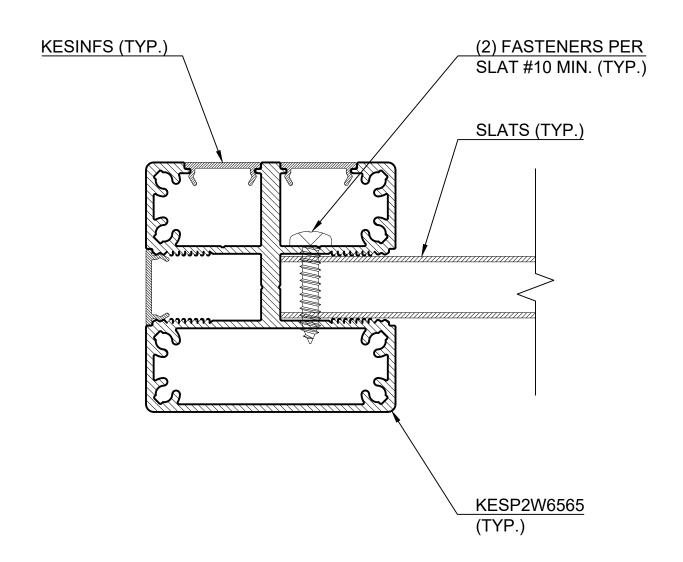
# KNOTWOOD TYPICAL DETAILS BALUSTRADE/RAILINGS



#### TYPICAL BALUSTRADE/RAILING SECTION



# KNOTWOOD TYPICAL DETAILS BALUSTRADE/RAILINGS

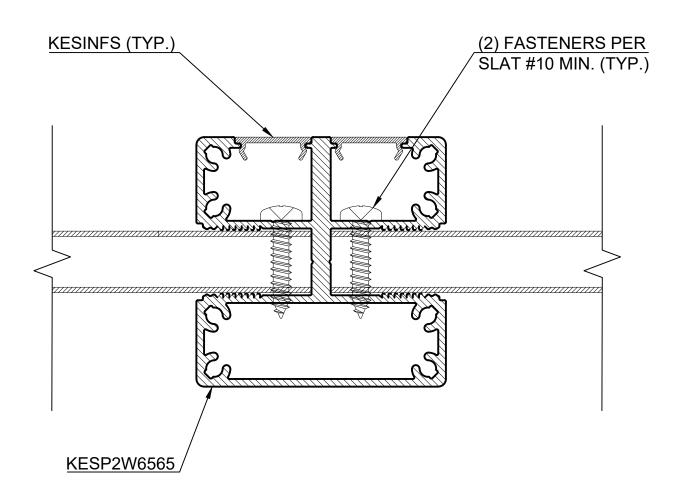


#### TYPICAL 2-1/2"X2-1/2" TWO-WAY END POST DETAIL





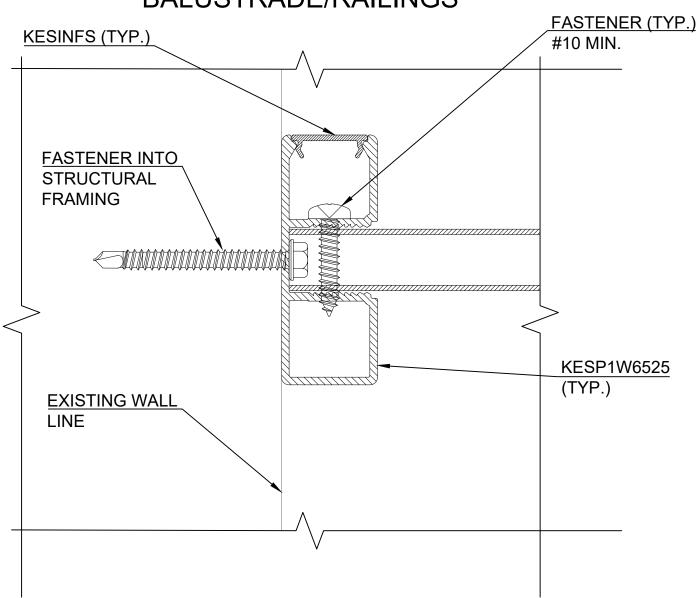
# KNOTWOOD TYPICAL DETAILS BALUSTRADE/RAILINGS



#### TYPICAL 2-1/2"X2-1/2" TWO-WAY MIDDLE POST DETAIL



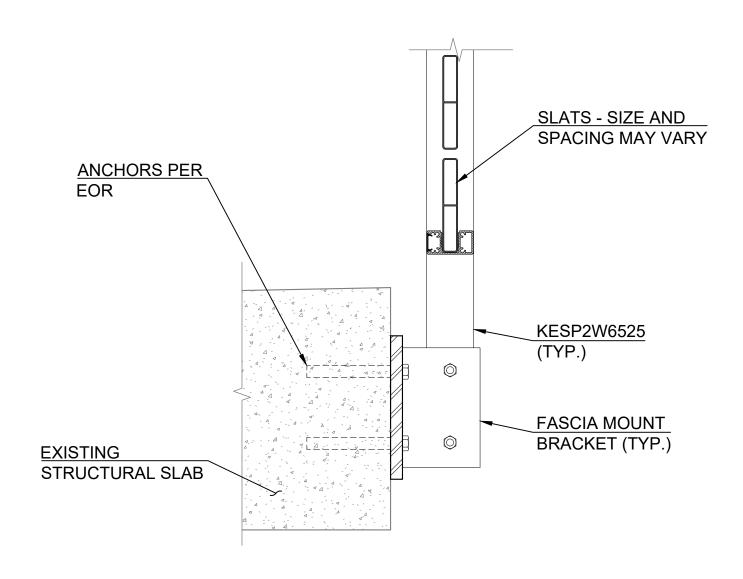
## KNOTWOOD TYPICAL DETAILS BALUSTRADE/RAILINGS



#### TYPICAL ONE-WAY END POST AT EXISTING WALL



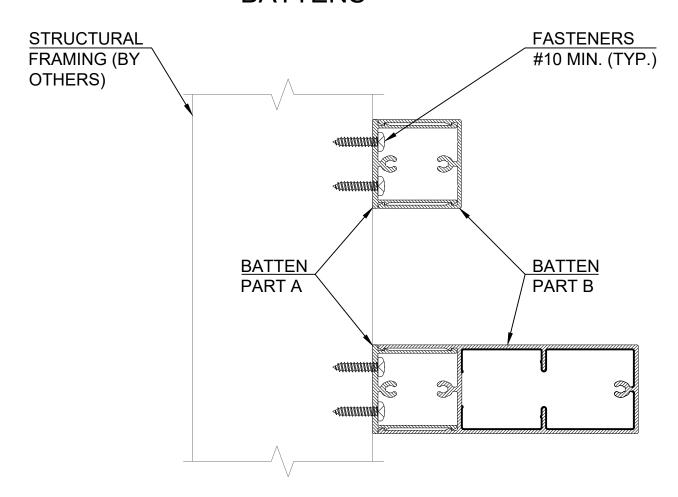
# KNOTWOOD TYPICAL DETAILS BALUSTRADE/RAILINGS



