59-A-1 **#2014-038**

460 Commercial Street

IMT (Portland International Marine Terminal)

MDOT (Maine Department of Transportation)

ATT 2

Rick Knowland - IMT June 10th planning workshop to discuss New Yard access and rights related to IMT acquisition

From: "Kittredge, Joel" <Joel.C.Kittredge@maine.gov>
To: "'rwk@portlandmaine.gov'" <rwk@portlandmaine.gov>
Date: 5/29/2014 4:02 PM
Subject: IMT June 10th planning workshop to discuss New Yard access and rights related to IMT acquisition
CC: "Kemmerle, Toni" <Toni.Kemmerle@maine.gov>, "Van Note, Bruce" <Bruce.Van...

Hi Rick:

We understand that the planning board desires a June 10th workshop in which the board members will gain understanding of resolution of items raised in Steve Bushey's letter to you dated May 20, 2014. You are aware that MaineDOT and New Yard previously agreed in writing to terms and conditions regarding access, utilities, and drainage on our abutting projects. Unfortunately the specifics are confidential.

Toni Kemmerle, MaineDOT Chief Council, will be making contact(s) in an effort to further describe the MaineDOT/New Yard level of cooperation allowing planning board members clear understanding of property access. While we are certainly prepared to present our project on the 10th, we hope that City staff will gain clarity from Toni's additional efforts, negating the need for a workshop dedicated to New Yard issues.

Sincerely---Joel

CARROLL ASSOCIATES
LANDSCAPE ARCHITECTS

June 6, 2014

Mr. Rick Knowland, Senior Planner
City of Portland Planning Authority
4th Floor, City Hall
389 Congress Street
Portland, ME 04101

RE: Portland International Marine Terminal
Existing Laydown and Connecting Corridor Connection Project
Response to Staff Comments

Dear Rick,

On behalf of the MaineDOT and Portland International Marine Terminal, we are submitting a memorandum from HNTB with responses to all Staff comments based on your current review of the IMT Expansion Project. These responses reflect comments from the following City Staff and Consultants:

- David Margolis-Pineo, Department of Public Services.
- Jeff Tarling, City Arborist
- Marge Schmuckal, Zoning Administrator
- Tom Errico, Jeremiah Bartlett, Scott Quillette, Kevin Thomas, Traffic
- Rick Knowland, Planning Staff

We are hopeful that these responses adequately answer the issues raised to date and look forward to discussing the project in greater detail with the Planning Board on June 10.

The final drawing package will be delivered later today under a separate cover.

We look forward to working with you, Planning Department staff, and the Planning Board in the review of this project. Please feel free to contact me to discuss any questions or concerns you may have regarding the attached application materials.

Sincerely,
CARROLL ASSOCIATES

Patrick J. Carroll
Principal

Enc.

CC: Craig Morin, HNTB
Joel Kittredge, MaineDOT
Matt Phillips, Carroll Associates

HNTB Corporation
The HNTB Companies
Engineers Architects Planners

340 County Road, Suite 6-C
Westbrook, ME 04092

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Facsimile (207) 228-0909
www.hntb.com

June 6, 2014

HNTB

Mr. Richard Knowland
Senior Planner
City of Portland
389 Congress Street
Portland, ME 04101

RE: Site Plan Application for Portland IMT, Existing Laydown and Connecting Corridor Connection
Site Plan Addendum #4

C/O: Pat Carroll, Carroll Associates (email: pcarroll@carroll-assoc.com)

Rick,

Please find attached responses to the City's latest questions and comments received regarding the Portland IMT subject project. We have copied the comments directly into this letter and provided our responses immediately following each comment. If you have any additional questions regarding these responses, please do not hesitate to contact me or our project liaison, Pat Carroll.

Regards,

Craig R. Morin, P.E.
Project Manager

C: Joel Kittredge, Project Manager, MaineDOT (via email: Joel.C.Kittredge@maine.gov)

Encl.: Response to Comments
Attachments

HNTB File No.: 62506-DS-001-001
M:\jobs\62506 - Portland IMT Corridor Connection (Stage1)\Communications\Letters
LTR 02 Response to City Comments 06-05-14.docx

COMMENTS FROM DAVID MARGOLIS-PINEO (VIA EMAIL, MAY 14, 2014, ATTACHMENT A) AND RESPONSES:

Comment 1
A four foot concrete barrier is proposed along the Commercial Street right of way adjacent to the proposed loading dock. Also proposed along this same area within the right of way are porous concrete panels. It seems apparent that snow removal will be required to allow for proposed parking and to allow drainage. Since the City cannot guaranty snow removal in a timely fashion, it is proposed that the applicant pull all infrastructure back onto the applicant's property six feet and to reach an agreement with the City to allow for snow storage in this vacated area on the applicant's property.

Response: The location of the concrete loading slab is established to accommodate the necessary operations for rail car loading, as well as the conceptual future build-out scenario with an additional track. Fence lines, utilities, and the existing NGL tracks are interior constraints which prevent relocation of the slab. The layout of the slab is illustrated in Attachment B

Comment 2
To accommodate vehicle turning movement, the applicant is proposing to pave from the road right of way well onto the applicant's property. The City agrees to maintain infrastructure within the right of way with the understanding that all proposed work within the road right of way meets City of Portland Technical Manual standards.

Response: Agreed.

Comment 3
It is understood that the proposed porous [pervious] concrete panels are design for an H-20 loading, and prior to project approval the applicant submit the manufactures recommended maintenance requirements for these panel and that the City agrees to maintain those panels so they will function as designed.

Response: Sample manufacturer's product information and maintenance recommendations are included herein as Attachment C.

COMMENTS FROM JEFF TARLING (VIA EMAIL, MAY 9, 2014, ATTACHMENT D) AND RESPONSES:

Comment 1
C18 Landscaping Plan - Due to the space requirements on the IMT or 'water side' of Commercial Street the project directs street tree planting across the street along an improved sidewalk and esplanade. This compromise is a fair approach given the scale of the proposed project.

Landscape mitigation of the proposed wall should be explored. Options could include: varying the wall texture or scoring so that certain length of wall panels are accentuated vs continuous the same, create pockets for vegetation, some spaces could have a grove of Bayberry, others with vines perhaps. Could local MECA be advised of possible concrete forming options with a local arts theme?

Explore fence options including using black vinyl chain link vs galvanized to reduce glare.
Unsure if barbed wire is needed?

Response: The wall has been designed with a textured surface to provide aesthetic appeal. The height of the wall has been limited to 4-ft in height in order to provide visual views of the site while maintaining the necessary safety measures against the reach stacker operations. Block-outs for vegetation will not be provided since these can act as climbing devices which negate the effectiveness of the security fence and will result in added maintenance issues (watering, care, etc.). The applicant has revised its fence type to a more aesthetically pleasing and functional palisade fence style to enhance the "gateway" appearance of the site and facilitate snow removal, while upholding the Homeland Security, MTSA 105 requirements. The fence color will be black. See Attachment E.

Comment 2
The driveway apron material at Nova Seafood does not meet City standards and a waiver will be required.

Response: Agreed.

Comment 3
Several of the driveways on Commercial Street (IMT, Nova Seafood, and Gray Bar) do not meet City width standards and thus waivers will be required.

Response: Agreed.

Comment 4
Several of the driveways on Commercial Street do not meet City corner clearance and separation standards.

Response: Agreed, waiver will be required.

Comment 5
The City is requesting that truck parking on in-bound Commercial Street be prohibited for a specified distance in advance of the Beach Street intersection. The City will provide this restriction length.

Comment 6
The applicant should investigate the provision of a bicycle lane on Beach Street departing the intersection.

Response: There is currently a paved shoulder on Beach Street departing the intersection which functions as a bike lane.

Comment 7
I am concerned about traffic operations and congestion during peak time periods, particularly when the special Nova Seafood traffic signal phase is actuated. The applicant should investigate the ability to limit the traffic signal phase during peak time periods.

Response: The applicant met privately with Nova Seafood regarding the peak hour traffic. Nova Seafood has indicated that peak hour traffic cannot be controlled.

Comment 8
A sidewalk waiver has been requested and a review of the supporting information will be performed.

Response: Agreed.

Comment 9
A granite curbing waiver has been requested and a review of the supporting information will be performed.

Response: Agreed.

Comment 10
The applicant should provide information as it relates to use of the proposed traffic signal by existing IMT traffic. I believe there will be overall site traffic and safety benefits if all IMT traffic has the ability to use the traffic signal.

Response: The site traffic is dependent upon the level of security for each container, and therefore, the use of each entranceway is still required. Not all of the traffic generated at the IMT can utilize the traffic signal.

Comment 11
A construction management plan has been prepared. Additional information will be required as it relates to specific traffic, pedestrian, and bicycle impacts during construction.

Response: An initial construction management plan has been developed in brief and is included herein as Attachment I. Typically, a construction management plan is the responsibility of the contractor and is provided at the onset of construction. The project specifications will include the requirements outlined in the attachment in addition to the typical construction management requirements imposed by the State.

Comment 12
At the planning board workshop, there was discussion about the provision of a driveway entrance west of the project site for future development access and egress. The applicant should provide information in support of that driveway if that is to be included in the project approval.

Response: The driveway entrance in question is not part of this project. Any additional driveway entrances will be part of New Yard's future development.

Comment 13
The City does not support the use of pavement markings to delineated pavements areas for use by large trucks.

Response: The applicant is amenable to the use of cobblestones in areas traversed by large trucks in lieu of pavement markings. The cobblestone detail section will include cobblestones atop a sand layer atop a 6-inch thick fiber-reinforced concrete slab as shown in Attachment J.

Comment 14
The phasing for the intersection does not appear to be NEMA compliant. Please revise with Commercial Street as the main street, assuming an east-west phasing structure.

Response: Revised as shown in attached drawings.

Comment 15
The phasing sequence should begin with Commercial Street and end with Nova Seafood (currently designated as Phase 9).

Response: Revised as shown in attached drawings.

Comment 16
The peak hour cycle length seems unusually long for an intersection with this type of geometry, going as long as 150 seconds during the PM peak hour. Discussion should be provided as to why shorter cycle lengths cannot be achieved.

Response: With the addition of the Nova Seafood phase the natural cycle length is approximately 150 seconds, if the cycle length is shortened, LOS decreases. The Synchro Model has been provided to the City.

Comment 17
The pedestrian timing does not appear to provide sufficient crossing time, particularly for Commercial Street. Please confirm use of a standard 3.5 feet per second pedestrian crossing time from curb to curb.

Response: Revised as shown in attached drawings.

Comment 18
Given the sight distance issues for this intersection, the all-red clearance times should likely be extended.

Response: Revised as shown in attached drawings.

Comment 19
The City's technical standards are in the process to migrating to infra-red video detection as a requirement. The City now requires that either the cameras used with the VIP processors be the FLIR FC series or that the solution be based on the FLIR TrafiSense cameras.

Response: Revised as shown in attached drawings and in project specifications.

Comment 20
Please specify four-inch conduit to provide additional future wiring capabilities.

Response: Revised as shown in attached drawings.

Comment 21
Please provide one-piece pedestrian poles

Response: Revised as shown in attached drawings.

Comment 22
All pole bases, pull boxes and controller conduits should be sealed to prevent access by rodents and other small animals.

Response: Revised as shown in attached drawings.

Comment 23
Please confirm the method of advance notification when the Commercial Street westbound approach is red to account for minimal sight distances passing by Nova Seafood.

Response: There is a near side signal head on the southeast mast arm upright that is visible to westbound traffic.

Comment 24
It is my understanding that the Nova Seafood driveways will be restricted such that the easterly driveway will be an entrance only and the westerly driveway an exit only driveway. The plans do not reflect this.

Response: Nova seafood's owner intended for one way circulation with exiting traffic at signal.

Comment 25
There are areas of roadway pavement that appear to be located outside the public right-of-way. An agreement on maintenance may be required.

Response: HNTB agrees that an agreement would be prudent.

Comment 26
The applicant should note the material for the Nova Seafood island.

Response: Revised as shown in attached drawings. Type 1 curb will be installed on the street side, while Type 5 curb will be installed on the driveway side. The middle area will be filled with a 4-inch thick concrete infill.

Comment 27
The applicant should provide details for the area between the sidewalk and the Nova Seafood island.

Response: Revised as shown in attached drawings. The area will be cobblestone.

Comment 28
The left-turn bay shadowed island is depicted as paint. The applicant should investigate other material treatment for longevity purposes.

Response: The MaineDOT prefers paint in this application.

Comment 29
During Casco Bay Bridge openings, traffic may be backed up into the new traffic signalized intersection. The applicant should note whether there are any provisions for this scenario from a traffic signal perspective.

Response: There are no provisions for this scenario. If there are other intersections in the City where special provisions have been implemented, please provide these for our review.

Comment 30
The bicycle lane on the outbound side of Commercial Street continues to the limit of work, while the in-bound bicycle lane begins at the point where the left-turn lane is starting. The applicant should note why the in-bound bicycle lane can't start at the project limits.

Response: There is already a shoulder in this region for the bike lane, and our proposed bike lane ties into the existing layout.

Comment 31
The direction sign that notes Casco Bay Bridge 500 Feet is being removed. This removal should be confirmed by City staff.

Response: A new guide sign which is MUTCD compliant is being provided in lieu of the existing direction sign.

Comment 32
The plans illustrate that the sidewalk at the corner of the Nova Seafood building will not need to be reconstructed. Given that the curb is being relocated, the sidewalk will need to be upgraded.

Response: Agreed. We will show modifications to the existing sidewalk to illustrate the new location of the curb.

Comment 33
The length of curbing at the Nova Seafood driveway is being eliminated. Justification on this change shall be provided.

Response: Curbing is being removed from both sides of the driveway to facilitate truck entering/exiting movements.

Comment 34
A fire hydrant is located in the middle of the sidewalk east of the easternmost Nova Seafood driveway. It would be beneficial if this hydrant could be relocated.

Response: The hydrant is beyond the project limits of sidewalk work and is therefore not within the scope of this project.

Comment 35
The plan replaces an existing Casco Bay Bridge 500 Feet sign with a sign that notes Casco Bay Bridge (right) and Fore River Parkway (through). City staff should determine if this replacement is acceptable.

Response: A new guide sign which is MUTCD compliant is being provided in lieu of the existing direction sign.

Comment 36
It was my understanding that the bicycle lanes were going to have dashed line treatment through the intersection. The plans do not depict this.

Response: Revised as shown in attached drawings.

Comment 37
The applicant should confirm that adequate illumination will be provided at the two crosswalk locations.

Response: Dual-purpose mast arm uprights have been included in the project to provide adequate light for the intersection including the crosswalks.

COMMENTS FROM CITY STAFF MEMBERS (VIA EMAIL, JUNE 4, 2014, ATTACHMENT K) AND RESPONSES:

Comment 1
There is an assumption that brick along the expansive sidewalk apron by Nova could be damaged by heavy truck use. A comment from Alex is that he would prefer inlaid, narrow edge/soldier course brick. That is the preference. If someone can provide documentation that it's not possible to design a brick sidewalk without risking excessive damage to the sidewalk from truck traffic than we are open to another material.

Response: We will update the drawings to reflect the suggested change.

Comment 2
There was discussion about a protocol (or management) system that Nova would use to avoid potential problems with the traffic light such as trucks or cars parking within the signal detection area. Any progress on that?

Response: There is a provision within the video/Thermal detection system to skip a call once the call has reached a 240 second duration. It would mean two cycles, but would not continue beyond two calls. No additional cost, this is a programming feature of the system.