#### **TYPICAL FASCIA MOUNT DETAIL**



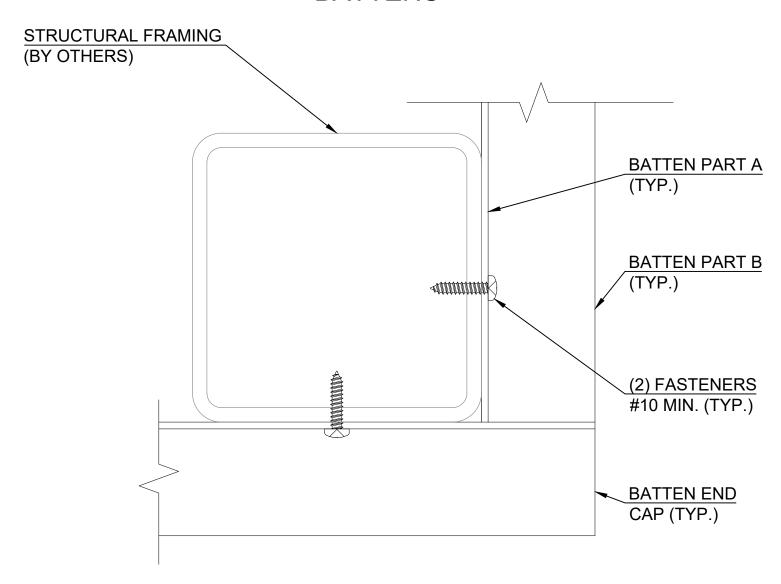
# KNOTWOOD TYPICAL DETAILS BATTENS



#### **TYPICAL BATTEN CONNECTION DETAIL**



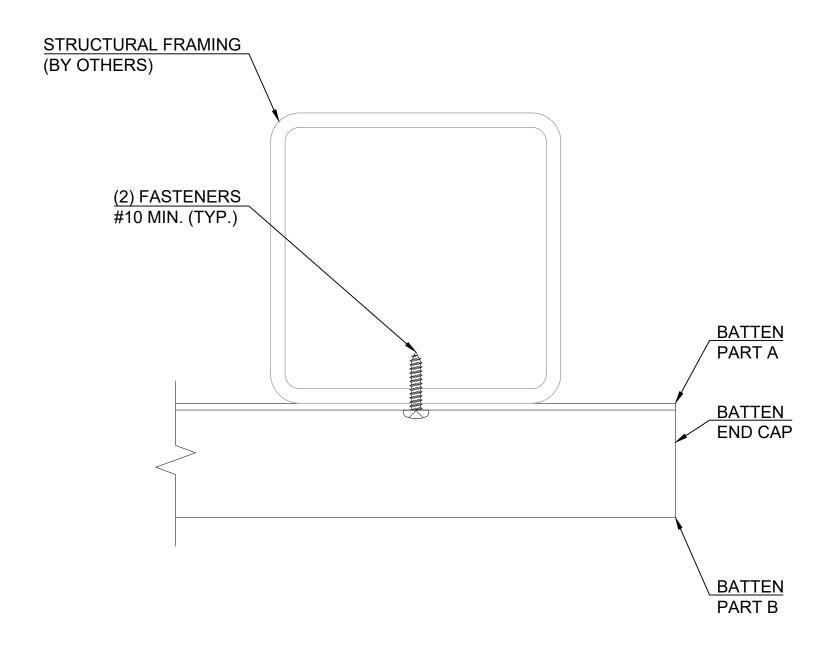
## KNOTWOOD TYPICAL DETAILS BATTENS



#### TYPICAL BATTEN CORNER CONNECTION DETAIL



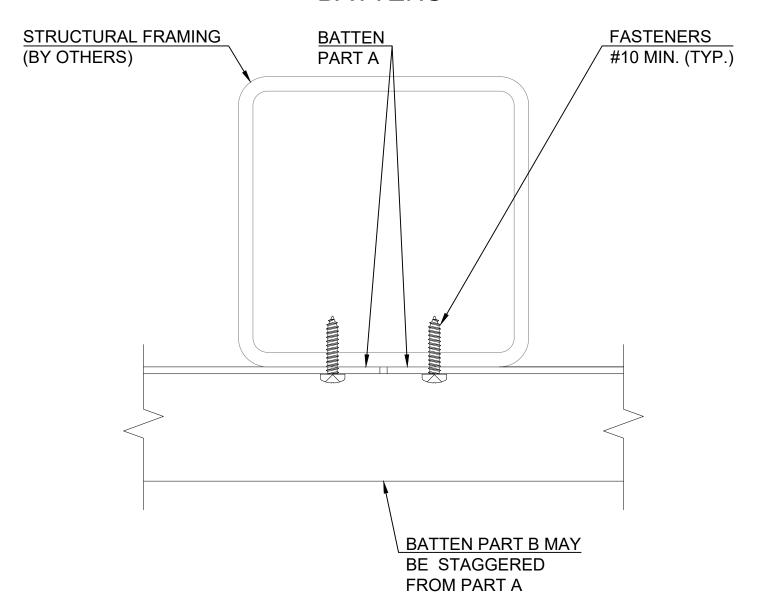
## KNOTWOOD TYPICAL DETAILS BATTENS



#### **TYPICAL BATTEN END DETAIL**



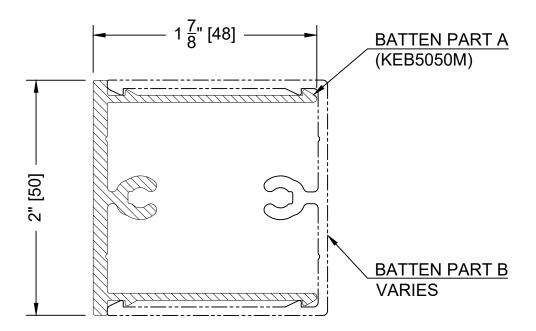
# KNOTWOOD TYPICAL DETAILS BATTENS



#### **TYPICAL BATTEN JOINT DETAIL**



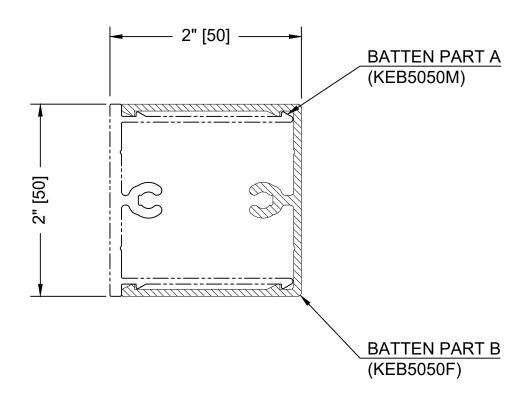




#### **TYPICAL 2" BATTEN PART A (KEB5050M)**



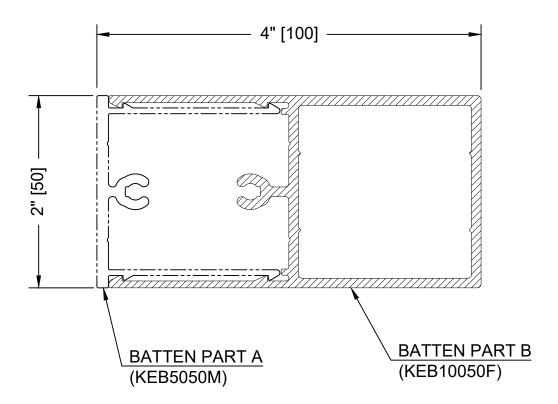




#### **TYPICAL 2"X2" BATTEN (KEB5050F)**



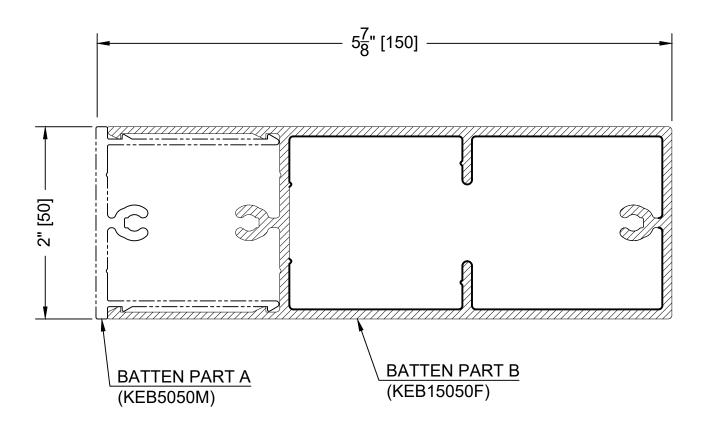




#### **TYPICAL 2"X4" BATTEN (KEB10050F)**



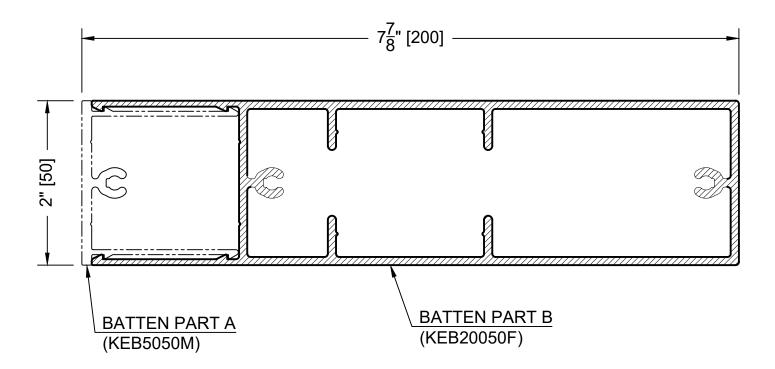




#### **TYPICAL 2"X6" BATTEN (KEB15050F)**

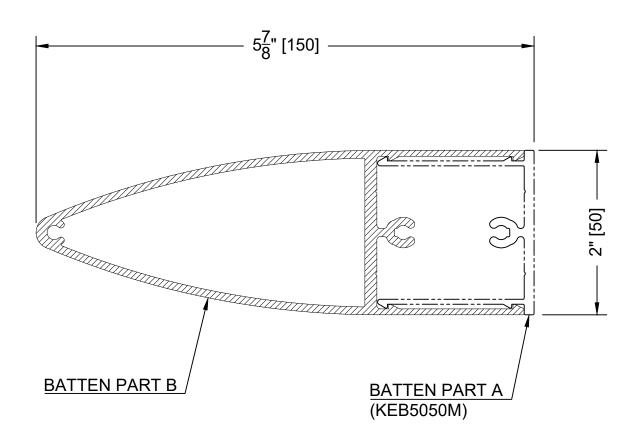






#### **TYPICAL 2"X8" BATTEN (KEB20050F)**

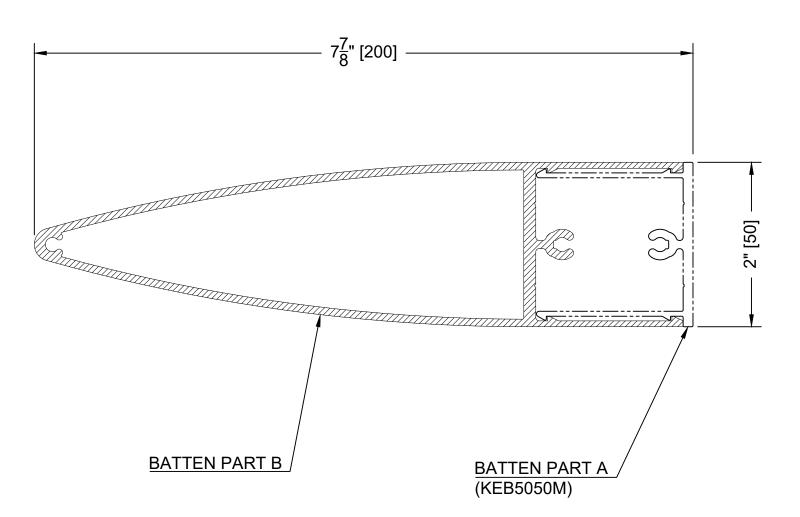




#### **OPTIONAL 2"X6" ROUNDED BATTEN**



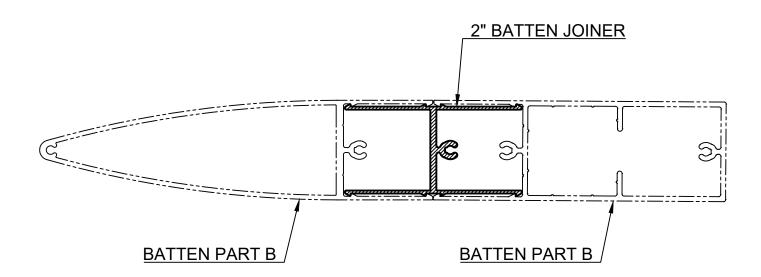




#### **OPTIONAL 2"X8" ROUNDED BATTEN**



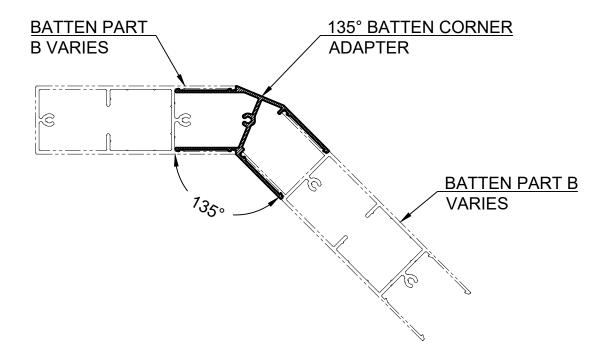




#### **OPTIONAL 2" BATTEN JOINER**



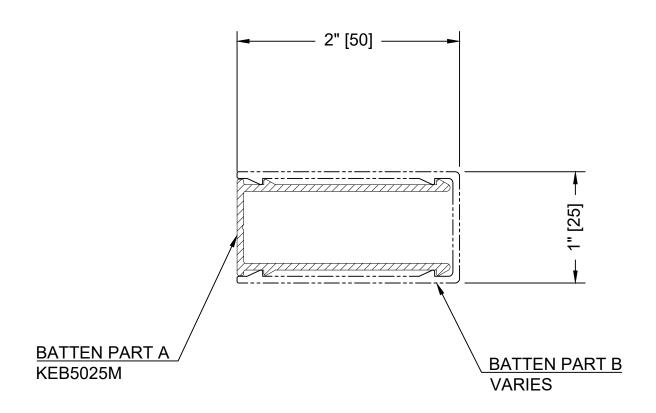
## KNOTWOOD TYPICAL DETAILS BATTENS



#### **TYPICAL 2" BATTEN 135° CORNER ADAPTER**



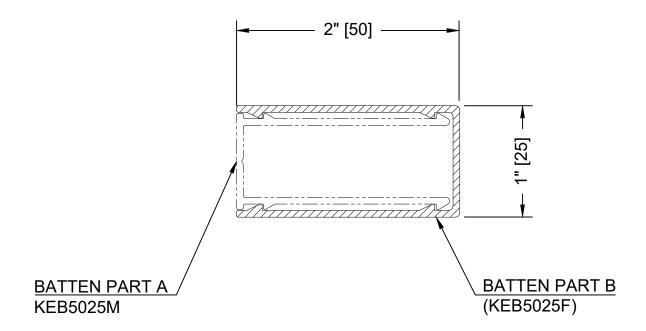




#### **TYPICAL 1" NARROW BATTEN PART A (KEB5025M)**



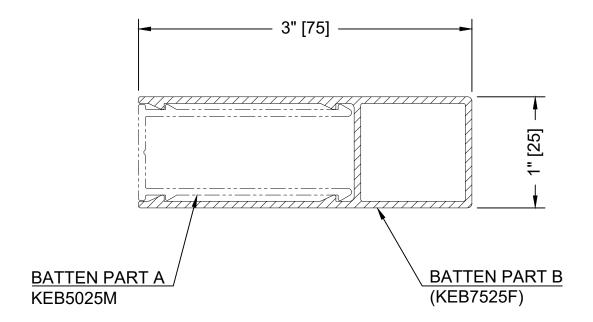




#### **TYPICAL 1"X2" NARROW BATTEN (KEB5025F)**



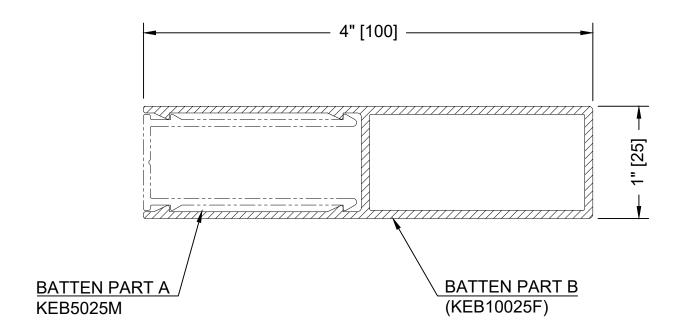




### **TYPICAL 1"X3" NARROW BATTEN (KEB7525F)**





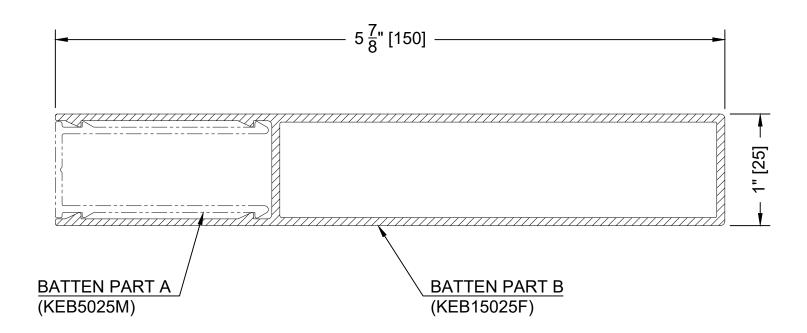


### **TYPICAL 1"X4" NARROW BATTEN (KEB10025F)**



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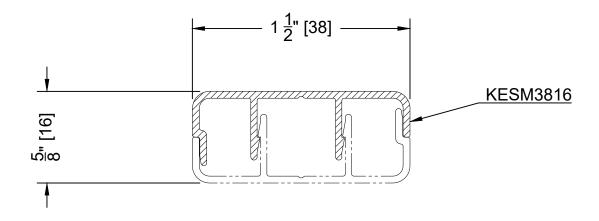
# KNOTWOOD TYPICAL DETAILS BATTENS