Comment 3
People seem to like the pervious panels but would like further info and references regarding product history, maintenance and durability. There were several comments indicating it will be a challenge for the city to maintain the panels. (Would the State be willing to maintain it?) A question came up whether there could be scuppers or breaks in the wall to serve as an outlet for water in case there was a failure.

Response: Additional information regarding the pervious panels is provided in Attachment C. In previous discussions, the City has indicated that it was willing to perform the maintenance of the panels and maintain the infrastructure in the right-of-way, hence the reason for the earlier literature request (please see Comments #2 and #3 from David Pineo Margolis on May 14, 2014). In the event the panels do not provide adequate drainage as intended, there are two manholes at the eastern end of the concrete barrier to provide adequate drainage for runoff.

Comment 4
Green bike lane questions came up regarding maintenance, available warranty and durability. Further info would be helpful. One comment was whether it would make sense to shave some of the pavement first prior to installation so when the bike lane material is applied it would be thicker.

Response: Additional information regarding the bike lane material is provided in Attachment L. *The design team agrees that shaving the pavement is an appropriate step to ensure longevity in the coating material to avoid damage by plows.*

Comment 5
By Nova Seafood, City wants the cobblestones back because it provides a clear delineation for circulation movements (trucks, cars, peds). The material should Belgium blocks. The expansive sidewalk apron along Nova we are open to a non-brick material because of potential truck damage to bricks. We are open to colored concrete or some other similar material (ability to support heavy trucks) which would provide a contrast from the Nova black top parking area and the Belgium blocks.

Response: The design team has re-implemented the use of cobblestones in the project to delineate circulation movements within this region. The material will be Belgium blocks. The sidewalk apron will continue to be brick to provide a durable textured surface and a clear contrast to the Belgium blocks.

Comment 6
The area on the southerly side of Commercial St (which allows Nova trucks the ability to turn where cobblestones were previously located) should be concrete rather than black top.

Response: The design team believes that this area should remain cobblestone in order to provide a uniform traffic delineation to the intersection while minimizing the number of various construction materials.

ADDITIONAL ATTACHMENTS (PER APPLICANT):

ATTACHMENT M DEP PERMIT

Craig Morin

From: David Margolis-Pineo <DMP@portlandmaine.gov>
Sent: Wednesday, May 14, 2014 12:55 PM
To: Barbara Barhydt; Rick Knowland
Cc: Bruce Hyman; Chris Pirone; Charles Wordell; Doug Roncarati; Eric Labelle; Jeremiah Bartlett; Jane Ward; Jeff Tarling; John Emerson; Katherine Earley; Michael Farmer; Michelle Sweeney; William Clark; Tom Errico; David Senus
Subject: Review Comments for 528 Commercial St - IMT

ATTACHMENT A

May 14, 2014

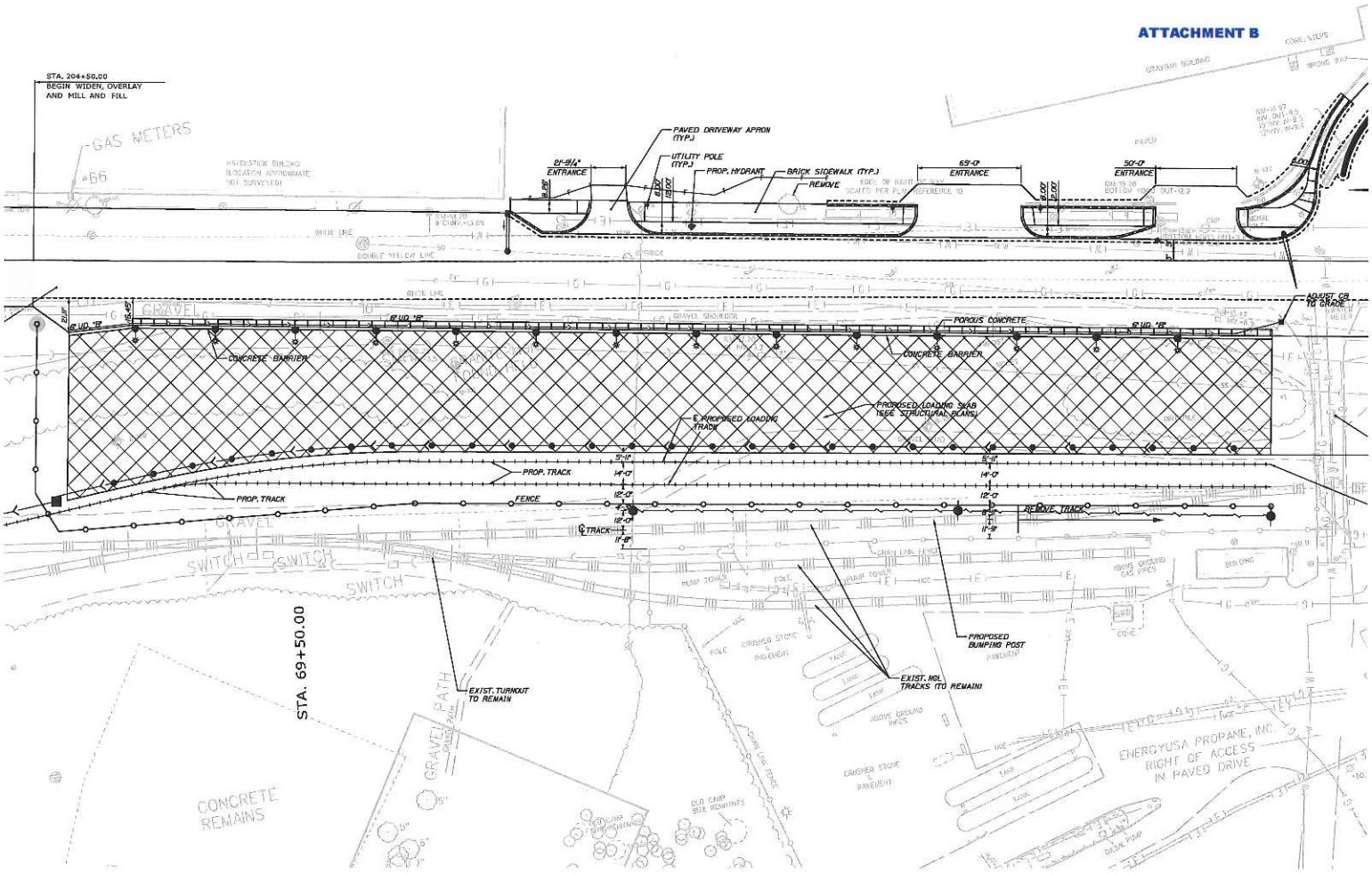
Memo To: Rick Knowland
Barbara Barhydt
From: David Margolis-Pineo
Re: Review Comments from Public Services
528 Commercial Street – International Marine Terminal

The Department of Public Services has the following comments.

1. A four foot concrete barrier is proposed along the Commercial Street right of way adjacent to the proposed loading dock. Also proposed along this same area within the right of way are porous concrete panels. It seems apparent that snow removal will be required to allow for proposed parking and to allow drainage. Since the City cannot guaranty snow removal in a timely fashion, it is proposed that the applicant pull all infrastructure back onto the applicant's property six feet and to reach an agreement with the City to allow for snow storage in this vacated area on the applicant's property.
2. To accommodate vehicle turning movement, the applicant is proposing to pave from the road right of way well onto the applicant's property. The City agrees to maintain infrastructure within the right of way with the understanding that all proposed work within the road right of way meets City of Portland Techincal Manual standards.
3. It is understood that the proposed porous concrete panel are design for an H-20 loading, and prior to project approval the applicant submit the manufactures recommended maintenance requirements for these panel and that the City agrees to maintain those panels so they will function as designed.

We have no further comments.

ATTACHMENT B



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ATTACHMENT C

Stormcrete™ Operation and Maintenance Manual

Introduction:

Stormcrete™ is a modular precast porous concrete stormwater system and is able to provide a low risk alternative to poured in place porous pavements. Routine operation and maintenance (O&M) procedures are similar to that of conventional porous pavements. However, Stormcrete™ provides the security of knowing that the slabs can be easily lifted for maintenance and repairs or in some cases even replaced when standard maintenance practices are insufficient.

Planning / Placement:

Proper planning and placement of porous surfaces is fundamental to their longevity and effectiveness. All projects are unique and careful attention should be taken to each situation. Locate porous surfaces where they will be most effective from a StormWater perspective and least susceptible to heavy loading of sediment and debris. For example, potential issues can arise in locations of winter operations (i.e. snow storage, deicing material storage, etc.), site entrances, dirt to pavement vehicle traffic, and run-on from landscaped areas.

Regular Inspection:

Regular inspection of the Stormcrete™ System is critical to developing a site specific maintenance program. Inspection should be performed several times in the first few months and then 2-4 times per year depending upon the intensity of use. The following should be included in any ongoing inspection program:

- Confirm "good housekeeping" practices are in place. Do not store materials such as sand/salt, mulch, soil, yard waste, and other stock piles on Stormcrete™ surfaces or in such a way that the material can be washed or blown on to Stormcrete™.
- During inspection note the accumulation of sediment and debris. Voids should be checked for accumulation of fine material. This will aid in determining proper vacuum sweeping frequency and the ability to target areas with higher accumulation rates.
- Inspect for surface deficiencies. (i.e. raveling, spalling, cracking, etc.)
- Inspect for evidence of ponding. (i.e. staining or unusual light sediment or debris)
- Inspect for evidence of run-on from perimeter unpaved areas or nearby erosion.
- Inspect for evidence of accidental or illicit spillage.
- Maintain a log detailing all inspection and maintenance activities.

Routine Maintenance:

Even with the advantages of the Stormcrete™ System, all porous surfaces require some routine maintenance activities to preserve permeability and service life. A minimum amount of planning and regular maintenance is more effective than surface rehabilitation or replacement.

- **Blower:** A high-powered backpack blower (similar to a Sthil BR600) can be used with a swirl pattern to loosen sediment and debris lodged into the Stormcrete™ System. A vacuum can be used to remove the material dislodged by the blower.
- **Vacuum Sweeping:** Vacuum a minimum of 2 times per year is recommended for most installations. Site specifics (land use, climate, tree cover, site conditions, winter de-icing practices, construction activities, etc.) along with data from regular inspections will ultimately determine how frequently the surface should be vacuumed. Minimum vacuum cleaning should occur in spring (after snow melt) and fall (after leaf drop). Additional cleaning should be scheduled any time accumulated sediment / debris is visible on surface.

- **Proper Equipment:** Use of a powerful vacuum for routine maintenance is critical. Regenerative air vacuum sweepers and high-efficiency vacuum only sweepers are recommended. Equipment condition and proper maintenance is also critical to maximize vacuum efficiencies.

- **Operator experience and diligence** is critical to maximize vacuum efficiencies. Vehicle speed, equipment settings, timing for proper access, and type of material being removed are only a few of the factors an operator needs to properly gage.

- **Maintenance Staff / Public awareness:** On-site personnel and contractors should be made aware of the porous surface and proper O&M procedures. (i.e. signage / pavement demarcation, snow removal, etc.)

Rehabilitation, Repairs, and Replacement:

- **Focused Power Washing**: Power-washing can be an effective tool for unclogging plugged areas. Power-washing should be used in conjunction with a focused, high-velocity vacuum head so that debris is removed and not just displaced. Power-washing should occur at moderate pressure and at low angle (<45 degrees) to drive materials into the vacuum head. Care should be taken with water pressure until effect of water pressure on surface is realized.

- **Remove, Restore & Reset**: In the event that focused power-washing does not provide adequate flow capacity, the slab(s) can be lifted, removed, flushed and replaced.

    - Please note: Removal and replacement should be completed using Stormcrete™ lifting swivels. Reference the Stormcrete™ Removable & Replaceable Manual.

- **Replacement:** In the event that the slab(s) is plugged beyond rehabilitation the slab(s) can easily be removed and replaced.

Winter Maintenance / Snow Removal: Routine winter operations are similar to that of conventional porous pavements.

- **De-icing & Chemicals:**

    - If at all possible avoid applying sand to StormCrete™.
        - Due to the nature of porous pavement de-icing chemicals have a difficult time forming a melting solution (brine) on the surface. This tends to lead to needless excessive chemical use.

- **Plowing & Snow Removal:**
    - Snow can be removed using conventional plow blades equipped with shoes. Well maintained plow blades can prevent damage to porous surface. Back dragging is not recommended. Where possible, plow passes should be made at a 45-degree angle to the slab joints.
    - Operator training: Snow removal operators should be aware of the presence of the StormCrete™ System.
    - Snow within pores of porous pavement can make them appear more snow covered than standard impervious pavements. Porous surface should not be "over plowed" or scraped.

Additional Help:

For guidance or a quote to maintain your porous surface please contact Stormwater Compliance, LLC at sweeping@stormwatercomp.com or 1-877-271-9055.

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PHONE: 207.829.2198 • FAX: 207.829.2178 • www.StormwaterComp.com

SAMPLE SPECIFICATION

Porous Pavement Maintenance Specifications

(Vacuum Sweeping, Power Washing, Flow Testing, Documentation)

Scope: Furnish all equipment, materials and labor to provide Porous Pavement Vacuuming, Selective Power Washing, and Documentation as specified below.

Qualifications and Experience: Porous pavement systems (PPS) are specialized pavement systems with the designed purpose of collecting and treating stormwater runoff. Designs and intended function vary from installation to installation. There are four main categories of PPS; Porous Asphalt, Cast in Place Porous Concrete, Permeable Pavers, and Precast Modular Porous Concrete (see below). Knowledge of intended stormwater functions for all types of PPS is critical to proper maintenance and identification of deficiencies. Contractor shall be familiar with all types of PPS and have demonstrable experience with maintenance of these systems. Contractor must also be experienced with effective inspection and documentation processes. Proposal should include a summary of similar projects / experience and biographies of key personnel.

- Porous Asphalt (PA): a type of asphalt that has a high porosity due to an increased void space to facilitate water infiltration through the porous asphalt into a stone reservoir and then into the ground.

- Cast in Place Porous Concrete (CPPC): a type of concrete that has a high porosity due to an increased void space to facilitate water infiltration through the porous concrete into a stone reservoir and then into the ground.

- Permeable Pavers (PP): an alternative to traditional hardscape paving which allows water to infiltrate between the pavers and through permeable layers below ground. When vacuuming porous pavers, the setting should be adjusted to a lower power in order to prevent complete removal of aggregate between voids (unless more intensive vacuuming is required to alleviate clogged areas).

- Pre-cast Modular Porous Concrete (PMPC, e.g. Stormcrete): similar to CPPC but precast in slabs of varying sizes under controlled conditions and shipped to the project location ready for installation. Because PMPC is modular it can be removed and replaced if

Work Completion Time (after notice to proceed): Porous pavement vacuuming shall occur in the spring and fall. Spring vacuuming shall be completed between April 1st and May 30. Spring vacuuming should follow initial spring cleanup of gross sand and debris accumulations. Fall vacuuming shall be completed between October 1st and November 30. Where necessary, power washing / rehabilitation of plugged porous pavements shall occur at the direction of _____ at the times and locations identified during post sweeping inspections. Bidders shall provide a unit price per square yard of porous pavement power washing with their bid.

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Required Vacuum Equipment: For Safety and Effective completion of work, all equipment utilized of this work will be maintained in good functional and aesthetic condition. Equipment shall have operational safety devices as required by all state, local, and federal regulations.

It is anticipated that the use of push brooms, backpack blowers, walk behind vacuums, ride-on type vacuums, etc. will be required for some sidewalks, plazas, and other areas not navigable buy truck mounted vacuum sweepers. The Contractor must utilize this equipment where necessary to properly maintain all areas of Porous Pavement.