### **TYPICAL 1"X6" NARROW BATTEN (KEB15025F)**



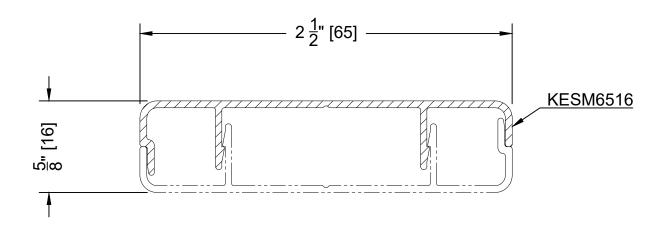




### TYPICAL 1-1/2"X5/8" SELF-MATING BATTEN (KESM3816)



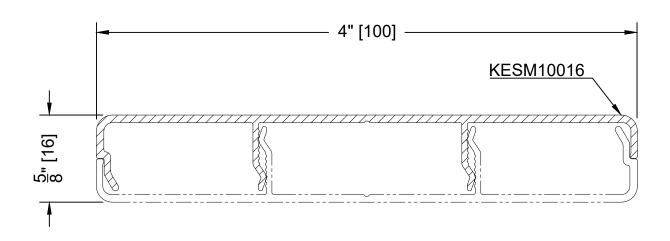




### TYPICAL 2-1/2"X5/8" SELF-MATING BATTEN (KESM6516)



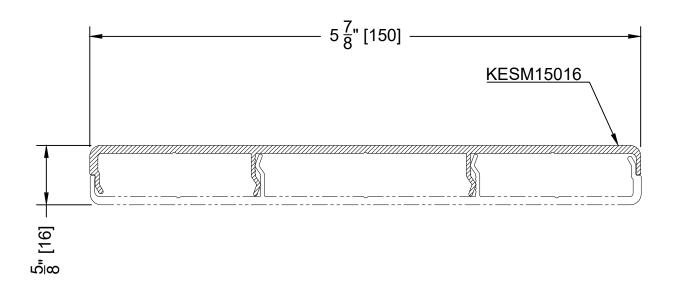




### TYPICAL 4"X5/8" SELF-MATING BATTEN (KESM10016)



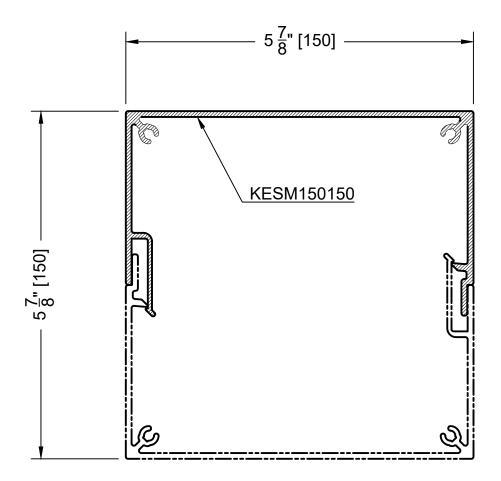




### TYPICAL 6"X5/8" SELF-MATING BATTEN (KESM15016)



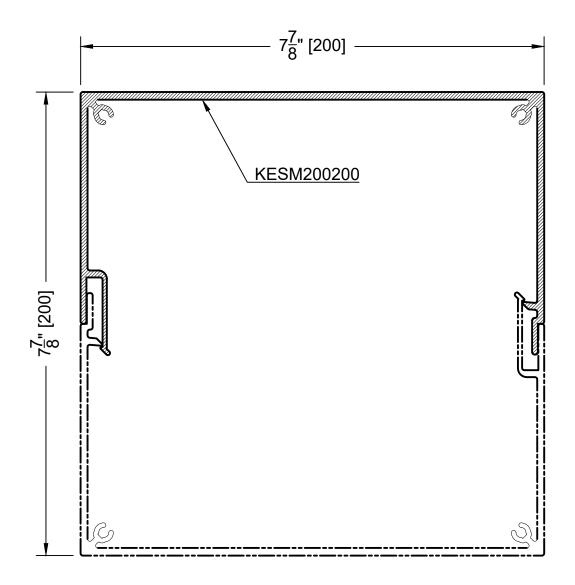




### **TYPICAL 6"X6" SELF-MATING BATTEN (KESM150150)**





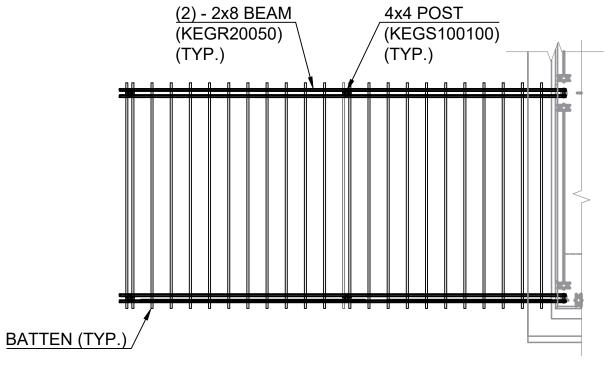


### **TYPICAL 8"X8" SELF-MATING BATTEN (KESM200200)**

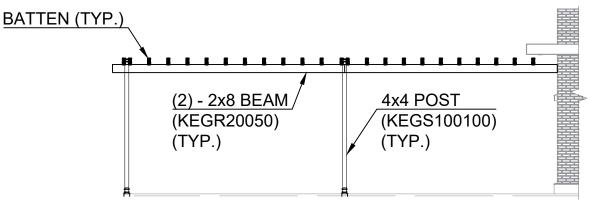




# KNOTWOOD TYPICAL DETAILS PERGOLAS



#### **PLAN VIEW**



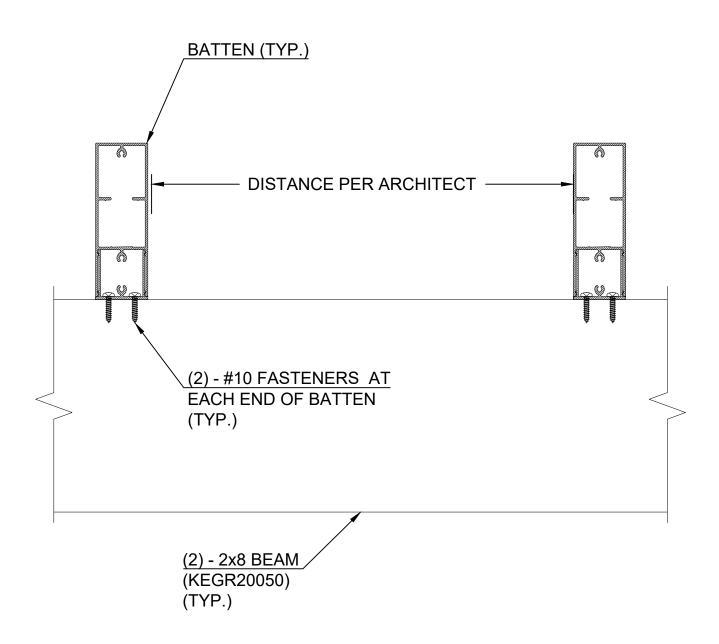
**ELEVATION** 

#### TYPICAL PERGOLA WITH BUILDING CONNECTION





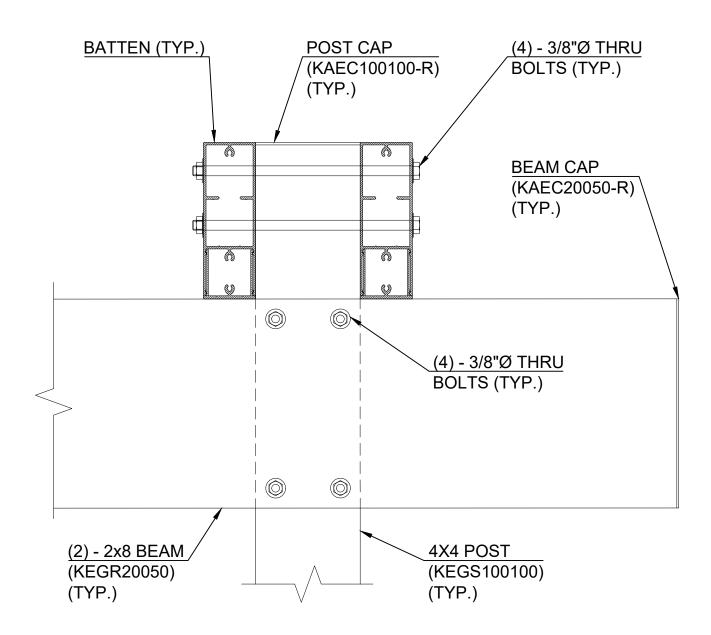
# KNOTWOOD TYPICAL DETAILS PERGOLAS



#### TYPICAL BATTEN CONNECTION

## KNOTWOOD

# KNOTWOOD TYPICAL DETAILS PERGOLAS

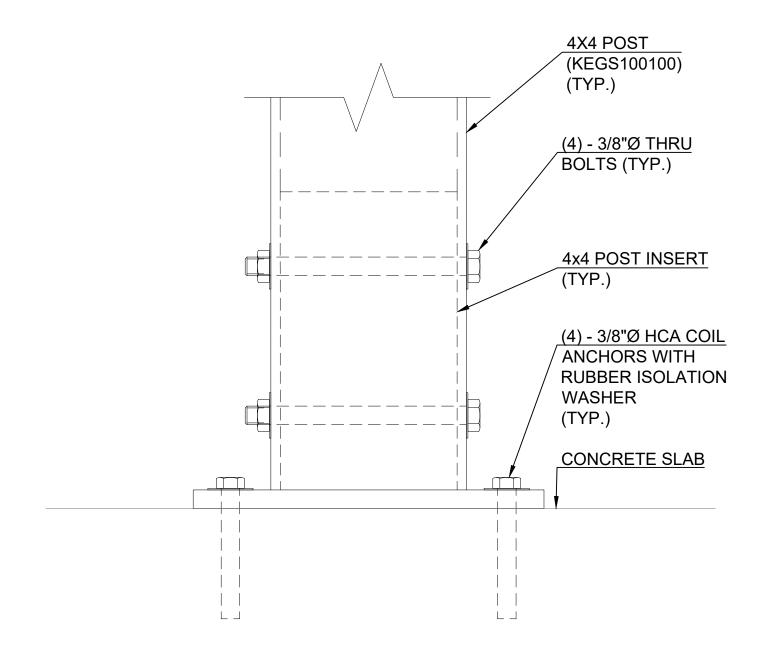


### TYPICAL UPPER POST CONNECTION



## KNOTWOOD

# KNOTWOOD TYPICAL DETAILS PERGOLAS



### TYPICAL POST BASEPLATE CONNECTION

#### **PRODUCT COMPARISON**

	DIZAL® (Aluminum)	KNOTWOOD™ (Aluminum)
Material	Aluminum	Marine Grade Aluminum Alloy
Colors	32 Woodgrain Colors + Textures No Solid Colors Advertised	38 Advertised Woodgrain 12 Standard / 48 Spec Order Solid Colors
Finish	Digital Inkjet Printing + Barrier Coating	Base Powder Coating + Woodgrain Sublimation process for long- lasting durability and aesthetics
Plank Versatility	Flat & V-Groove Plank ordered separately  – Multiple SKU's	Adjustable Interlocking channel provides reveal or no reveal installation – 1 SKU
Dimensions	16' – Standard cladding length 12' – Trim length	18' 6" - Standard cladding & trim length
Installation	Bottom Up Install Only	Top Down OR Bottom Up Install
Installation Process	Direct to wall with screws (limited ability to manage thermal expansion)	Specially designed "Clip" (allows thermal expansion without warping or buckling)
Thermal Expansion	Fasten screws into fixed slot 16" OC, controlled tightening to leave 1/16" gap to allow for expansion/contraction (difficult to monitor, labor intensive, & no drainage)	Fasten with screw 32" OC into custom Knotwood™ clips provided - clip allows for thermal expansion/contraction & drainage
Systems	Cladding, Battens	Cladding, Decking, Fencing, Railing, Screening, Battens, Gates, Enclosures,
Warranty	Limited Lifetime – Extrusions 15 years – Color & Finish ( <u>Not Warranted in coastal/salt water</u> environments)	Limited Lifetime – Extrusions 15 years - Sublimated Woodgrain Finish 20 years – Solid Colors ( <u>Warranted</u> in coastal/salt water environments)

#### Some of the benefits confirmed by various installers of Knotwood™ Cladding...

• Lower installation labor costs • Single person installation • Easy ground level damage replacement • Adjustable gap reveal for desired look and moisture resistance • Knotwood™ is available in other systems that can match same color of siding/cladding

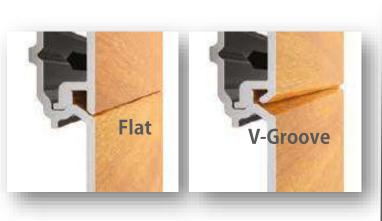




### **KNOTWOOD™**

[1] SKU Adjustable Interlocking Channel











**Tongue & Groove** · Bottom Up Install Only ·

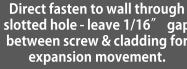


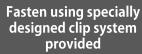
Interlocking Top Down or Bottom Up Install



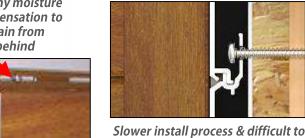


slotted hole - leave 1/16" gap between screw & cladding for expansion movement.









Slower install process & difficult to control screw tension - if too tight cladding can not expand & can buckle.





Clip allows for thermal expansion movement & keeps cladding off the wall allowing drainage if needed

**LOCATION:** ELECTRICAL 121 SUPPLY FROM: PHASES: 3 **MOUNTING:** SURFACE

VOLTS: 480/277 Wye SCCR RATING: 42k MAINS TYPE: MCB WIRES: 4 MCB RATING: 500 A

PANEL BOARD RATED AT 600A.

**ENCLOSURE**: TYPE 1

IDENTIFICATION	WIRE	POLE	AMP	СКТ	A kVA	B kVA	C kVA	A kVA	B kVA	C kVA	скт	AMP	POLE	WIRE	IDENTIFICATION
				1	0.00			0.00			2				
DP2		3	200	3		0.00			0.00		4	100	3		PP2
				5			0.00			0.00	6				
				7	0.00			2.84			8				
RTU-1	8	3	40	9		0.00			2.84		10	15	3	12	ERV-1
				11			0.00			2.84	12				
				13	0.00			11			14				CARACE ROOPS NORTH
EF-2	12	3	15	15		0.00			11		16	20	3	12	GARAGE DOORS-NORTH GARAGE
				17			0.00			11	18				3, 1, 1, 1, 1
				19	0.17			0.17			20				
CUH-1	12	3	20	21		0.17			0.17		22	20	3	12	CUH-2
				23			0.17			0.17	24				
EDILA DUOT				25	0.00						26				
EDH-1 DUCT HEATER-SHOWER 114	10	3	25	27		0.00					28				
_				29			0.00				30				
	CONN	IECTED	LOAD: (	(kVA)	14	.52	14	.52	14	.52					

**BRANCH PANEL: LP1** 

**LOCATION: SOUTH GARAGE 311** VOLTS: 480/277 Wye SUPPLY FROM: PHASES: 3 **MOUNTING:** SURFACE WIRES: 4 **ENCLOSURE**: TYPE 1

SCCR RATING: 22k MAINS TYPE: MCB MCB RATING: 200 A

1. PANEL TO HAVE SEPERATE GROUND AND NEUTRAL BUSSES.

IDENTIFICATION	WIRE	POLE	AMP	СКТ	A	В	С	A	В	С	скт	AMP	POLE	WIRE	IDENTIFICATIO
LIGHTS-WORK BAY 311	12	1	20		0.64			0.70			2	20	1	12	LIGHTS-MACHINE SHOP 30
LIGHTS-MECHANICS SHOP 307	12	1	20	3		1.15			0.00		4	20	1	12	LIGHTS-WASHBAY 31
LIGHTS-NORTH GARAGE 201	12	1	20	5			0.70			0.01	6	20	1	12	LIGHTS-ADMIN BUILDIN
LIGHTS-ADMIN BUILDING	12	1	20	7	0.01			0.00			8	20	1	12	EXTERIOR LIGHTING-ADMIN
LIGHTS-ADMIN BUILDING	12	1	20	9		0.00			0.00		10	20	1	12	EXTERIOR LIGHTING-SOUTH
LIGHTS-ADMIN BUILDING	12	1	20	11			0.00			0.28	12	20	1	12	SITE LIGHTIN
				13	0.00			0.00			14				
COMPRESSOR	12	3	20	15		0.00			0.00		16	15	3	12	MUA
				17			0.00			0.00	18				
				19	0.00			8.51			20				
EF-1, EF-3, EF-4	12	3	20	21		0.00			8.51		22	20	3	12	GARAGE DOORS-SOUT GARAGE 3
				23			0.00			8.51	24				S/IIVIOL 0
				25	2.84			8.51			26				CARACE DOORS MACHIA
MUA-1	10	3	25	27		2.84			8.51		28	20	3	12	GARAGE DOORS-MACHIN SHOP 30
				29			2.84			8.51	30				
				31	0.18			8.51			32				CARACE DOORS SOLI
DROP RECEPT	12	3	20	33		0.18			8.51		34	20	3	12	GARAGE DOORS-SOUT GARAGE 3
				35			0.18			8.51	36				5, 11 10 2 0
				37	0.18			0.00			38				
DROP RECEPT	12	3	20	39		0.18			0.00		40	30	3	10	HOTSEY PRESSURE WASHE
				41			0.18			0.00	42				
				43							44				
				45							46				
				47							48				
				49							50				
				51							52				
				53							54				
				55							56				
				57							58				
				59							60				