Regenerative Air Vacuum Sweepers will be the only vacuum sweepers acceptable for use within this Contract. The Contractor shall submit descriptions of all porous pavement vacuum equipment to be used within the bid package.

- Regenerative Air Vacuum Sweepers: This type of vacuum sweeper uses a blower system that generates a high velocity air column, forcing it against the pavement at an angle, and creating a "peeling" or "knifing" effect. The high volume air blast loosens the debris from the pavement surface so it can be removed by vacuum. Equipment must have a water system for dust suppression.

- GPS Tracking: Over the road sweeper equipment shall be equipped with a GPS module and software capable of recording the equipment's route and timing details while on site. This system shall be utilized in the event of dispute/damage to property and work verification. Records should be available upon request.

Permeability Testing: Contractor shall be experienced and equipped to perform Falling Head Infiltrometer permeability testing as required by _____ personnel. Procedures and results will be documented and presented in a cohesive format. A unit price should be provided per testing location.

Maintenance Procedures:

Porous Pavement Vacuuming is done in order to remove sediment that may lead to a clogging of the porous surface, preventing water from infiltrating through the pavement into the stone reservoir.

Frequency: Semi-Annual vacuuming is recommended for Porous Pavement Systems

Labor Requirements: 1 sweeper operator and 1 laborer

Maintenance Procedure:

- Safety set-up: Set up safety perimeter. Ensure that no vehicles are parked in the vicinity of the location and that area is closed to the public.

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- Inspect: Visually inspect porous pavement for damage, including holes, cracks, excessive scuffing, settlement, and areas of standing water. Inspect status of aggregate between voids in porous pavers before and after vacuuming to see if additional replacement aggregate is needed. Record observations/damage in the Maintenance Log Report, include photos if possible, and report as necessary.

- Prepare site for vacuuming: Remove (by hand) bulky debris and waste materials from surface of porous pavement that may be too large to be picked up and/or block/clog the vacuum hose prior to using vacuum. Use a push broom to loosen debris as needed. Pay particular attention to inside corners, curb lines, and heavily loaded areas.

Vacuum: Vacuum porous pavement per the vacuum manufacturer recommendations.

Note: If vacuuming permeable pavers, set vacuum at a lower power in order to prevent complete removal of aggregate between voids (unless more intensive vacuuming is required to alleviate clogged areas). Vacuum machine speed should be adjusted so that the vacuum draws out the first inch or so of stone and dirt in the openings between porous pavers, as this is where most unwanted sediment/debris typically collects.

- Follow all steps in the Manufacturer's Operation Checklist for the specified vacuum.

- Engage the Water Feature/ Water Dust Control Option of the vacuum (or equivalent on specific vacuum model).

- Operate the vacuum at a highest vacuum setting that will not damage the surface. Sweeping speed should be less than 3 miles per hour. Drive the vacuum over the porous pavement, Overlap the edges of the vacuum runs and make two passes over the entire porous pavement area.

- Continuously verify pick up efficacy especially when vacuuming areas with excessive sediment.

- Post-vacuuming inspection: After two passes, visually inspect porous pavement to ensure adequate debris removal. Any areas with visible debris/sediment still present should be vacuumed again until debris is removed. In the event that the surface of the porous pavement becomes clogged with fine dirt or sand, record observations in the Maintenance Log Report.

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- Disposal: Material collected should be containerized and covered for proper disposal. Material should be disposed according to all applicable regulations. Disposal location and Manifest should be included in the Maintenance Log Report

Porous Pavement Power Washing should be done if porous pavement surfaces become clogged with fine dirt or sand. Power washing of the pavement surface allows partial restoration of the original void space and therefore permeability and should immediately follow the porous pavement vacuum task.

Frequency: As needed for rehabilitation based on post vacuuming inspection

Labor Requirements: 1 sweeper operator and 1 laborer

Maintenance Procedure:

- Safety set-up: Set up safety perimeter. Ensure that no vehicles are parked in the vicinity of the location and that area is closed to the public.

- Inspect: Visually inspect porous pavement for damage, including holes, cracks, excessive scuffing, settlement, and areas of standing water. Inspect status of aggregate between voids in porous pavers before and after vacuuming to see if additional replacement aggregate is needed. Record observations/damage in the Maintenance Log Report, include photos if possible, and report as necessary.

- Prepare site for power washing: Remove (by hand) bulky debris and waste materials from surface of porous pavement that may block or impede power washer access to the surface. Use a rigid push broom to loosen debris as needed. Pay particular attention to pavement edges and heavily loaded area.

Power wash: Follow manufacturer's recommendations for use of the power washer unit with the clarifications noted below. Ensure that the water inlet valve and pump are both on.

- Set the pressure levels to be no greater than 500 PSI.

- Pressure wash plugged surface with wand spraying at a 45 degree angle. Use care not to damage the surface. Nearly simultaneous vacuum should be applied at washing site to remove loosened material.

- Post-power washing inspection: Note areas that appear to still be plugged. Note if water remains ponded in any areas of the porous pavement. Record observation with photographs. Record observations in the Maintenance Log Report.

- Safety completion: Remove safety perimeter and re-open lot for parking/public access.

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Permeable Paver Restoring Aggregate: Following vacuuming of permeable pavers, refill the voids (joints) between pavers with additional aggregate material to replace any material that has been lost by vacuuming and/or due to natural migration, settlement, and erosion.

Frequency: As needed when gravel infill is not within ½ inch of the paver surface, immediately following vacuuming

Labor Requirements: 2 Laborers

Maintenance Procedure:

- Safety set-up: Set up safety perimeter. Ensure that no vehicles are parked in the vicinity of the location and that area is closed to the public.

- Inspect: Visually inspect permeable pavers for damage, including broken pavers, cracks, settlement, and any areas of standing water or evidence of standing water. Inspect status of aggregate infill material in the voids between porous pavers to see if additional replacement aggregate is needed. Evaluate if voids (joints) between porous pavers are clogged or not. Inspect to see if pavers themselves are missing from any areas and note need for replacement pavers. Record observations/ damage in the Maintenance Log Report, include photos of all notable observations, and report as necessary.

- Prepare site: Remove (by hand) bulky debris and waste materials from surface of pavers.

- Cleaning Clogged Voids: If voids (joints) between porous pavers are still clogged even after area has been vacuumed, use a ridged too to pry material out joint until clean aggregate is found. Follow aggregate replacement instructions below.

- Add aggregate: Using a shovel, spread aggregate over the surface of the pavers. Using a broom, sweep aggregate into the voids between porous paves, taking care to fill in any obvious holes. Once the aggregate has been added to the pavers, and the voids have been filled, perform a final sweeping pass with the hand broom to remove any excess gravel from the paver surface.

- Safety completion: Remove safety perimeter and re-open area for parking/public access.

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Maintenance Coordination and Scheduling: Contractor shall be responsible for advanced notifications and coordination of access to maintenance locations. Coordination with _____ personnel and private property owners may be required to ensure unobstructed access to certain maintenance locations. Unforeseen, obstructions to complete maintenance efforts will be described and photo documented in the Location Maintenance Report (outlined below).

Maintenance Log Reporting: A maintenance report log shall be kept by the Contractor for each location maintained. Each Maintenance Log Report shall include the following information:

- Location name, Date and time on site, Personnel on site, Description of pavement system.
- Inspection observations prior to and following maintenance.
- Photos of any notable observations and/or marked up site plan / aerial photo / sketch.
- Obstructions preventing complete maintenance (such as parked cars) shall be photo documented.

Electronic Document Management: Contractor must have the means and experience to create, store, and transfer Location Maintenance Reports and other contract documents electronically. A web based, password protected portal that enables _____ to view, print, and download all pertinent contract documents and maintenance reports is the preferred method of document management. Contractor shall outline electronic document management procedures in their bid package.

Pre and Post-Maintenance Inspection: A pre and post-maintenance inspection shall occur with the Contractor and the Representative from _____ at each location to be maintained within this Contract. The purpose of the inspections will be to identify and document (with photographs) damage, additional maintenance needs, and potential access issues. If damage to porous pavements is the result of the Contractor's operations, the Contractor is responsible for repairing the damage at the Contractor's expense. The post-maintenance inspection shall occur within one (1) week of the completion of each maintenance activity.

Additional Porous Pavement Vacuuming: At any time during the Contract period, _____ may request that the Contractor perform additional porous pavement vacuuming (beyond the spring and fall vacuuming included in the Contract) at any of the locations noted above. This will indicated as a Unit Price on the pricing page.

The Contractor shall coordinate additional porous pavement vacuuming with _____, and complete the work in a timely manner. The Contractor shall submit a payment application for the additional vacuuming after the work is completed for payment.

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Site Safety Responsibilities: The Contractor shall maintain all maintenance locations in a safe, neat and orderly condition, and free from human hazard. If an unsafe condition is encountered, the affected activity shall be suspended until the unsafe condition is corrected. The Contractor is also solely responsible by law for compliance, and regulatory reporting requirements, for all workplace and employee safety issues.

Specific Permit Information: All permits required shall be the responsibility of the Contractor. In all cases, for all permits the Contractor shall be responsible for payment of all required fees, charges, maintenance, bonds, insurance, and penalties or fines for non-compliance, associated with all required permits.

Craig Morin

From: Jeff Tarling <JST@portlandmaine.gov>
Sent: Friday, May 09, 2014 5:05 PM
To: Rick Knowland
Cc: David Margolis-Pineo
Subject: IMT Project
Attachments: 501 Danforth St. Portland, ME 2012 (1).jpg; GreenWall.jpg; ChestnutPlanter.JPG

ATTACHMENT D

Hi Rick -

In review of the proposed modifications to the IMT West Commercial Street site I wanted to include the following landscape items:

a) C18 Landscaping Plan - Due to the space requirements on the IMT or 'water side' of Commercial Street the project directs street tree planting across the street along an improved sidewalk and esplanade. This compromise is a fair approach given the scale of the proposed project.

Landscape mitigation of the proposed wall should be explored...

Options could include: varying the wall texture or scoring so that certain length of wall panels are accentuated vs continuous the same, create pockets for vegetation, some spaces could have a grove of Bayberry, others with vines perhaps. Could local MECA be advised of possible concrete forming options with a local arts theme?
Explore fence options including using black vinyl chain link vs galvanized to reduce glare. Unsure if barbed wire is needed?

b) Proposed benches along Commercial Street - the proposed granite or stone benches set on the sidewalk would be best to be set back behind the walk to reduce sidewalk plowing conflicts. There maybe additional review of the bench type - but the type as shown fits into the nearby Harborview Memorial Park use of that material.

c) Interpretive signage & graphics - this aspect is a positive approach to connect the proposed project with an historical context. Perhaps somewhere along the wall expanse a sign / graphic could be used to identify the site and use. Celebrating the Port of Portland and the intermodel function of ship to rail and truck is a positive feature for the City of Portland and the State of Maine, and perhaps the rail service. I couldn't find an example off hand of PanAm railway but the CSX graphic could be an example.

IMPASSE II®

ATTACHMENT E



HIGH SECURITY STEEL PALISADE FENCING

Maintaining a secure perimeter is your first line of defense against potential threats. Impasse II fence systems serve as a *visual deterrent backed with heavy steel components* that give a higher level of protection compared to the traditional chain link or architectural mesh fence alternatives. Impasse II is the *best choice for securing at risk facilities or protecting specific assets within a property.*

DESIGN INTEGRATION

The Impasse II framework is a raceway for wiring, conduits, and/or security cabling required around the perimeter of a project. This integrated design eliminates the need for costly trenching and boring becoming a value added solution for perimeter security upgrades.

When installing these security elements use Impasse II as a platform:

- ***Communication & Video Cables***
- ***Intrusion Detection / Fiber Optic Cables***
- ***Access Control Wiring***
- ***Conduits***
- ***Anti-Ram Cabling*** *(Stalwart)*

PRIMARY APPLICATIONS

- ***Military Sites***
- ***Government Facilities***
- ***Petroleum & Chemical Facilities***
- ***Power Plants & Substations***
- ***Airports***
- ***Data Centers***
- ***Ports of Entry***
- ***Water Treatment & Storage***

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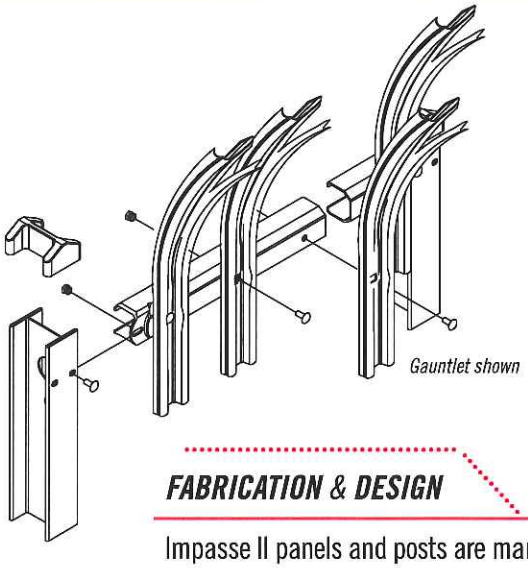
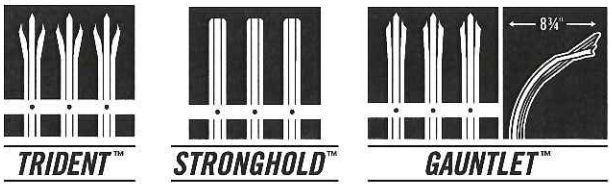
HIGH SECURITY STEEL PALISADE FENCING

2.75"w x 14ga PALES | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga & 4" x 2.75" x 11ga I-BEAM POSTS



Gauntlet shown

STYLE OPTIONS



TRIDENT™ STRONGHOLD™ GAUNTLET™

FABRICATION & DESIGN

Impasse II panels and posts are manufactured using high-tensile pre-galvanized G-90 steel. Each component has been roll-formed into a unique profile that yields significant strength properties. Impasse II's distinct design enables the fence to traverse aggressive changes in grade in order to maintain security along any perimeter. Each connection point of the Impasse II system is secured with tamper-proof fasteners providing the highest level of security and versatility.

PERMACOAT™ PROTECTIVE FINISH

Ameristar's production facilities use a state-of-the-art polyester powder coating system that provides a durable and scratch resistant finish. Impasse II is protected with Ameristar's PermaCoat multi-layer coating process. The combination of these layers delivers a system that increases weathering resistance and product durability. The Ameristar coating system results in finished surfaces with unmatched performance.

15 YEAR LIMITED WARRANTY

Impasse II is coated using Ameristar's PermaCoat process, this dual-coat finish yields the best results for durability and weathering in the fence industry. Ameristar has over 25 years of experience and research in coating fence products allowing Impasse to support a 15 year warranty.

DOMESTIC MANUFACTURING

Ameristar is committed to providing products that are manufactured in the USA. We have made significant investments in technology, process improvement, and employee training in an effort to secure American jobs and combat inferior import products.

#9792 | REVISED 03/2014

MEMORANDUM

ATTACHMENT F

To: FILE

From: Richard Knowland

Subject: Application ID: 2014-038

Date: 5/6/2014

Comments Submitted by: Marge Schmuckal/Zoning on 5/6/2014

I have breifly looked at this submission. The project is located in the WPDZ zone with a Shoreland overlay. The proposed use for intermodal transportation facilities is a listed, permitted use under section 14-319(b)1. However the applicant explains that "there may be times where there will be truck to truck .." exchanges, I would want the applicant to explain that in more detail outlining how this is an accessory use and not a principal use. The zone does not permit trucking terminals per se. I want to be sure that the truck to truck component is not more than the other proposed intermodal uses. I note that that same section of permitted uses does allow intermodal transportation for railroad transportation services.