## **BRANCH PANEL: EM**

**LOCATION:** SOUTH GARAGE 311 VOLTS: 120/208 Wye PHASES: 3 SUPPLY FROM: WIRES: 4 **MOUNTING:** SURFACE

**ENCLOSURE**: TYPE 1

1. PANEL TO HAVE SEPERATE GROUND AND NEUTRAL BUSSES.

IDENTIFICATION	WIRE	POLE	AMP	СКТ	A kVA	B kVA	C kVA	A kVA	B kVA	C kVA	скт	AMP	POLE	WIRE	IDENTIFICATION
RECEPT-I.T. 131	12	1	20	1	0.18			0.18			2	20	1	12	RECEPTS-OFFICE
RECEPT-I.T. 131	12	1	20	3		0.18			0.72		4	20	1	12	RECEPTS-OFFICE 128,129
RECEPT-I.T. 131	12	1	20	5			0.00			0.00	6	20	1	12	RECEPTS-TRAINING A & B
RECET-STORAGE	12	1	20	7	0.00			0.00			8	20	1		RECEPTS-RECEPTION
RECEPT-OFFICE 302	12	1	20	9		0.00			0.00		10	20	1		RECEPTS-RADIO
RECEPT-MECHANICS SHOP	12	1	20	11			0.00			0.00	12	20	1	12	ENTRANCE EXTERIOR
RECEPTS-MACHINE SHOP		1	20	13	0.00			0.18			14	20	2	12	208V RECEPT-I.T. 131
WELL PUMP CONTROL PANEL	12	2	20	15		0.18			0.18		16	20		12	200V RECEPT-1.1. 131
WELL POWP CONTROL PAINEL	12		20	17			0.18			0.18	18	20	2	12	208V RECEPT-I.T. RM
RECEPT REFRGERATOR 118	12	1	20	19	0.18			0.18			20	20		12	200V NEGET 1-1.1. NW
POWER SUPPLY FOR PANIC	12	1	20	21		0.18					22				_
				23							24				
	CONN	NECTED	LOAD: (	(kVA)	1.	44	1.	98	0.	36					

## PANELBOARD: DP2

**LOCATION:** ELECTRICAL 121 VOLTS: 120/208 Wye PHASES: 3 SUPPLY FROM:

**MOUNTING:** SURFACE

**ENCLOSURE**: TYPE 1

MAINS TYPE: MCB MCB RATING: 400 A

SCCR RATING: 22k

SCCR RATING: 10k

MAINS TYPE: MCB

MCB RATING: 100 A

NOTES:

IDENTIFICATION	WIRE	POLE	AMP	СКТ	Α	В	С	Α	В	С	СКТ	AMP	POLE	WIRE	IDENTIFIC
				1	0			0			13				
EM		3	100 A	2		0			0		14	200 A	3		
				3			0			0	15				
				4	0						16				
PP4		3	200 A	5		0					17				
				6			0				18				
				7							19				
				8							20				
				9							21				
				10							22				
				11							23				
				12							24				
	CONN	ECTED	LOAD: (	(kVA)	0 k	VA	0 k	VA	0 k	.VA					•

WIRES: 4

## **BRANCH PANEL: PP1**

**LOCATION: MECHANICS SHOP 307** SCCR RATING: 22k VOLTS: 120/208 Wye MAINS TYPE: MLO **PHASES**: 3 SUPPLY FROM: WIRES: 4 **MOUNTING:** SURFACE MCB RATING: 400 A

1. PANEL TO HAVE SEPERATE GROUND AND NEUTRAL BUSSES.

**ENCLOSURE**: TYPE 1

	İ	1											1		1
					A	В	С	Α	В	С					
IDENTIFICATION	WIRE	POLE	AMP	СКТ							скт	AMP	POLE	WIRE	IDENTIFICATIO
RECEPT-TIRE BALANCER	12	1	20	1	0.18			0.18			2	50	2	8	208V RECEPT-MECHANIC
RECEPT-TIRE MACHINE	12	1	20	3		0.18			0.18		4	30		0	SHOP 30
RECEPT MECHANICS SHOP 307	8	2	50	5 7	0.18		0.18	0.18		0.18	6 8	50	2	8	208V RECEPT-MECHANIC SHOP 30
208V RECEPT-MECHANICS SHOP 307	8	2	50	9 11		0.18	0.18		0.18	0.18	10 12	50	2	8	208V RECEPT-MECHANIC SHOP 30
208V RECEPT-MECHANICS		_	- FO	13	0.18			0.72			14	20	1	12	RECEPTS-MECHANICS SHOP.
SHOP 307	8	2	50	15		0.18			0.54		16	20	1	12	RECEPTS-MECHANICS SHOP.
RECEPTS-MECHANICS SHOP	12	1	20	17			0.54			0.72	18	20	1	12	RECEPTS-MECHANICS SHOP.
RECEPT-208V DROP CORD	12	2	20	19	0.18			0.00			20	20	1	12	EF-5-WASHBAY 310 EXTERIO
MECHANICS SHOP 307	12		20	21		0.18			0.50		22	20	1	12	DOOR POWER-WASHBA
WH-2-FLUIDS 306	12	1	20	23			0.18			0.00	24	20	1	12	UH-7-MECHANICS SHOP 30
WH-3-FLUIDS 306	12	1	20	25	0.00			0.17			26				
WASTE OIL HEATER	12	1	20	27		0.00			0.17		28	60	3	6	RECEPT FOR VEHICLE LIF
WASTE OIL HEATER	12	1	20	29			0.00			0.17	30				
UH-6-MECHANICS SHOP 307	12	1	20		0.00			0.25			32	20	2	12	OVERHEAD FAN-MECHANIC
WATER SOFTENER	12	1	20	33		0.18			0.25		34	20		12	SHOP 30
RECEPTS - EXTERIOR	12	1	20	35			0.54			1.00		20	1	12	SMOKE/FIRE DAMPER
DUCT SMOKE-MECHANICS	12	1	20	37	0.50			2.00			38	20	1	12	CO/NO2 SENSORS-SOUTH.
GARAGE DOOR-FLUIDS 306	12	1	20	39		8.51			0.00		40	20	1	12	AIR DRYE
LOUVER L-1-COMPRESSOR	12	1	20	41			8.51				42				
				43							44				
				45							46				
				47							48				
				49							50				
				51							52				
1				53							54				
	CONN	IECTED	LOAD: (	kVA)	4.	72	11	.23	12	.38		_			

## **BRANCH PANEL: PP2**

**LOCATION**: ELECTRICAL 121 VOLTS: 120/208 Wye SCCR RATING: 22K MAINS TYPE: MCB SUPPLY FROM: PHASES: 3 **MOUNTING:** SURFACE WIRES: 4 MCB RATING: 200 A **ENCLOSURE**: TYPE 1

					A	В	С	Α	В	С					
IDENTIFICATION	WIRE	POLE	AMP	СКТ							СКТ	AMP	POLE	WIRE	IDENTIFICATION
RECEPT-CROCK POT RM 130	12	1	20		0.18			0.18			2	20	1	12	RECEPT-CROCK POT RM 130
RECEPT-CROCK POT RM 130	12	1	20	3		0.18			0.18		4	20	1	12	RECEPT-CROCK POT RM 130
RECEPTS-OFFICE 123,	12	1	20	5			1.26			1.08		20	1	12	RECEPTS-OFFICE 124,125,
RECEPTS-OFFICE	12	1	20	+	0.54			0.00			8	20	1	12	EF-7
RECEPTS-COPY/STORAGE 127	12	1	20	9		0.54			0.54		10	20	1	12	RECEPTS-TLT 115,117,WATE
SERVICE RECEPT FOR ACC-1	12	1	20	11			0.72			0.18		20	1	12	RECEPT FOR MICROWAVE
GARBAGE DISPOSAL	12	1	20		0.18			0.18			14	20	1	12	RECEPT FOR MICROWAVE
RECEPTS-LOUNGE 116	12	1	20	15		0.90			0.18		16	20	1	12	RECEPT-BREAK RM 118
RECEPTS-TLT 112,LOCKER	12	1	20	17			0.90			0.18		40	2	8	STOVE
RECEPTS-TRAINING A 104,TL	12	1	20	19	1.08			0.18			20				
RECEPTS-NORTH GARAGE	12	1	20	21		0.72			0.18		22	20	1	12	RECEPTS-TLT 107,LOCKER
RECEPTS-NORTH GARAGE	12	1	20	23			0.54			0.18		20	1	12	FLOOR BOX-HOTELING 126
DECORATIVE LIGHTING-ADM	12	1	20	25	0.60			0.72			26	20	1	12	RECEPTS-NORTH GARAGE
UH-1-NORTH GARAGE 201	12	1	20	27		0.00			0.00		28	20	1	12	WH-1-JC 110
EF-6-TLT 102	12	1	20	29			0.00			0.18	30	20	1	12	RECET-RTU-1
FOOTING DRAIN PUMP	12	1	20	31	0.50			0.00			32	20	1	12	UH-2-NORTH GARAGE 201
RECEPT-BREAK ROOM 118	12	1	20	33		0.18			1.00		34	20	1	12	FRONT DOOR OPERATORS
RECEPTS	12	1	20	35			0.36			0.18	36	20	1	12	RECEPT-BREAK ROOM 118
RECEPT-OFFICE 128	12	1	20	37	0.18			0.50			38	20	1	12	RANGE HOOD
EXTERIOR ROAD SIGN	8	1	20	39		0.28			0.90		40	20	1	12	RECEPTS
RECEPTS-CORRIDOR 103	12	1	20	41			0.36			0.18	42	20	1	12	COPIER/PRINTER-COPY
LOUVER L-2	12	1	20	43	1.01			0.54			44	20	1	12	FLOOR BOXES TRAINING A
CO/NO2 DETCTOR-NORTH	12	1	20	45		0.50			0.18		46	20	1	12	FLOOR BOXES TRAINING A
10 1 100 1 I T 101	40		0.5	47			0.00			0.00	48	20	1	12	ROOF VENTS
AC-1,ACC-1-I.T. 131	12	2	25	49	0.00			0.00			50	20	1	12	ROOF VENTS
COILING DOORS-OFFICE	12	1	20	51		1.00			0.25		52				= = =
RECEPT-JC 110	12	1	20	53			0.18			0.25	54	20	2	12	HAND DRYER-TLT 115,117
				55	0.25			0.18			56	20	1	12	DUCT SMOKE
HAND DRYER-TLT 107,112	12	2	20	57		0.25			2.50		58	20	1	12	FIRE/SMOKE DAMPERS
				59							60				
				61							62				
				63							64				
				65							66				
				67							68				
				69							70				
				71							72				
				73							74				
				75							76				
				77							78				
				79							80				
				81							82				
				83							84				
	CONN	IECTED	Ι ΟΔΟ: /		7.	00	10	.46	6	└── 73	<del></del>	<u> </u>		<u> </u>	1

## **BRANCH PANEL: PP3**

LOCATION: SCCR RATING: 10k VOLTS: 120/208 Single MAINS TYPE: MLO SUPPLY FROM: PHASES: 1 MOUNTING: SURFACE WIRES: 3 MCB RATING: 1 A **ENCLOSURE**: TYPE 1

1. BOND PANEL TO GAS LINE IN WARM STORAGE AND INSTALL 5/8" X 8' GROUND ROD. CONDUCTOR SIZE PER NEC. PANEL TO HAVE SEPERATE GROUND AND NEUTRAL BUSSES.

IDENTIFICATION	WIRE	POLE	AMP	СКТ	A	В	A	В	скт	AMP	POLE	WIRE	IDENTIFICATION
IDENTIFICATION	VVINE	POLE	AIVIE	CKI						AIVIF	POLE	AAILE	IDENTIFICATION
200V BECERT COLD STORAGE	12	2	20	1	0.18		0.18		2	20	2	12	200V BECERT COLD STORAGE
208V RECEPT, COLD STORAGE	12		20	3		0.18		0.18	4	20		12	208V RECEPT, COLD STORAGE
RECEPTS-HEATED STORAGE	12	1	20	5	1.08		0.90		6	20	1	12	RECEPTS-HEATED STORAGE
RECEPTS-COLD STORAGE 420	12	1	20	7		0.72		0.00	8	20	1	12	UH-8-HEATED STORAGE 410
LIGHTS-COLD STORAGE 420	12	1	20	9	0.70		0.70		10	20	1	12	LIGHTS-HEATED COLD
FOOTING DRAIN PUMP	12	1	20	11		0.18			12				
				13					14				
				15					16				
	CONNECTED LOAD: (k)					75	1.:	26					

CHEDUL	E NOTES:					
			LY FUNCTIONING LIGHTING SYSTEM.			
	E POWER FOR WIRELESS		DED. A FULLY FUNCTIONING SYSTEM.			
TYPE	DESCRIPTION	MFR.	CATALOG #	LAMPS	WATTS	NOTES
		1 1 1 1 1				
CL1	COVE LIGHTING	VODE LIGHTING	707-Z9 SL-288"-60"-AC-0-IP-AE-2-0-Z-SO-40-C1-0-AL-0	LED	33	PURCHASE WITH JUMPER CABLES PART NUMBER PWH-707-Z9-24-MF-WJ
CL2	COVE LIGHTING	VODE LIGHTING	707-Z9-SL-336"-72"-AC-0-IP-AE-2-0-Z-SO-40-C1-0-A L-0	LED	72	PURCHASE WITH JUMPER CABLES PART NUMBER PWH-707-Z9-24-MF-WJ
FL1	FLOOD LIGHT	STREETWORKS	UFLD-S-C15-E-U-66-KNC-BK	LED	51	AIM AT CENTER OF FLAG POLE AT CENTER OF FLAG HEIGHT
HB1	HIGH BAY	METALUX	OHB-18HE-W-UNV-L840-CD-ZW-SWPD3	LED	102	PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING
HB1E	HIGH BAY	METALUX	OHB-18HE-W-UNV-L840-EL20W-CD-ZW-SWPD3	LED	102	PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING. REQUIRES UN-SWITCHED HOT
HB2	HIGH BAY	METALUX	OHB-12HE-W-UNV-L840-CD-ZW-SWPD3	LED	68	PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING
HB3	HIGH BAY	METALUX	OHB-15HE-W-UNV-L840-CD-ZW-SWPD3	LED	83	PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING
HB3E	HIGH BAY	METALUX	OHB-15HE-W-UNV-L840-EL20W-CD-ZW-SWPD3	LED	83	PROVIDE ALL NECESSARY HARDWARE FOR MOUNTING. REQUIRES UN-SWITCHED HOT
LC1	RECESSED CAN	HALO	PR6FS12D010 REM7 PR6M12WD8FSMMS	LED	10.5	The state of the s
LC1E	RECESSED CAN	HALO	PR6FS12D010 PR6M12WD8FSMMS	LED	10.5	REQUIRES UN-SWITCHED HOT
LC2	VANDEL PROOF CAN LIGHT	FAIL-SAFE	FLD6BX20D010 FEU6B-1/2-8040 F6LBXVM1L1	LED	21.2	
LC2E	VANDEL PROOF CAN LIGHT	FAIL-SAFE	FLD6BX20D010 EM7 FEU6B-1/2-8040 F6LBXVM1L1	LED	21.2	REQUIRES UN-SWITCHED HOT
LC3	VANDEL PROOF CAN LIGHT	FAIL-SAFE	FLD6BX15D010 FEU6B-1/2-8040 F6LBXVM1L1	LED	15.5	TALEGORIAL ON OWN ON THE THE T
LC3E	VANDEL PROOF CAN LIGHT	FAIL-SAFE	FLD6BX15D010 EM7 FEU6B-1/2-8040 F6LBXVM1L1	LED	15.5	REQUIRES UN-SWITCHED HOT
LP1	DECORATIVE PENDANT FIXTURE	KITCHLER	3497NI	LED	13	PROVIDE 13W DIMMABLE LED BULB
LP2	DECORATIVE PENDANT FIXTURE	KITCHLER	2664PN	LED	13	PROVIDE 13W DIMMABLE LED BULB
LS1	UNDERCABINET LINEAR	FAIL-SAFE	UCL-2-40-A12125-ED01-UNV	LED	17.5	
LS2	SURFACE MOUNT LINEAR	METALUX	4SNLED-LD5-56SL-LN-UNV-L840-CD-1	LED	46	
LS2E	SURFACE MOUNT LINEAR	METALUX	4SNLED-LD5-56SL-LN-UNV-EL14-L840-CD-1	LED	46	REQUIRES UN-SWITCHED HOT
LS3	SURFACE MOUNT LINEAR	METALUX	4SNLED-LD5-74HL-LN-UNV-L840-CD-1	LED	62	
LS3E	SURFACE MOUNT LINEAR	METALUX	4SNLED-LD5-74HL-LN-UNV-EL14-L840-CD-1	LED	62	REQUIRES UN-SWITCHED HOT
LS4	SURFACE MOUNT LINEAR	METALUX	8SNLED-LD5-60SL-LN-UNV-L840-CD-1	LED	42	
LT1	2x2 TROFFER	METALUX	22-FPX-32-L840-HCD-WAA	LED	31.2	
LT1E	2x2 TROFFER	METALUX	22-FPX-32-EL14W-L840-HCD-WAA	LED	31.2	REQUIRES UN-SWITCHED HOT
LT2	2x2 TROFFER	METALUX	22EN-LD2-30-L840-CD-1-WAA-U	LED	24.9	TALEGORIAL OF CONTROLLED THE T
LT2E	2x2 TROFFER	METALUX	22EN-LD2-30-EL14W-L840-CD-1-WAA-U	LED	24.9	REQUIRES UN-SWITCHED HOT
LW1	WALL SCONCE	BEGA	22 862	LED	2.9	PROVIDE ADDRESSABLE SWITCH PACK AS NEED PER EACH SPACE.
LW2	BARN LIGHT	BARN LIGHT ELECTRIC CO.	G-WHS12-150-G26-LED16-4000K-FL	LED	16	PROVIDE ADDRESSABLE SWITCH PACK AS NEED PER EACH SPACE.
PL1	POLE LIGHT	MCGRAW-EDISON	GLEON-SA2B-740-U-T3-QMEA-BZ	LED	85	PROVIDE POLE SSA-6M-25W-FGV
PL2	POLE LIGHT	MCGRAW-EDISON	GLEON-SA2B-740-U-T4FT-QMEA-BZ	LED	85 /1	PROVIDE POLE SSA-6M-25W-FGV
VT1	SURFACE MOUNT LINEAR	METALUX	4VT2 LD5 8 DR UNV L840 CD1 WL SSL TEH	LED	58 <u>7 .</u>	
VT1E	SURFACE MOUNT LINEAR	METALUX	4VT2 LD5 8 DR UNV EL10W L840 CD1 WL SSL TEH	LED	58	REQUIRES UN-SWITCHED HOT
WP1	WALL PACK	MCGRAW-EDISON	GLEON-SA1A-740-U-T3-BZ-WM	LED	34	
WP2	WALL PACK	LUMARK	XTOR6B-W	LED	58	†
WP3	WALL PACK	LUMARK	XTOR8B-W	LED	81	<u> </u>
X1	EXIT SIGN	LITHONIA	LHQM LED R HORO	LED	4.3	PROVIDE UNSWITCHED HOT
X2	EXIT SIGN BUG EYES	LITHONIA	ELMRW-LP220L-DDBTXD-SGL	LED	1	CONNECT TO EXIT SIGN
/\ <u>L</u>	EXIT SIGN BOG ETES	LITTONIA	FFIAIL (AA-FL STOF-DDD I VD-OOF	LLV	ı	TOOMINEOU TO EXIT OION