I also reviewed the submission concerning shoreland regulations. There is information concerning the clearing of vegetation. The verbage goes on to say "see enclosed plans for specifics." I did not find an enclosed plan that related to what was written. Please provide such plans or indicate which plan it is within the submission, so I can review compliance with our Ordinance.

Marge Schmuckal
Zoning Administrator

Craig Morin

ATTACHMENT G

From: Patrick Carroll <pcarroll@carroll-assoc.com>
Sent: Monday, May 19, 2014 4:30 PM
To: Craig Morin; Mitch Elliott; Bruce Munger
Cc: Matthew Phillips
Subject: FW: IMT Expansion -- Traffic Comments

Craig,

This just in from Tom Errico.
PC

From: Tom Errico [mailto:thomas.errico@tylin.com]
Sent: Monday, May 19, 2014 4:04 PM
To: Rick Knowland
Cc: David Margolis-Pineo; Katherine Earley; Jeremiah Bartlett; Jeff Tarling (JST@portlandmaine.gov)
Subject: IMT Expansion -- Traffic Comments

Rick – The following presents a brief summary of traffic issues that need resolution and can serve as discussion items for Wednesday's meeting. My review continues and therefore additional comments should be expected.

1. The traffic signal plan includes special signal phasing for Nova Seafood. I would suggest that a City agreement with Nova Seafood be crafted related to traffic operations and a memorandum of understanding and for traffic control.
2. The driveway apron material at Nova Seafood does not meet City standards and a waiver will be required.
3. Several of the driveways on Commercial Street (IMT, Nova Seafood, and Gray Bar) do not meet City width standards and thus waivers will be required.
4. Several of the driveways on Commercial Street do not meet City corner clearance and separation standards.
5. The City is requesting that truck parking on in-bound Commercial Street be prohibited for to be specified distance in advance of the Beach Street intersection. The City will provide this restriction length.
6. The applicant should investigate the provision of a bicycle lane on Beach Street departing the intersection.
7. I am concerned about traffic operations and congestion during peak time periods, particularly when the special Nova Seafood traffic signal phase is actuated. The applicant should investigate the ability to limit the traffic signal phase during peak time periods.
8. A sidewalk waiver has been requested and a review of the supporting information will be performed.
9. A granite curbing waiver has been requested and a review of the supporting information will be performed.
10. The applicant should provide information as it relates to use of the proposed traffic signal by existing IMT traffic. I believe there will be overall site traffic and safety benefits if all IMT traffic has the ability to use the traffic signal.
11. A construction management plan has been prepared. Additional information will be required as it relates to specific traffic, pedestrian, and bicycle impacts during construction.
12. At the planning board workshop, there was discussion about the provision of a driveway entrance west of the project site for future development access and egress. The applicant should provide information in support of that driveway if that is to be included in the project approval.
13. The City does not support the use of pavement markings to delineated pavements areas for use by large trucks.
14. The phasing for the intersection does not appear to be NEMA compliant. Please revise with Commercial Street as the main street, assuming an east-west phasing structure.
15. The phasing sequence should begin with Commercial Street and end with Nova Seafood (currently designated as Phase 9).
16. The peak hour cycle length seems unusually long for an intersection with this type of geometry, going as long as 150 seconds during the PM peak hour. Discussion should be provided as to why shorter cycle lengths cannot be achieved.

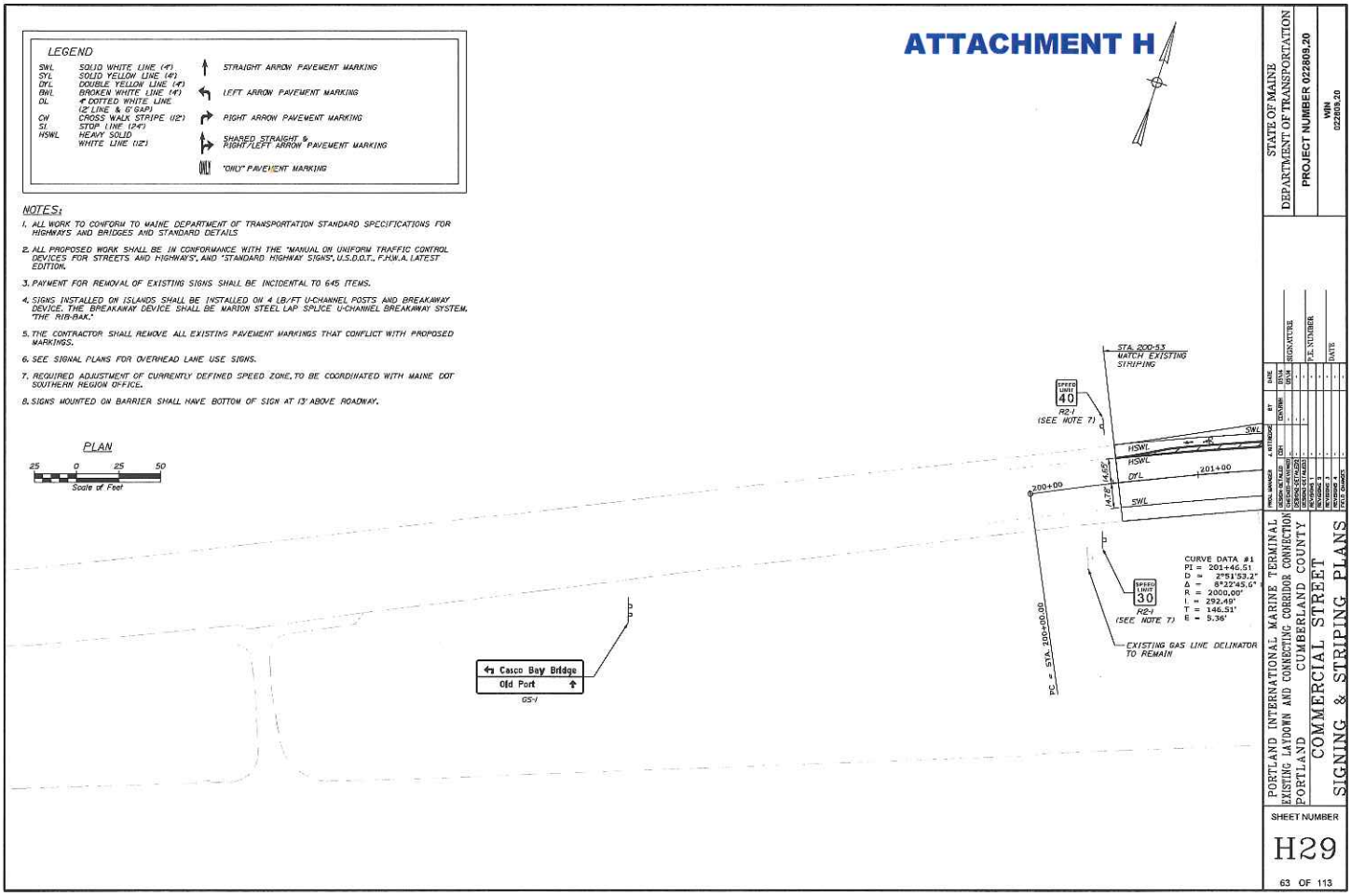
17. The pedestrian timing does not appear to provide sufficient crossing time, particularly for Commercial Street. Please confirm use of a standard 3.5 feet per second pedestrian crossing time from curb to curb.
18. Given the sight distance issues for this intersection, the all-red clearance times should likely be extended.
19. The City's technical standards are in the process to migrating to infra-red video detection as a requirement. The City now requires that either the cameras used with the VIP processors be the FLIR FC series or that the solution be based on the FLIR TrafiSense cameras.
20. Please specify four-inch conduit to provide additional future wiring capabilities.
21. Please provide one-piece pedestrian poles.
22. All pole bases, pull boxes and controller conduits should be sealed to prevent access by rodents and other small animals.
23. Please confirm the method of advance notification when the Commercial Street westbound approach is red to account for minimal sight distances passing by Nova Seafood.
24. It is my understanding that the Nova Seafood driveways will be restricted such that the easterly driveway will be an entrance only and the westerly driveway a exit only driveway. The plans do not reflect this.
25. There are areas of roadway pavement that appear to be located outside the public right-of-way. An agreement on maintenance may be required.
26. The applicant should note the material for the Nova Seafood island.
27. The applicant should provide details for the area between the sidewalk and the Nova Seafood island.
28. The left-turn bay shadowed island is depicted as paint. The applicant should investigate other material treatment for longevity purposes.
29. During Casco Bay Bridge openings, traffic may be backed up into the new traffic signalized intersection. The applicant should note whether there are any provisions for this scenario from a traffic signal perspective.
30. The bicycle lane on the outbound side of Commercial Street continues to the limit of work, while the in-bound bicycle lane begins at the point where the left-turn lane is starting. The applicant should note why the in-bound bicycle lane can't start at the project limits.
31. The direction sign that note Casco Bay Bridge 500 Feet is being removed. This removal should be confirmed by City staff.
32. The plans illustrate that the sidewalk at the corner of the Nova Seafood building will not need to be reconstructed. Given that the curb is being relocated, the sidewalk will need to be upgraded.
33. The length of curbing at the Nova Seafood driveway is being eliminated. Justification on this change shall be provided
34. A fire hydrant is located in the middle of the sidewalk east of the easternmost Nova Seafood driveway. It would be beneficial if this hydrant could be relocated.
35. The plan replaces an existing Casco Bay Bridge 500 Feet sign with a sign that notes Casco Bay Bridge (right) and Fore River Parkway (through). City staff should determine if this replacement is acceptable.
36. It was my understanding that the bicycle lanes were going to have dashed line treatment through the intersection. The plans do not depict this.
37. The applicant should confirm that adequate illumination will be provided at the two crosswalk locations.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
T.Y. Lin International
12 Northbrook Drive
Falmouth, ME 04105
207.781.4721 (main)
207.347.4354 (direct)
207.400.0719 (mobile)
207.781.4753 (fax)
thomas.errico@tylin.com
Visit us online at www.tylin.com

ATTACHMENT H



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 022809.20

WIN 022809.20

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY
COMMERCIAL STREET
SIGNING & STRIPING PLANS

SHEET NUMBER
H29
63 OF 113

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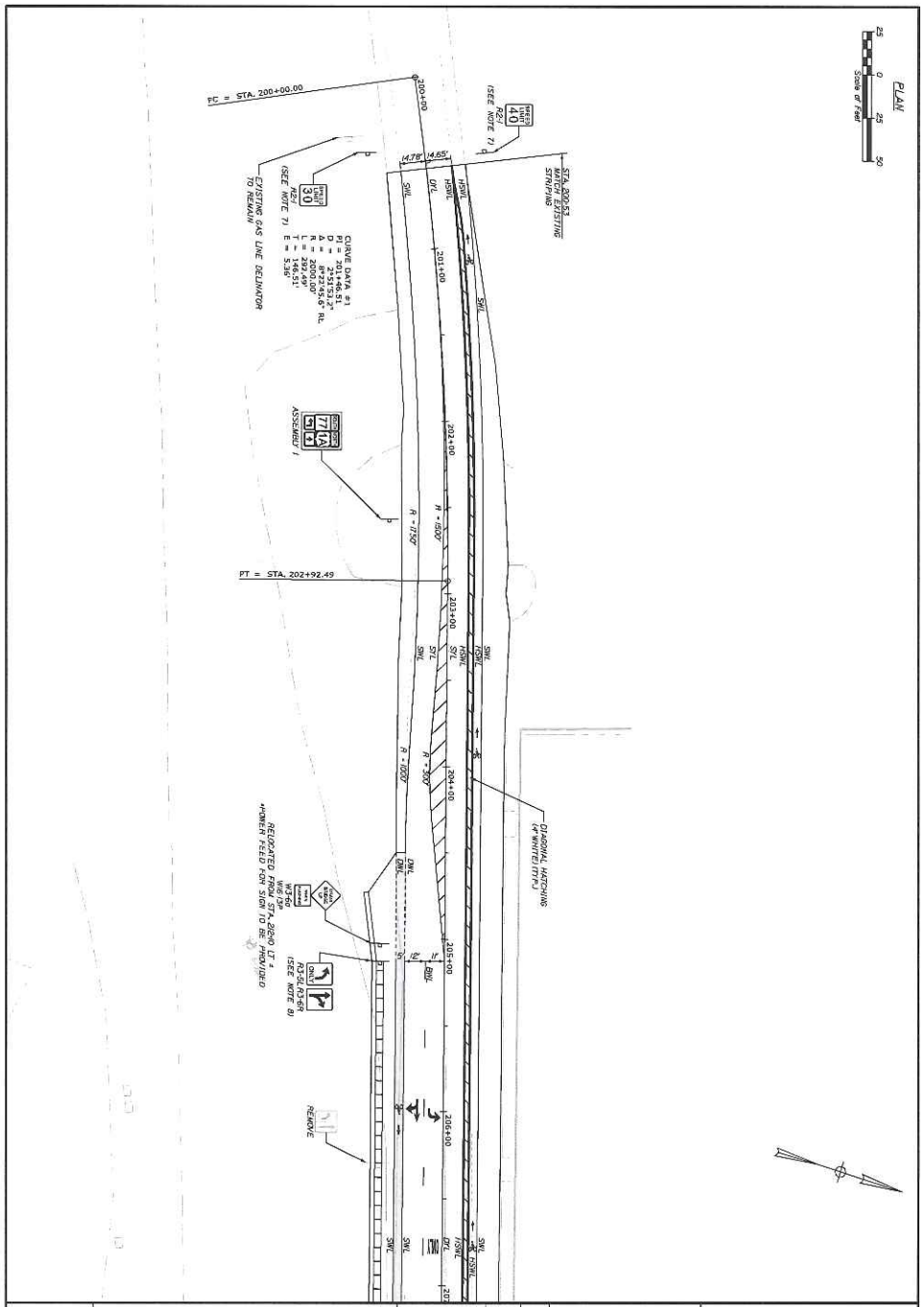

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CHECKED-REVIEWED	-	-	03/14	SIGNATURE
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DESIGN DETAILED	-	-	-	P.E. NUMBER
REVISIONS 1	-	-	-	
REVISIONS 2	-	-	-	
REVISIONS 3	-	-	-	DATE
REVISIONS 4	-	-	-	
FIELD CHANGES	-	-	-	

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

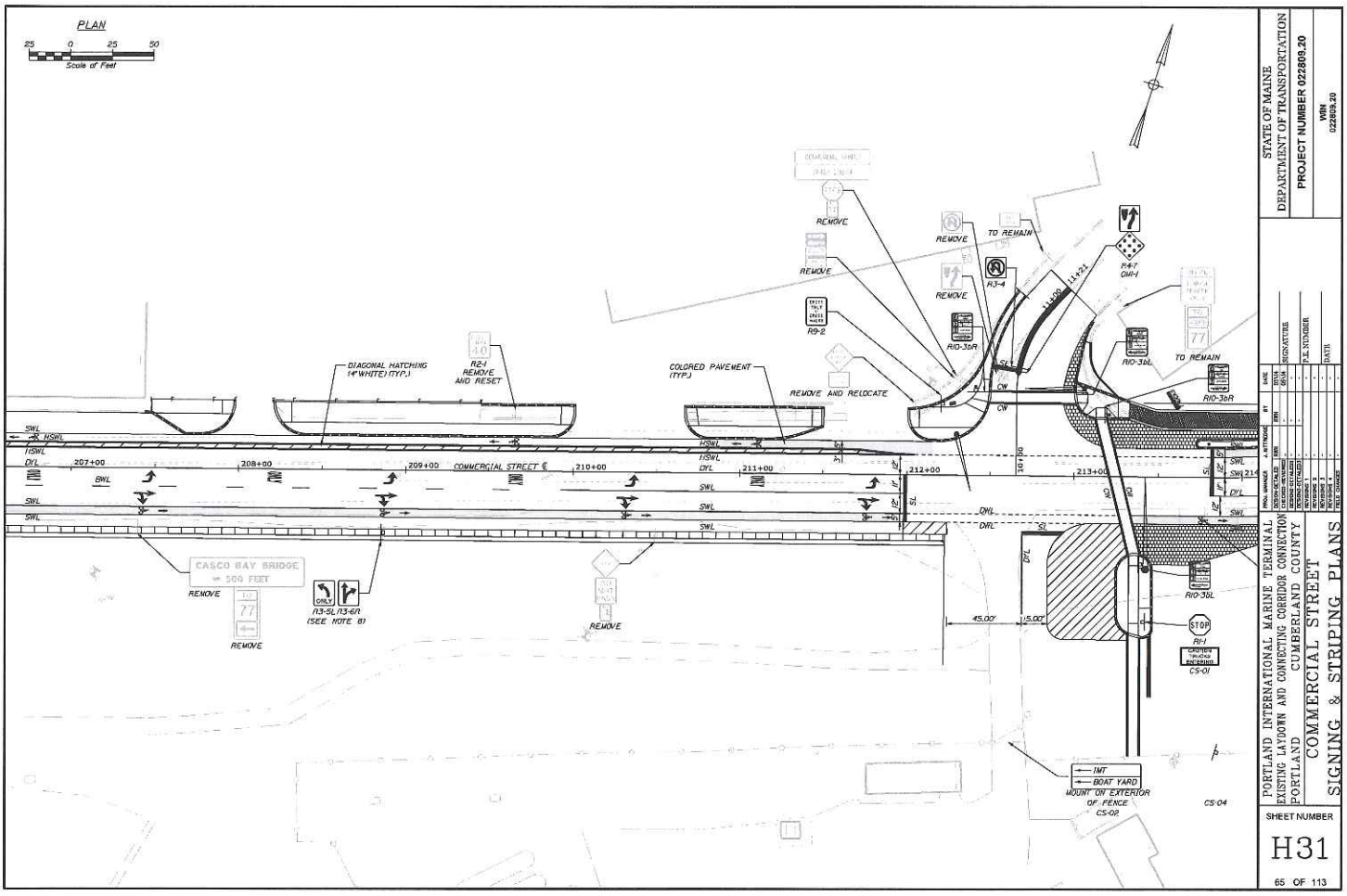
COMMERCIAL STREET
SIGNING & STRIPING PLANS

SHEET NUMBER H30
64 OF 113

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 022809.20

WIN
022809.20



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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 022809.20

WIN 022809.20

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

COMMERCIAL STREET

SIGNING & STRIPING PLANS

SHEET NUMBER

H32

66 OF 113

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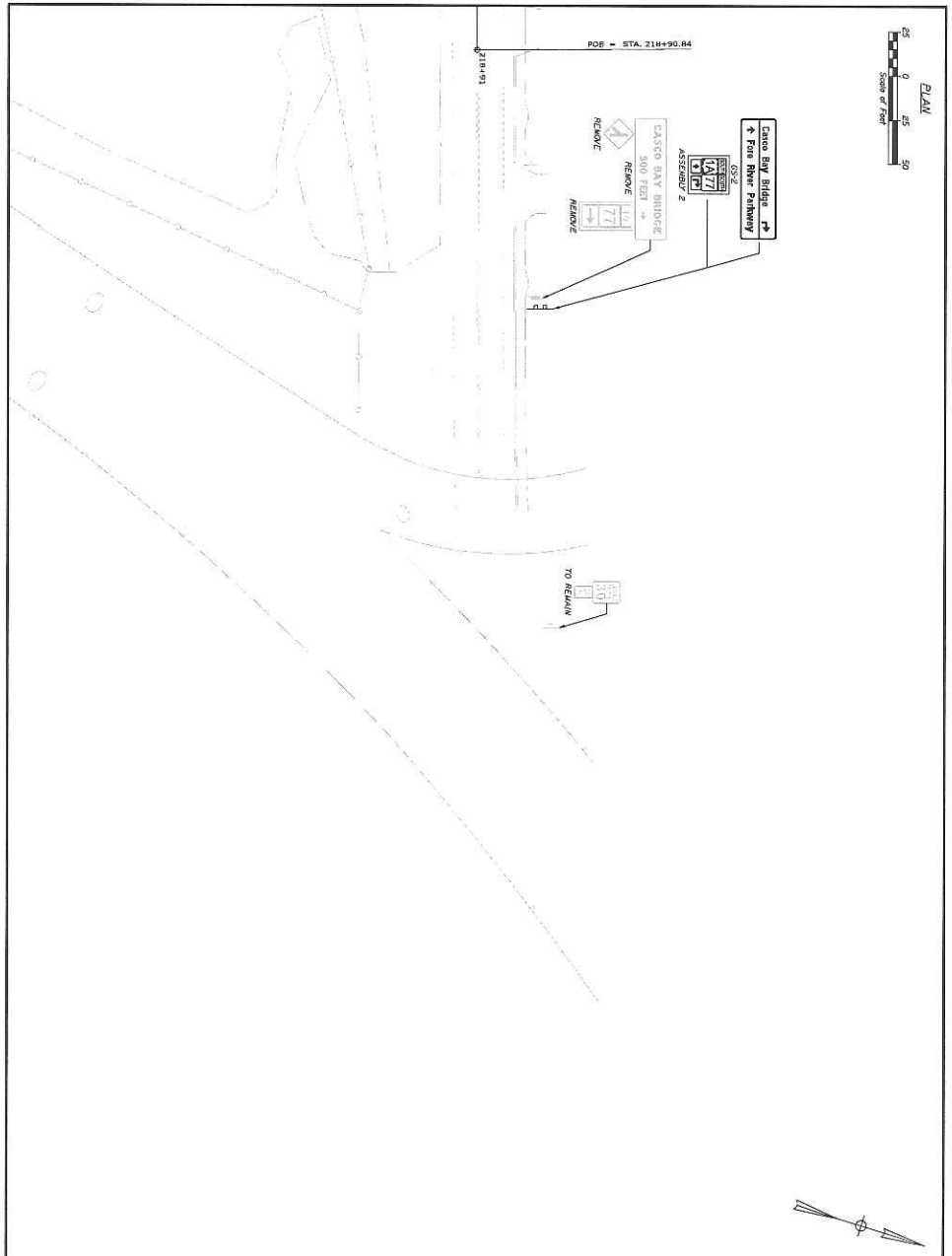

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

COMMERCIAL STREET
SIGNING & STRIPING PLANS

	PROJ. MANAGER	J. KITTREDGE	BY	DATE
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REVISIONS 1	-		-	
REVISIONS 2	-		-	
REVISIONS 3	-		-	DATE
REVISIONS 4	-		-	
FIELD CHANGES	-		-	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 022809.20

WIN
022809.20

SHEET NUMBER
H33
67 OF 113

Date: 8/5/2014

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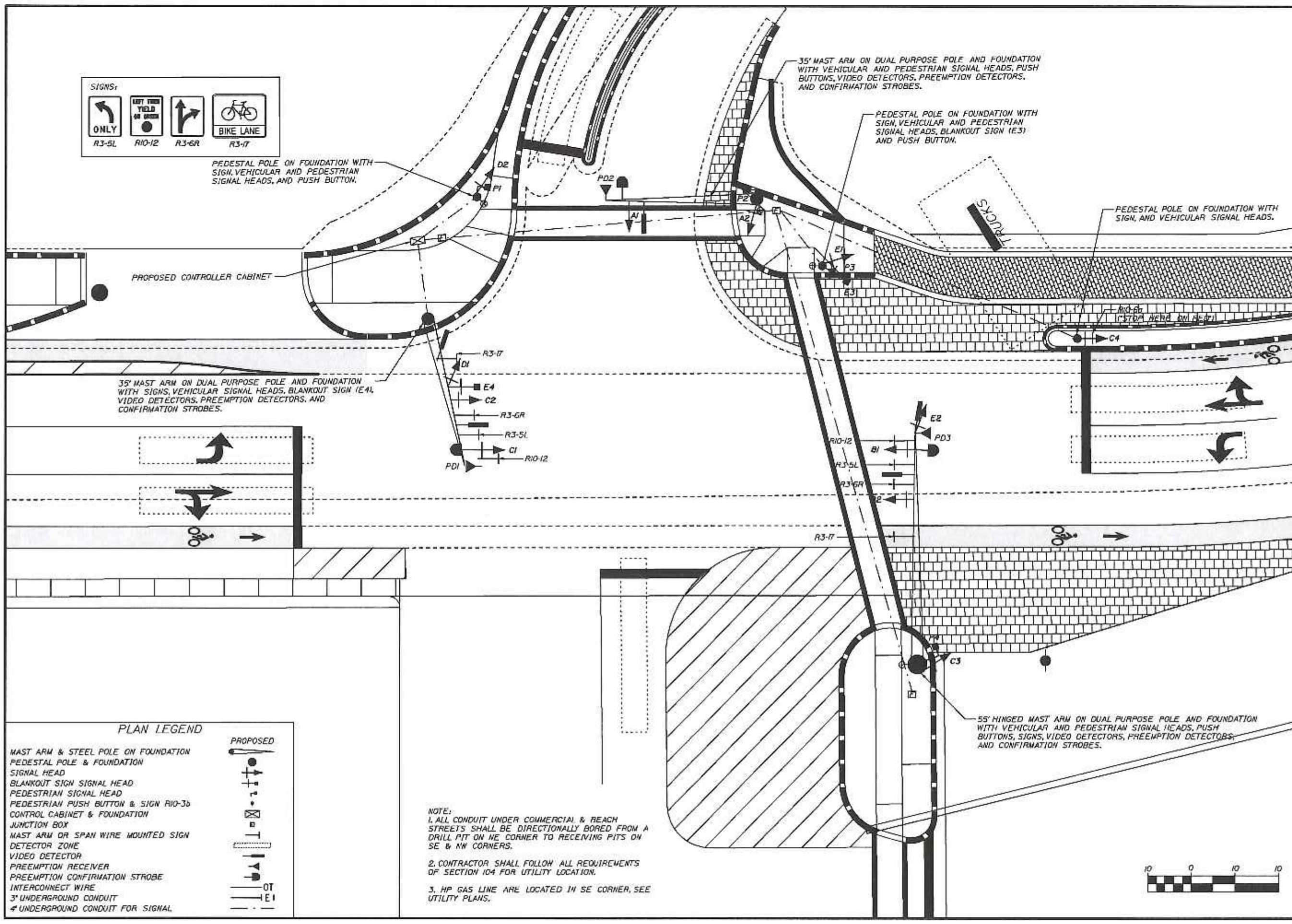


NOTE:

1. ALL CONDUIT UNDER COMMERCIAL & REACH STREETS SHALL BE DIRECTIONALLY BORED FROM A DRILL PIT ON NE CORNER TO RECEIVING PITS ON SE & NW CORNERS.

2. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF SECTION 104 FOR UTILITY LOCATION.

3. HP GAS LINE ARE LOCATED IN SE CORNER. SEE UTILITY PLANS.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 022809.20

WIN 022809.20

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
PROJ. MANAGER		
DESIGN-DETAILED		
CHECKED-REVIEWED		
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

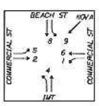
COMMERCIAL STREET
SIGNAL PLAN

SHEET NUMBER

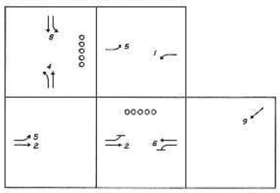
H34

PROPOSED TIMING & PHASING

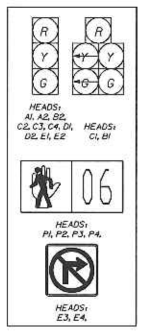
NEMA PHASE IDENTIFICATION



SIGNAL PHASING SEQUENCE



PROPOSED SIGNAL HEADS



AM SIGNAL TIMING (CYCLE LENGTH 150.0 S)

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9*
MINIMUM GREEN	4	4	-	4	4	4	-	4	4
VEHICLE EXTENSION	3	3	-	3	3	3	-	3	3
MAXIMUM GREEN	4	91	-	16	24	71	-	16	24
YELLOW	3	4	-	4	3	4	-	4	4
ALL RED	2	3	-	2	2	3	-	2	2
RECALL MODE	MIN	MAX	-	MIN	MAX	MIN	-	MIN	NONE
WALK	-	-	-	4	-	4	-	-	-
PED CLEAR	-	-	-	18	-	13	-	-	-

*A 45 SECOND DELAY IN ACTIVATION OF PHASE 9 SHALL BE PROGRAMMED INTO THE PHASE 9 TIMINING.

PM SIGNAL TIMING (CYCLE LENGTH 150.0 S)

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9*
MINIMUM GREEN	4	4	-	4	4	4	-	4	4
VEHICLE EXTENSION	3	3	-	3	3	3	-	3	3
MAXIMUM GREEN	5	91	-	16	12	84	-	16	24
YELLOW	3	4	-	4	3	4	-	4	4
ALL RED	2	3	-	2	2	3	-	2	2
RECALL MODE	MIN	MAX	-	MIN	MAX	MIN	-	MIN	NONE
WALK	-	-	-	4	-	4	-	-	-
PED CLEAR	-	-	-	18	-	13	-	-	-

*A 45 SECOND DELAY IN ACTIVATION OF PHASE 9 SHALL BE PROGRAMMED INTO THE PHASE 9 TIMINING.

IMT SIGNAL NOTES:

FREE SIGNAL TIMING (CYCLE LENGTH 100.0 S)

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9*
MINIMUM GREEN	4	4	-	4	4	4	-	4	4
VEHICLE EXTENSION	3	3	-	3	3	3	-	3	3
MAXIMUM GREEN	4	41	-	16	7	38	-	16	24
YELLOW	3	4	-	4	3	4	-	4	4
ALL RED	2	3	-	2	2	3	-	2	2
RECALL MODE	MIN	MAX	-	MIN	MAX	MIN	-	MIN	NONE
WALK	-	-	-	4	-	4	-	-	-
PED CLEAR	-	-	-	18	-	13	-	-	-

*A 45 SECOND DELAY IN ACTIVATION OF PHASE 9 SHALL BE PROGRAMMED INTO THE PHASE 9 TIMINING.