				LIGHTING CO	NTROL SCH	EDULE - MA	IN BUILDING	
SCHEME NO.	MANUAL ON	DIMMING	NO. OF SCENES	MULTIPLE ZONES	DAYLIGHTING	OCCUPANCY SENSOR	VACANCY SENSOR	ORDER OF OPERATION
1		Х	2		X	Х		AUTOMATIC ON 50%, AUTOMATIC OFF AFTER 15 MINUTES OF NO MOTION DETECTED, DAYLIGHTING FOR ROOMS WITH EXTERIOR GLAZING AREA GREATER THAN 20FT <sup>2</sup> .  • PUSH BUTTON 1 ONCE OR PUSH BUTTON 1 - ALL LIGHTS ON 100%. RAISE/LOWER TO ADJUST OUTPUT OF ALL LIGHTS.  • PUSH BUTTON 1 A 2ND TIME OR PUSH BUTTON 2 - ALL LIGHTS TO 50%. RAISE/LOWER TO ADJUST OUTPUT OF ALL LIGHTS.  • OFF BUTTON TO TURN ALL LIGHTS OFF.
2			1			Х		AUTOMATIC ON/AUTOMATIC OFF AFTER 20 MINUTES.  • BOTTON TOGGLES LIGHTS ON TO 100% AND OFF.
3		Х	1			Х		AUTOMATIC ON 50%, AUTOMATIC OFF AFTER 15 MINUTES.  • PUSH BUTTON 1 ONCE OR PUSH BUTTON 1 - ALL LIGHTS ON 100%. RAISE/LOWER TO ADJUST OUTPUT OF ALL LIGHTS.  • OFF BUTTON TO TURN ALL LIGHTS OFF.
4		X	2	X	X	Х		AUTOMATIC ON 50%, AUTOMATIC OFF AFTER 15 MINUTES. DAYLIGHTING.  • PUSH BUTTON 1 ONCE OR PUSH BUTTON 1 - ALL LIGHTS ON 100%. RAISE/LOWER TO ADJUST OUTPUT OF ALL LIGHTS.  • PUSH BUTTON 1 A 2ND TIME OR PUSH BUTTON 2 - ALL LIGHTS TO 50%.  • ABILITY TO RAISE/LOWER EACH ZONE INDEPENDENTLY AND ALL LIGHTS IN THE SPACE COLLECTIVELY.  • OFF BUTTON TO TURN ALL LIGHTS OFF.
5		Х	1		Х	Х		AUTOMATIC ON 100%, AUTOMATIC OFF AFTER 15 MINUTES, DAYLIGHTING FOR ROOMS WITH EXTERIOR GLAZING AREA GREATER THAN 20FT <sup>2</sup> .  • OFF BUTTON TO TURN OFF ALL LIGHTS. RAISE LOWER TO ADJUST OUTPUT OF CEILING MOUNTED LIGHTS.
6	Х		1		$\bigwedge$		Х	MANUAL ON / AUTOMATIC OFF AFTER 20 MINUTES OF NO MOTION.  • BUTTON/SWITCH TOGGLES LIGHTS ON TO 100% AND OFF.
7			1	х		Х		AUTOMATIC ON 50%, AUTOMATIC OFF AFTER 15 MINUTES.  • BUTTON TOGGLES LIGHTS ON AND OFF SEPERATLY IN EACH ZONE AND COLLECTIVELY TO 100%. RAISE/LOWER EACH ZONE INDIVIDUALLY AND ALL LIGHTS IN THE SPACE COLLECTIVELY.
8	х	<u>x</u>	1	х	<u>^</u>		Х	SWITCHES MUST BE INDUSTRIAL RATED.  MANUAL ON / AUTOMATIC OFF AFTER 20 MINUTES OF NO MOTION.  SWITCH TOGGLES LIGHTS ON TO 100% AND OFF.  SWITCH DIMS FIXTURES BY ZONES AND COLLECTIVELY.

NOTE: WALL MOUNTED WORK LIGHTS IN GARAGE AREAS TO BE MANUAL ON/OFF AND TO BE CONTROLLED BY THEIR OWN SWITCH. SWITCHES FOR THESE TO BE INDUSTRIAL RATED.

			FLOOR BOX SCH	HEDULE
TYPE	MANUFACTURER	MODEL#	COVER PLATE MODEL #	COMMENTS
FB1	HUBBELL	CFB4G30R	24GCCVRBKC	PROVIDE ALL NECESSARY COMPONENTS FOR TWO RECEPTACLES AND TWO DATA JACKS PER BOX. PROVIDE 2 CFBHUB2 PER BOX.

BRANCH	$+P_{i}$	ANI	EL:	P	P4	-									
LOCATION:	MACHIN	NE SHOF	9 304			VO	LTS:	120/	208 W	/ye			SCCR R	ATING:	22k
SUPPLY FROM:						PHAS	SES:	3					MAINS	S TYPE:	MLO
MOUNTING:	SURFA	CE				WIE	RES:	4					MCB R	ATING;	NONE X
		OL				****	·LO.	7					mob i	٠,,,,,	3
ENCLOSURE:	ITPEI														
NOTES:															
1. PANEL TO HAVE SEPERATE	GROUNI	D AND N	EUTRAI	_ BUS	SES.										
DENTIFICATION	WIRE	POLE	AMP	СКТ	A kVA	B kVA	C kVA	A kVA	B kVA	C kVA	скт	AMP	POLE	WIRE	IDENTIFICATION
RECEPTS-SOUTH GARAGE 311		1	20		0.72			0.72			2	20	1	12	RECEPTS-SOUTH GARAGE 31
RECEPTS-SOUTH GARAGE 311	12	1	20	3		0.54			0.18		4	20	1	12	RECEPT-DRILL PRESS
RECEPT-BAN SAW	12	1	20	5			0.18			0.90	6	20	1	12	RECEPTS-MACHINE SHOP 304
RECEPTS-OFFICE 302	12	1	20	7	0.72			0.18			8	F0	2	0	DECEDT WELDER
208V RECEPT-MACHINE SHOP	8	2	50	9		0.18			0.18		10	50	2	8	RECEPT-WELDEF
304	0		50	11			0.18			0.18	12	50	2	8	208V RECEPT-MACHINE SHOP
208V RECEPT-MACHINE SHOP	8	2	50	13	0.18			0.18			14	50	2	0	304
304	O		30	15		0.18			0.18		16	50	2	8	208V RECEPT-MACHINE SHOP
208V RECEPT-MACHINE SHOP	8	2	50	17			0.18			0.18	18	30	2	0	304
304	Ů		30	19	0.18			0.18			20	50	2	8	208V RECEPT-MACHINE SHOP
208V RECEPT-MACHINE SHOP	8	2	50	21		0.18			0.18		22				304
304				23			0.18			0.18	24	50	2	8	208V RECEPT-MACHINE SHOP
208V RECEPT-MACHINE SHOP	8	2	50		0.18			0.18			26		_		304
304	_			27		0.18			0.18		28	50	2	8	208V RECEPT-MACHINE SHOP
RECEPTS-MACHINE SHOP 304	12	1	20	29			0.54			0.18	30				304
RECEPTS-MACHINE SHOP 304	12	1	20		0.54			0.72			32	20	1	12	RECEPTS-MACHINE SHOP 304
ATHE-MACHINE SHOP 304	12	2	20	33		0.00	0.65		0.00		34	20	1	12	UH-5,HU-3,UH-4-SOUTH
				35	4.64		0.00			0.50		30	1	10	EWH-1,EWH-2-CORRIDOR
1 LOUVER-SOUTH GARAGE	12	1	20		1.01						38				
				39							40				
				41			_				42				
	CONN	IECTED	LOAD: (	(kVA)	5.6	66	2.	16	3.	38					

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