SIGNAL NOTES

1. CONDUITS INSTALLED ON UTILITY COMPANY OWNED POLES WILL BE INSTALLED BY THE RESPECTIVE UTILITY. THE CONDUIT WILL BE PROVIDED BY THE CONTRACTOR.
2. THE LOCATION OF ALL SIGNAL EQUIPMENT AND RELATED ITEMS SHALL BE IN CONFORMITY WITH "AMERICANS WITH DISABILITIES ACT" (ADA) ACCESSIBILITY STANDARDS. USE OF SIDEWALKS AND PEDESTRIAN RAMPS SHALL NOT BE OBSTRUCTED.
3. TRAFFIC CONTROLLER CABINETS SHALL BE NAZTEC MODEL P44 TS2 TYPE 1 SERIES T ONLY. THE CABINET SHALL HAVE AN EXTENSION BASE AND BE MOUNTED ON A CONCRETE PAD FOUNDATION.
4. ALL NEW SIGNAL SECTIONS SHALL HAVE LED LENSES 12 INCHES IN DIAMETER WITH 5" BACK PLATES.
5. ALL SPLICES WILL BE MADE IN THE CABINETS MEETING MAINEDOT SPECIFICATIONS.
6. THE BOTTOM OF THE HOUSING OF NEW MAST ARM MOUNTED SIGNAL FACES SHALL BE AT LEAST 16 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
7. TWO COPIES OF AS-BUILT PLANS, SIGNAL TIMING, AND CONTROLLER MANUALS SHALL BE LEFT IN THE CONTROLLER CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
9. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE THE MINIMUM DISRUPTION TO TRAFFIC.
10. THE RESIDENT, MAINE DOT, AND CITY SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
11. THE CONTRACTOR SHALL PROVIDE THE RESIDENT AND THE CITY OF PORTLAND WITH A SCHEDULE OF WORK FOR CONSTRUCTING THE TRAFFIC IMPROVEMENTS.
12. THE CONTRACTOR SHALL PREPARE A MATERIAL SCHEDULE BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFOPMING WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE RESIDENT. THOSE DRAWINGS SHALL BE A CLEAN SET OF PLANS SHOWING ALL CHANGES, MODIFICATIONS, AND ELEVATIONS TO THE BID PLANS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN AND DOCUMENTATION FOR ALL PEDESTAL POLES. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION THAT IS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER UNDER THEIR OFFICIAL SEAL TO THE RESIDENT FOR REVIEW AND APPROVAL.
15. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 80 CONDUIT WHEN PLACED UNDER PAVEMENT AND SCHEDULE 40 BEYOND PAVEMENT LIMITS.
16. AM TIMING SHALL BE FROM 7:00 - 9:00 AM; PM TIMING SHALL BE FROM 3:30 - 6:30 PM. FREE TIME OPERATION WILL BE FROM 9:00 AM - 3:30 PM AND 6:30 PM - 7:00 AM.
17. CONTRACTOR SHALL SET THE PROPOSED SIGNAL TO FLASHING MODE ONE WEEK PRIOR TO ACTIVATING THE PROPOSED SIGNAL TIMING AND PHASING. FLASHING MODE SHALL BEGIN DURING THE BEGINNING OF A WEEK.
18. THE THREE SECTION SIGNAL HEADS FOR NOVA SEAFOOD (E1 AND E2) SHALL BE EQUIPPED WITH GEOMETRICALLY PROGRAM LOUVERS TO LIMIT FIELD OF VIEW TO 15° ON EITHER SIDE OF CENTER OF THE STOP BAR FOR ALL SIGNAL INDICATORS. THE LOUVERS SHALL BE CONTAINED IN A FULLY ENCLOSED UNIVERSAL VISOR AND SHALL BE INSTALLED ON ALL SIGNAL INDICATORS.
19. THE CONTRACTOR SHALL MEET ALL UTILITY REQUIREMENTS FOR THE NEW SERVICE CONNECTION.
20. FOR POLE MOUNTED SIGNAL HEADS, THE BOTTOM OF THE HOUSING SHALL BE MOUNTED AT LEAST 8 FEET BUT NOT MORE THAN 19 FEET ABOVE THE SIDEWALK, OR ABOVE PAVMENT GRADE AT THE HIGH POINT OF THE ROAD.
21. ALL PEDESTRAIN POLES SHALL BE ONE-PIECE.
22. CONTRACTOR SHALL POVIDE AND INSTALL ALL JUNCTION BOXES, ALL JUNCTION BOXES SHALL BE INCIDENTAL TO ITEM 643.80.
23. THE CONTRACTOR SHALL REFER TO THE SPECIAL PROVISIONS FOR CITY OF PORTLAND SIGNAL REQUIREMENTS.
24. ALL POLE BASES, PULL BOXES, AND OTHER CONTROLLER CONDUITS SHALL BE SEALED TO PREVENT ACCESS BY RODENTS AND OTHER SMALL ANIMALS.

VIDEO DETECTION

1. VIDEO DETECTION SHALL CONSIST OF TRAFICON MODEL VIP 3.1 AND 3.2 SERIES PROCESSOR BOARDS, TRAFICON MODEL VIEWCOM/E COMMUNICATION BOARD, TRAFICON CAMERA ASSEMBLIES, 9" B/W MONITOR, SURGE/FUSE PANEL AND TRAFICON KEYPAD ONLY.
2. DETECTION CAMERA FOR PHASE 9 SHALL BE A TERMAL TRAFFIC SENSOR SYSTEM PER CITY AND MAINEDOT. FOR ADDITIONAL INFORMATION SEE SPECIAL PROVISIONS.
3. THE RESIDENT RESERVES THE RIGHT TO DIRECT THE CONTRACTOR TO FIELD ADJUST THE HEIGHT, EITHER LOWER OR HIGHER, OF THE VIDEO DETECTOR FOR LOCAL CONDITIONS IDENTIFIED DURING OR AFTER CONSTRUCTION. NO ADDITIONAL COSTS WILL BE ALLOWED FOR FIELD ADJUSTING THE VIDEO DETECTOR.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

PROJ. MANAGER	J. KITTREDGE	BY	DATE
DESIGN-DETAILED	RBM	RWH	05/14
CHECKED-REVIEWED	-	-	05/14
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	ADDED PLAN		4/24/14
REVISIONS 2	Revised Int. for Amend. 3		5/12/14
REVISIONS 3	-		-
REVISIONS 4	-		-
FIELD CHANGES	-		-

SIGNATURE
P.E. NUMBER
DATE

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY
COMMERCIAL STREET
SIGNAL NOTES

SHEET NUMBER
H35

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		BORDER RADIUS	AREA IN SQUARE FEET	NOTES
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND BORDER			
OM-1	18"	18"		TEXT DIMENSIONS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			1	COLORS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			2.25 (2.25)	
CS-01	24"	30"	CAUTION TRUCKS ENTERING				1				4.50 (4.50)	
R1-1	30"	30"	STOP				1				6.25 (6.25)	
R2-1 (30) R2-1 (40)	30"	36"	SPEED LIMIT XX				1 1				7.50 (7.50) 7.50 (7.50)	
R3-4	24"	24"					1				4.00 (4.00)	
R3-5L	30"	36"	ONLY				5				7.50 (37.50)	
R3-6R	30"	36"					5				7.50 (37.50)	
R4-7	24"	30"					1				5.00 (5.00)	
R9-2	12"	18"	CROSS ONLY AT CROSS WALKS				1				1.50 (1.50)	
R10-36L	9"	12"					2				0.75 (1.50)	
R10-36R	9"	12"					2				0.75 (1.50)	
R10-12	30"	36"	LEFT TURN YIELD ON GREEN				2				7.50 (15.00)	
R10-15	30"	30"	TURNING VEHICLES TO				1				6.25 (6.25)	

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	COLOR		BORDER RADIUS	AREA IN SQUARE FEET	NOTES
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.		BACK-GROUND	LEGEND BORDER			
CS-04	18"	30"		TEXT DIMENSIONS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			4	COLORS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			3.75 (15.00)	
W3-3	30"	30"					1				6.25 (6.25)	
W3-6a	36"	36"	DRAW BRIDGE UP				1				9.00 (9.00)	
W16-13P	24"	18"	WHEN FLASHING				1				3.00 (3.00)	
GS-1	36"	108"	Casco Bay Bridge / Old Port				1				27.00 (27.00)	
GS-2	36"	108"	Casco Bay Bridge / Fore River Parkway				1				27.00 (27.00)	
CS-02	24"	48"	IMT / BOAT YARD				1				8.00 (8.00)	
CS-03	24"	48"	IMT / BOAT YARD				1				8.00 (8.00)	
M1-4	24"	24"	1A				2				4.00 (8.00)	
M1-5	24"	24"	77				2				4.00 (8.00)	
M3-1	24"	12"	NORTH				1				2.00 (2.00)	
M3-3	24"	12"	SOUTH				3				2.00 (6.00)	
R3-17	24"	18"	BIKE LANE				2				3.00 (6.00)	

SIGN ASSEMBLY NO. 1
(1 REQUIRED)

SIGN ASSEMBLY NO. 2
(1 REQUIRED)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

SIGN SUMMARY

PROJ. MANAGER	J. GITTREDGE	BY	DATE
DESIGN-DETAILED	CDH	CDH/RMI	05/14
CHECKED-REVIEWED	-	-	05/14
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

DATE

SHEET NUMBER
H36
70 OF 113

Filename: 070_SignSummary.dgn Division: Username: Date:8/5/2014

ATTACHMENT I

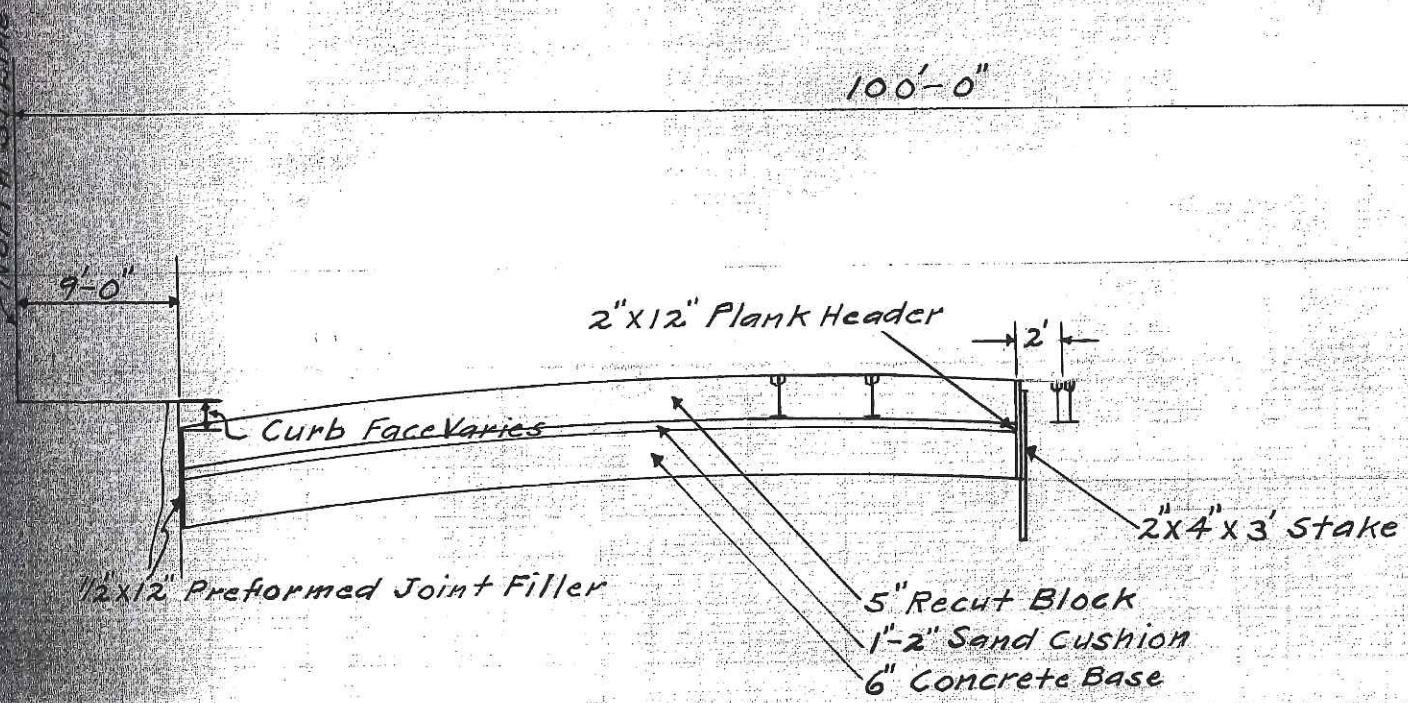
Portland International Marine Terminal
Existing Laydown and Connecting Corridor Connection Project

CONSTRUCTION MANAGEMENT PLAN

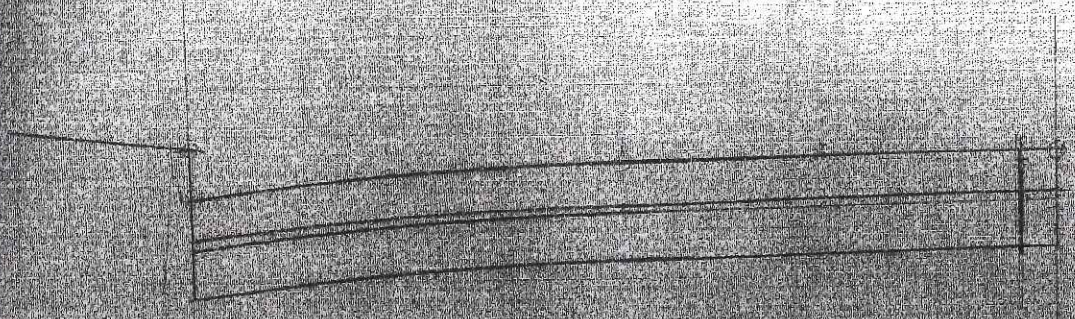
The following outline represents the anticipated construction management plan that will be provided by the winning bidder for the project:

- The contractor shall maintain a minimum of a 11 foot lane through lane (and a 10 foot Left turn lane for eastbound commercial street) for each approach through the duration of the project unless otherwise noted.
- The contractor shall maintain a minimum of a 3 foot sidewalk for existing pedestrian approaches for the duration of the project unless otherwise noted.
- All full lane closures on Commercial street shall only be allowed from 7 PM to 7 AM Sunday night through Friday Morning. Full lane closures shall have a minimum of an 11 foot lane of alternating one way traffic.
- All Traffic Control Devices shall comply with the latest edition of the MUTCD.
- All temporary pedestrian facilities shall comply ADA requirements.
- No unpaved surfaces (gravel) shall be allowed within the work zone on Commercial Street.
- The Contractor Shall provide Certified Flaggers for any construction operation requiring short term stoppages of traffic.

ATTACHMENT J



SECTION AT STA. 4+56.64



ATTACHMENT K

From: Rick Knowland [mailto:RWK@portlandmaine.gov]
Sent: Wednesday, June 04, 2014 11:48 AM
To: pcarroll@carroll-assoc.com
Cc: Alex Jaegerman; Barbara Barhydt; David Margolis-Pineo; Thomas.Errico@tylin.com
Subject: imt

Hi Pat, As a quick follow-up to our phone conversation. It would be very helpful to have responses to Tom Errico's last review memo. We deal in written documentation so unless we see it in writing it doesn't exist. It would be helpful to all parties concerned if Tom's list of issues in his memo could be reduced in number. This should be emailed to Tom and myself asap otherwise it will be too late to incorporate in Tom's memo to the Planning Board.

Meeting held yesterday with Mike B., K. Earlie, David M-P and others. People seem to like the pervious panels but would like further info and references regarding product history, maintenance and durability. There were several comments indicating it will be a challenge for the city to maintain the panels. (Would the State be willing to maintain it?) A question came up whether there could be scuppers or breaks in the wall to serve as an outlet for water in case there was a failure.

Green bike lane questions came up regarding maintenance, available warranty and durability. Further info would be helpful. One comment was whether it would make sense to shave some of the pavement first prior to installation so when the bike lane material is applied it would be thicker.

By Nova Seafood, City wants the cobblestones back because it provides a clear delineation for circulation movements (trucks, cars, peds). The material should Belgium blocks. The expansive sidewalk apron along Nova we are open to a non-brick material because of potential truck damage to bricks. We are open to colored concrete or some other similar material (ability to support heavy trucks) which would provide a contrast from the Nova black top parking area and the Belgium blocks.

The area on the southerly side of Commercial St (which allows Nova trucks the ability to turn where cobble stones were previously located) should be concrete rather than black top.

This provides you an update on staff comments regarding the imt. Needless to say we are very interested in any updates on the access/utility easement issue regarding new yard and imt.

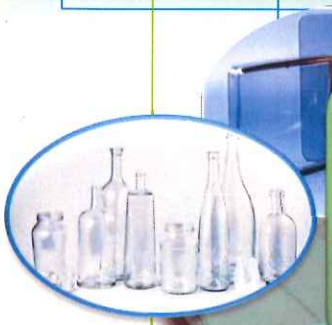
Should you have any questions please feel free to contact me.

ATTACHMENT L

Pulverizing & Coloring Process

PO Box 611 493 State Route 28 Richfield Springs, NY 13439
www.rubylakeglass.com

Pulverizing



Recycled Post Consumer / Industrial Glass

Pulverizing

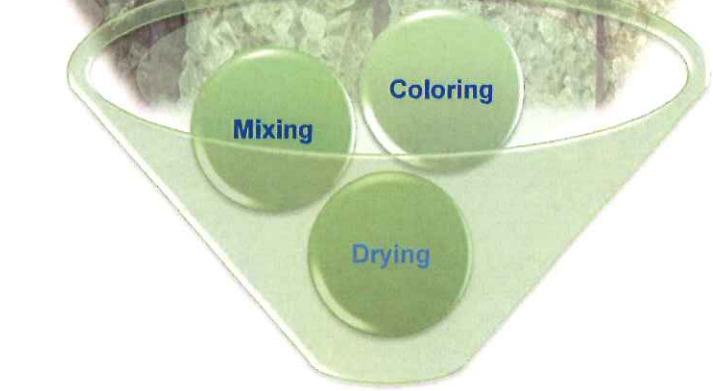
Screened Product Sizes

4/8 Mesh [3-5mm]	8/14 Mesh [1.5-3mm]	14/20 Mesh [0.8-1.5mm]	20/40 Mesh [0.4-0.8mm]	40/70 Mesh [fines]

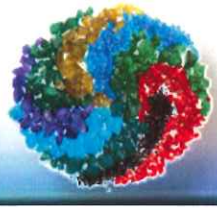
Coloring

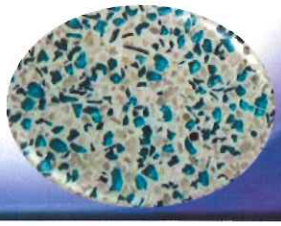
RUBY LAKE

Screened Product



Finished Product





Ruby Lake Glass, LLC
Phone: 607-435-8158
www.rubylakeglass.com

PO Box 611
493 State Route 28
Richfield Springs, NY 13439

Summary of Testing Data on Color-Coated Recycled Glass Aggregate

Ruby Lake Glass, LLC (RLG) is an American company which has exclusive license in North and South America for the processes and products of Coloured Recycled Glass, Pty in Australia (CRG).

Test results achieved by RLG and CRG's product are summarized below. Copies of detailed test results are available on request.

The two most common questions about our color-coated recycled glass aggregates are:
How long does the color last? This is important to all interior and exterior applications, as they will be subjected to UV rays, weathering, and differing conditions of temperature and humidity.
How much skid resistance does the aggregate provide? This is relevant to road and walkway applications, where safety is an issue.

Color Fastness and Weather Durability:

CRG submitted eight panels with different colored aggregates for accelerated weathering tests to ASTM standards including conditions of aggressive QUV, heat and moisture. It is generally accepted in the industry that 1000 hours of QUV testing is equivocal to around 7 years of UV exposure. Each of the panels was situated so that only half the panel was exposed to weathering. After 2885 hours of testing, it was determined there was no visible deterioration in the appearance of any of the panels under exposure compared to unexposed sections.

Skid resistance:

British Pendulum Test: RLG had samples tested to evaluate initial laboratory friction properties of color coated glass aggregate applied on a board with a binder or resin. A British Pendulum (BPN) test was performed to estimate a correlation to a lock wheeled skid test using ribbed tire at 40 mph (FN40R).

The results of the laboratory testing and material observations regarding the friction properties of the subject material were a BPN of 80 and an estimated FN40R value of 71.

Polished Stone Value: Another standard that can be applied to our aggregate without regard to its application is a Polished Stone Value (PSV), or a Polished Aggregate Friction Value (PAFV). The PSV test utilizes a vertical wheel, the PAFV a horizontal wheel.

CRG had samples of their color-coated glass aggregate tested, as well as samples of calcined bauxite (an aggregate commonly used for road friction), for PAFV according to Australian standards. A value was measured in wet conditions before and after polishing. The bauxite's mean friction value before polishing was very high, at 105, with a PAFV after polishing of 79. The glass had a mean friction value before polishing of 80, and a PAFV of 60 after polishing. Different entities apply different requirements depending on the conditions of the location – however, generally, aggregate that has a PSV value over 60 is regarded as a skid resistant aggregate.

Ruby Lake Glass, LLC
Phone: 607-435-8158
www.rubylakeglass.com

PO Box 611
493 State Route 28
Richfield Springs, NY 13439

L.A. Abrasion Test: The Los Angeles (L.A.) abrasion test is a common test method used to indicate aggregate toughness and abrasion characteristics. RLG color coated aggregate was tested using ASTM C-131, Grading D resulting in an 11% loss through a #12 mesh sieve.

Aggregate Properties:

Magnesium Soundness: RLG color coated aggregate was tested using ASTM C-88 resulting a 2.45% loss

Acid Insolubility: RLG color coated aggregate was tested using ASTM D-3042 resulting in 100% insoluble.

** See attached documents for testing results.

RABA KISTNER INFRASTRUCTURE

Ruby Lake Glass, LLC
ATTN: Cynthia Andela
PO Box 611
493 State Route 28
Richfield Springs, NY 13439

October 18, 2013

RE: High Friction Surface Testing
Ruby Lake Glass Aggregate No. 6- No. 16

Dear Cynthia Andela,

Raba Kistner Infrastructure Inc. (RKI) is pleased to submit the report of our laboratory testing for the above-referenced project. This study was performed in accordance with the **RKI** proposal, dated October 18, 2013. The purpose of this study was to evaluate initial laboratory friction properties of color coated glass aggregate, perform a British Pendulum (BPN) test and estimate a correlation to a lock wheeled skid test using ribbed tire at 40 mph (FN40R). The following report presents the results of our laboratory testing and material observations regarding the friction properties of the subject material.

We received to our Orem, Utah laboratory on October 14 a BPN test specimen consisting of black color coated aggregate (No. 6 sieve size to plus No. 16 sieve size) adhered to an epoxy coated ¼" thick by 24 inch long by 11.5 inch wide Hardy plank board. The laboratory test panel was prepared for testing by aggressively brushing surface until clean and free of loose particles then mounting level to a flat surface. The specimen was then tested according to ASTM E303-Standard Test method for Measuring Surface Frictional Properties using the British Pendulum Tester. The tests were run with both a 3 inch rubber pad and a 1¼ inch pad over a 5 inch travel path. Two locations along the test panel where selected for BPN testing and results are tabulated in Table 1 below.

The Average BPN results were then entered into a correlation equation[1,2] which, based on laboratory and field testing, estimates the initial FN40R values as would be predicted if the actual field ASTM E274 (Standard Test Method for Skid Resistance of Paved Surfaces Using a Full-Scale Tire) test had been run on day one after installation.

1. Fu, Chien and Hua, Chen. "Alternate Polish Value and Soundness Specifications for Bituminous Coarse Aggregates." Texas Department of Transportation, Report No. 7-3994, Austin, TX, 1998, pg 36.

2. Fu, Chien. "Improved Polish Value Test Method and Skid Performance Prediction"

RABA KISTNER INFRASTRUCTURE

Table 1 – Laboratory BPN Tests Performed

Test Location	Results	Average BPN
Upper Middle 5" Strike	80, 80, 80, 80, 79	80
Lower Middle 5" Strike	80, 80, 79, 79, 79	79

Table 2 – Laboratory BPN Correlated to FN40R

Test Location	Average BPN	Estimated FN40R
Upper Middle 5" Strike	80	71
Lower Middle 5" Strike	79	71

Overall, the material appears to have an estimated FN40R value of **71**.

We appreciate the opportunity to be of service to you on this project. Should you have any questions about the information presented in this report, or if we may be of additional assistance, please call.

Very truly yours,

RABA KISTNER INFRASTRUCTURE, INC.

Aaron B. Smith, P.E.
Geotechnical Engineer

Laboratory Evaluation of Construction Materials
Field Testing & Observation
Subsurface Investigations
Geotechnical Engineering

John H. Robinson Testing

1319 Sassafras Street
Erie, Pennsylvania 16501-1720
Telephone: 814.454.0195
Facsimile: 814.453.2020

Member: ASTM, ACI, ACIL
AAP AASHTO R18 Accredited
USACOE Validated

Date: October 8, 2013

Client: Ruby Lake Glass, LLC
P. O. Box 611
493 State Route 28
Richfield Springs, NY 13439

Attn: Cynthia Andela

Re: DBi Texas Black Colored Glass
Product ID: PA1-3Blk

Lab Ref.: A-13-0187
Received: 10-02-2013
Examined with the following results:

MAGNESIUM SULFATE, 5 CYCLE: ASTM C-88

Grain Size	Grading Percent	Start Weight	End Weight	Loss Wt.	Percent Loss	Weighted % Loss
#6	2.3				2.7	0.06
#8	56.5	100.0	97.3	2.7	2.7	1.53
#16	41.13	100.0	97.9	2.1	2.1	0.86
					Total Loss:	2.45

LOS ANGELES ABRASION: ASTM C-131, GRADING D, #12 WASH

Run #	Start Weight	End Weight	Loss	% Loss
1	5004.6	4414.1	590.5	11.8
2	4990.5	4422.2	568.3	11.4
			Avg:	11.6

ACID INSOLUBLES: ASTM D-3042

Run #	Start Weight	End Weight	Loss	% Loss	% Insoluble
1	500.0	500.0	0.0	0.0	100.0
2	500.0	500.0	0.0	0.0	100.0
3	500.0	500.0	0.0	0.0	100.0
			Avg.:		100.0

Respectfully submitted,

Dennis R. Smale 10/8/13
Dennis R. Smale
Laboratory Superintendent

ATTACHMENT M

STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

PAUL R. LEPAGE
GOVERNOR

PATRICIA W. AHO
COMMISSIONER

May 2014

Maine Department of Transportation
Attn: Kristen Chamberlain
16 State House Station
Augusta, ME 04333

RE: Site Location of Development Act General Permit, Portland, DEP #L-26347-TP-A-N

Dear Ms. Chamberlain:

Please find enclosed a signed copy of your Department of Environmental Protection land use permit. You will note that the permit includes a description of your project, findings of fact that relate to the approval criteria the Department used in evaluating your project, and conditions that are based on those findings and the particulars of your project. Please take several moments to read your permit carefully, paying particular attention to the conditions of the approval. The Department reviews every application thoroughly and strives to formulate reasonable conditions of approval within the context of the Department's environmental laws. You will also find attached some materials that describe the Department's appeal procedures for your information.

If you have any questions about the permit or thoughts on how the Department processed this application please get in touch with me directly. I can be reached at 207-592-1692 or at marybeth.richardson@maine.gov.

Sincerely,

Marybeth Richardson
Division of Land Resource Regulation
Bureau of Land and Water Quality

pc File:

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688 FAX: (207) 287-7826

BANGOR
106 HOGAN ROAD, SUITE 6
BANGOR, MAINE 04401
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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
17 STATE HOUSE STATION AUGUSTA, MAINE 04333-0017

DEPARTMENT ORDER

MAINE DEPARTMENT OF TRANSPORTATION	) SITE LOCATION OF DEVELOPMENT ACT
Portland, Cumberland County	)
LAYDOWN AREA AND CONNECTING RAIL CORRIDOR	) GRANTING OF COVERAGE
L-26347-TP-A-N (approval)	) GENERAL PERMIT FOR THE MAINE DEPARTMENT OF TRANSPORTATION

The Department of Environmental Protection (Department) has considered the Notice of Intent submitted by MAINE DEPARTMENT OF TRANSPORTATION, with supportive data and other related materials on file, for coverage under the General Permit for the Maine Department of Transportation, issued by the Department on February 19, 2013, and FINDS THE FOLLOWING FACTS:

The applicant proposes to construct a laydown area and connecting railroad corridor between the existing International Marine Terminal and existing rail corridors. The project site is located between Commercial Street and the Fore River in Portland. The applicant has indicated that it intends to comply with the terms and conditions of the General Permit for the Maine Department of Transportation. The applicant is authorized to construct the facility in accordance with the applicant's Notice of Intent, received by the Department on May 16, 2014 and accepted for processing on May 22, 2014, and in accordance with the terms and conditions of the General Permit for the Maine Department of Transportation effective February 19, 2013 and authorized through February 18, 2018.

In conjunction with this project, the Maine Department of Transportation submitted a Natural Resources Protection Act (NRPA) Permit-by-Rule Notification form (PBR #57888) which indicates that activities occurring within 75 feet of the highest annual tide line will be carried out in accordance with the standards of the NRPA, Chapter 305, Section 11. The Department approved PBR #57888 on May 21, 2014.

Constructed and operated in accordance with the General Permit for the Maine Department of Transportation, the project will not adversely affect the natural environment, will be built on suitable soil types, will meet the standards for erosion control and stormwater management, will not pose an unreasonable risk of discharge to a significant ground water aquifer, will not unreasonably cause or increase the flooding of the area or adjacent properties nor create an unreasonable flood hazard to any structure and any blasting, if it occurs, will be conducted in accordance with the standards of 38 M.R.S. §490-Z(14). In addition, the applicant has made adequate provision of utilities and the

development will not have an unreasonable adverse effect on existing or proposed utilities in the municipality or area served by those services.

THEREFORE, the Department GRANTS coverage for MAINE DEPARTMENT OF TRANSPORTATION under the General Permit for the Maine Department of Transportation for the above-described laydown area and connecting rail corridor in Portland, Maine, subject to the terms and conditions therein.

THIS APPROVAL DOES NOT CONSTITUTE OR SUBSTITUTE FOR ANY OTHER REQUIRED STATE, FEDERAL OR LOCAL APPROVALS NOR DOES IT VERIFY COMPLIANCE WITH ANY APPLICABLE SHORELAND ZONING ORDINANCES.

DONE AND DATED AT AUGUSTA, MAINE THIS 27th DAY OF May, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Filed
MAY 27 2014
State of Maine
Board of Environmental Protection

BY: Michael Kuhns
For: PATRICIA W. AHO, Commissioner

PLEASE NOTE THE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES...

MR/L26347AN/ATS#77750

DEP INFORMATION SHEET

Appealing a Department Licensing Decision

Dated: March 2012 **Contact: (207) 287-2811**

SUMMARY

There are two methods available to an aggrieved person seeking to appeal a licensing decision made by the Department of Environmental Protection's ("DEP") Commissioner: (1) in an administrative process before the Board of Environmental Protection ("Board"); or (2) in a judicial process before Maine's Superior Court. An aggrieved person seeking review of a licensing decision over which the Board had original jurisdiction may seek judicial review in Maine's Superior Court.

A judicial appeal of final action by the Commissioner or the Board regarding an application for an expedited wind energy development (35-A M.R.S.A. § 3451(4)) or a general permit for an offshore wind energy demonstration project (38 M.R.S.A. § 480-HH(1)) or a general permit for a tidal energy demonstration project (38 M.R.S.A. § 636-A) must be taken to the Supreme Judicial Court sitting as the Law Court.

This INFORMATION SHEET, in conjunction with a review of the statutory and regulatory provisions referred to herein, can help a person to understand his or her rights and obligations in filing an administrative or judicial appeal.

I. ADMINISTRATIVE APPEALS TO THE BOARD

LEGAL REFERENCES

The laws concerning the DEP's *Organization and Powers*, 38 M.R.S.A. §§ 341-D(4) & 346, the *Maine Administrative Procedure Act*, 5 M.R.S.A. § 11001, and the DEP's *Rules Concerning the Processing of Applications and Other Administrative Matters* ("Chapter 2"), 06-096 CMR 2 (April 1, 2003).

HOW LONG YOU HAVE TO SUBMIT AN APPEAL TO THE BOARD

The Board must receive a written appeal within 30 days of the date on which the Commissioner's decision was filed with the Board. Appeals filed after 30 calendar days of the date on which the Commissioner's decision was filed with the Board will be rejected.

HOW TO SUBMIT AN APPEAL TO THE BOARD

Signed original appeal documents must be sent to: Chair, Board of Environmental Protection, c/o Department of Environmental Protection, 17 State House Station, Augusta, ME 04333-0017; faxes are acceptable for purposes of meeting the deadline when followed by the Board's receipt of mailed original documents within five (5) working days. Receipt on a particular day must be by 5:00 PM at DEP's offices in Augusta; materials received after 5:00 PM are not considered received until the following day. The person appealing a licensing decision must also send the DEP's Commissioner a copy of the appeal documents and if the person appealing is not the applicant in the license proceeding at issue the applicant must also be sent a copy of the appeal documents. All of the information listed in the next section must be submitted at the time the appeal is filed. Only the extraordinary circumstances described at the end of that section will justify evidence not in the DEP's record at the time of decision being added to the record for consideration by the Board as part of an appeal.

WHAT YOUR APPEAL PAPERWORK MUST CONTAIN

Appeal materials must contain the following information at the time submitted:

1. *Aggrieved Status.* The appeal must explain how the person filing the appeal has standing to maintain an appeal. This requires an explanation of how the person filing the appeal may suffer a particularized injury as a result of the Commissioner's decision.
2. *The findings, conclusions or conditions objected to or believed to be in error.* Specific references and facts regarding the appellant's issues with the decision must be provided in the notice of appeal.
3. *The basis of the objections or challenge.* If possible, specific regulations, statutes or other facts should be referenced. This may include citing omissions of relevant requirements, and errors believed to have been made in interpretations, conclusions, and relevant requirements.
4. *The remedy sought.* This can range from reversal of the Commissioner's decision on the license or permit to changes in specific permit conditions.
5. *All the matters to be contested.* The Board will limit its consideration to those arguments specifically raised in the written notice of appeal.
6. *Request for hearing.* The Board will hear presentations on appeals at its regularly scheduled meetings, unless a public hearing on the appeal is requested and granted. A request for public hearing on an appeal must be filed as part of the notice of appeal.
7. *New or additional evidence to be offered.* The Board may allow new or additional evidence, referred to as supplemental evidence, to be considered by the Board in an appeal only when the evidence is relevant and material and that the person seeking to add information to the record can show due diligence in bringing the evidence to the DEP's attention at the earliest possible time in the licensing process or that the evidence itself is newly discovered and could not have been presented earlier in the process. Specific requirements for additional evidence are found in Chapter 2.

Other Considerations in Appealing a Decision to the Board

1. *Be familiar with all relevant material in the DEP record.* A license application file is public information, subject to any applicable statutory exceptions, made easily accessible by DEP. Upon request, the DEP will make the material available during normal working hours, provide space to review the file, and provide opportunity for photocopying materials. There is a charge for copies or copying services.
2. *Be familiar with the regulations and laws under which the application was processed, and the procedural rules governing your appeal.* DEP staff will provide this information on request and answer questions regarding applicable requirements.
3. *The filing of an appeal does not operate as a stay to any decision.* If a license has been granted and it has been appealed the license normally remains in effect pending the processing of the appeal. A license holder may proceed with a project pending the outcome of an appeal but the license holder runs the risk of the decision being reversed or modified as a result of the appeal.

What to Expect Once You File a Timely Appeal with the Board

The Board will formally acknowledge receipt of an appeal, including the name of the DEP project manager assigned to the specific appeal. The notice of appeal, any materials accepted by the Board Chair as supplementary evidence, and any materials submitted in response to the appeal will be sent to Board members with a recommendation from DEP staff. Persons filing appeals and interested persons are notified in advance of the date set for Board consideration of an appeal or request for public hearing. With or without holding a public hearing, the Board may affirm, amend, or reverse a Commissioner decision or remand the matter to the Commissioner for further proceedings. The Board will notify the appellant, a license holder, and interested persons of its decision.

II. JUDICIAL APPEALS

Maine law generally allows aggrieved persons to appeal final Commissioner or Board licensing decisions to Maine's Superior Court, see 38 M.R.S.A. § 346(1); 06-096 CMR 2; 5 M.R.S.A. § 11001; & M.R. Civ. P 80C. A party's appeal must be filed with the Superior Court within 30 days of receipt of notice of the Board's or the Commissioner's decision. For any other person, an appeal must be filed within 40 days of the date the decision was rendered. Failure to file a timely appeal will result in the Board's or the Commissioner's decision becoming final.

An appeal to court of a license decision regarding an expedited wind energy development, a general permit for an offshore wind energy demonstration project, or a general permit for a tidal energy demonstration project may only be taken directly to the Maine Supreme Judicial Court. See 38 M.R.S.A. § 346(4).

Maine's Administrative Procedure Act, DEP statutes governing a particular matter, and the Maine Rules of Civil Procedure must be consulted for the substantive and procedural details applicable to judicial appeals.

ADDITIONAL INFORMATION

If you have questions or need additional information on the appeal process, for administrative appeals contact the Board's Executive Analyst at (207) 287-2452 or for judicial appeals contact the court clerk's office in which your appeal will be filed.

Note: The DEP provides this INFORMATION SHEET for general guidance only; it is not intended for use as a legal reference. Maine law governs an appellant's rights.

Rick Knowland - Bayside Anchor - Preliminary Traffic Comments

From: Tom Errico <thomas.errico@tylin.com>
To: Rick Knowland <RWK@portlandmaine.gov>
Date: 6/5/2014 8:14 PM
Subject: Bayside Anchor - Preliminary Traffic Comments
CC: David Margolis-Pineo <DMP@portlandmaine.gov>, Katherine Earley <KAS@port...

Rick – The following summarizes my preliminary traffic comments for the project.

- The project is expected to generate 24 vehicles during the AM peak hour and 29 vehicles during the PM peak hour. This level of traffic does not trigger the requirement for a MaineDOT Traffic Movement Permit.
- I continue to review the parking analysis for the project but note the following:
  - During a field review of the site during a weekday morning, a significant number of vehicles were parked in the immediate area of the proposed site. Cars were parked on both sides of Boyd Street and there were no on-street parking spaces available. I would further note that the travel lane was very narrow in this area and is a cause for concern and review.
  - It has been the City's general policy not to include on-street parking spaces in the determination of parking supply adequacy for a proposed project. I would suggest that the project determine parking supply adequacy from using off-street parking lots only (I would note that based upon the applicants data, it appears adequate off-street parking can be provided).
  - The applicant should provide information on how the PHA parking lots will be managed. Specific details should be provided
- It is my understanding that the proposed crosswalks on Boyd Street and Oxford Street have been reviewed by the City's Crosswalk Committee. I will provide specific comments on the crosswalks in the future.
- It should be noted that recommendations from the Franklin Street Study may include some type of transportation connection from Oxford Street to Franklin Street. I need to review this possibility and whether it impacts the proposed site plan.
- Changes to on-street parking regulations may require an amendment to the City's Traffic Schedule and thus action by the City Council. If required, the applicant will be requested to provide information in support of the Council packet.
- The project appears to use existing handicapped parking spaces across Oxford Street. The applicant should provide information that the parking spaces dimensionally meet ADA standards. During my field review, one of the spaces was occupied, so the applicant should provide information on the use of these spaces for both the existing and proposed sites.
- The applicant should provide information on how Head Start Pick-up and Drop-off activities will be managed.
- The applicant should provide details on where Police Station vehicles will park (if required).

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
TYLIN INTERNATIONAL

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June 6, 2014

HNTB

Mr. Richard Knowland
Senior Planner
City of Portland
389 Congress Street
Portland, ME 04101

RE: Site Plan Application for Portland IMT, Existing Laydown and Connecting Corridor Connection
Site Plan Addendum #4

C/O: Pat Carroll, Carroll Associates (email: pcarroll@carroll-assoc.com)

Rick,

Please find attached responses to the City's latest questions and comments received regarding the Portland IMT subject project. We have copied the comments directly into this letter and provided our responses immediately following each comment. If you have any additional questions regarding these responses, please do not hesitate to contact me or our project liaison, Pat Carroll.

Regards,

Craig R. Morin, P.E.
Project Manager

C: Joel Kittredge, Project Manager, MaineDOT (via email: Joel.C.Kittredge@maine.gov)

Encl.: Response to Comments
Attachments

HNTB File No.: 62506-DS-001-001
M:\jobs\62506 - Portland IMT Corridor Connection (Stage1)\Communications\Letters
LTR 02 Response to City Comments 06-05-14.docx

COMMENTS FROM DAVID MARGOLIS-PINEO (VIA EMAIL, MAY 14, 2014, ATTACHMENT A) AND RESPONSES:

Comment 1
A four foot concrete barrier is proposed along the Commercial Street right of way adjacent to the proposed loading dock. Also proposed along this same area within the right of way are porous concrete panels. It seems apparent that snow removal will be required to allow for proposed parking and to allow drainage. Since the City cannot guaranty snow removal in a timely fashion, it is proposed that the applicant pull all infrastructure back onto the applicant's property six feet and to reach an agreement with the City to allow for snow storage in this vacated area on the applicant's property.

Response: The location of the concrete loading slab is established to accommodate the necessary operations for rail car loading, as well as the conceptual future build-out scenario with an additional track. Fence lines, utilities, and the existing NGL tracks are interior constraints which prevent relocation of the slab. The layout of the slab is illustrated in Attachment B

Comment 2
To accommodate vehicle turning movement, the applicant is proposing to pave from the road right of way well onto the applicant's property. The City agrees to maintain infrastructure within the right of way with the understanding that all proposed work within the road right of way meets City of Portland Technical Manual standards.

Response: Agreed.

Comment 3
It is understood that the proposed porous [pervious] concrete panels are design for an H-20 loading, and prior to project approval the applicant submit the manufactures recommended maintenance requirements for these panel and that the City agrees to maintain those panels so they will function as designed.

Response: Sample manufacturer's product information and maintenance recommendations are included herein as Attachment C.

COMMENTS FROM JEFF TARLING (VIA EMAIL, MAY 9, 2014, ATTACHMENT D) AND RESPONSES:

Comment 1
C18 Landscaping Plan - Due to the space requirements on the IMT or 'water side' of Commercial Street the project directs street tree planting across the street along an improved sidewalk and esplanade. This compromise is a fair approach given the scale of the proposed project.

Landscape mitigation of the proposed wall should be explored. Options could include: varying the wall texture or scoring so that certain length of wall panels are accentuated vs continuous the same, create pockets for vegetation, some spaces could have a grove of Bayberry, others with vines perhaps. Could local MECA be advised of possible concrete forming options with a local arts theme?

Explore fence options including using black vinyl chain link vs galvanized to reduce glare.
Unsure if barbed wire is needed?

Response: The wall has been designed with a textured surface to provide aesthetic appeal. The height of the wall has been limited to 4-ft in height in order to provide visual views of the site while maintaining the necessary safety measures against the reach stacker operations. Block-outs for vegetation will not be provided since these can act as climbing devices which negate the effectiveness of the security fence and will result in added maintenance issues (watering, care, etc.). The applicant has revised its fence type to a more aesthetically pleasing and functional palisade fence style to enhance the "gateway" appearance of the site and facilitate snow removal, while upholding the Homeland Security, MTSA 105 requirements. The fence color will be black. See Attachment E.

Comment 2
Proposed benches along Commercial Street - the proposed granite or stone benches set on the sidewalk would be best to be set back behind the walk to reduce sidewalk plowing conflicts. There may be additional review of the bench type - but the type as shown fits into the nearby Harborview Memorial Park use of that material.

Response: The sidewalk width accommodates the City's desire for a 12-ft multi-use trail and an 8-ft esplanade. The area behind the sidewalk is private property.

Comment 3
Interpretive signage & graphics - this aspect is a positive approach to connect the proposed project with an historical context. Perhaps somewhere along the wall expanse a sign / graphic could be used to identify the site and use. Celebrating the Port of Portland and the intermodal function of ship to rail and truck is a positive feature for the City of Portland and the State of Maine, and perhaps the rail service. I couldn't find an example off hand of Pan Am railway but the CSX graphic could be an example.

Response: The interpretive signs are under development by a separate committee which is exploring these details.

COMMENTS FROM MARGE SCHMUCKAL (VIA EMAIL, MAY 6, 2014, ATTACHMENT F) AND RESPONSES:

Comment 1
I have briefly looked at this submission. The project is located in the WPDZ zone with a Shoreland overlay. The proposed use for intermodal transportation facilities is a listed, permitted use under section 14-319(b)1. However the applicant explains that "there may be times where there will be truck to truck .." exchanges, I would want the applicant to explain that in more detail outlining how this is an accessory use and not a principal use. The zone does not permit trucking terminals per se. I want to be sure that the truck to truck component is not more than the other proposed intermodal uses. I note that that same section of permitted uses does allow intermodal transportation for railroad transportation services.

Response: The expanded portion of the terminal will primarily be used for intermodal use from ship to rail and vice versa; however, there will also be some truck uses, as well.

Comment 2
I also reviewed the submission concerning shoreland regulations. There is information concerning the clearing of vegetation. The verbage goes on to say "see enclosed plans for specifics." I did not find an enclosed plan that related to what was written. Please provide such plans or indicate which plan it is within the submission, so I can review compliance with our Ordinance.

Response: Final construction Site Plans will show the proposed tree clearing line. Trees greater than 4" diameter proposed to be removed within the 250' shoreland have been calculated as noted in the original Level III Site Plan application. As there are more than 900 trees greater than 4" within this track of land, individual trees are not shown graphically on the plans as this would make plans more cluttered. Additional backup calculations can be provided if requested by the City.

COMMENTS FROM TOM ERRICO, JEREMIAH BARTLETT, SCOTT QUILLETTE, AND KEVIN THOMAS (VIA EMAIL, MAY 19, 2014, ATTACHMENT G) AND RESPONSES:

General Response: Based on the number of comments listed below, the applicant has updated the striping and signal plans to address the comments. The updated plans are included herein as Attachment H.

Comment 1
The traffic signal plan includes special signal phasing for Nova Seafood. I would suggest that a City agreement with Nova Seafood be crafted related to traffic operations and a memorandum of understanding and for traffic control.

Response: HNTB agrees that an agreement would be prudent.

Comment 2
The driveway apron material at Nova Seafood does not meet City standards and a waiver will be required.

Response: Agreed.

Comment 3
Several of the driveways on Commercial Street (IMT, Nova Seafood, and Gray Bar) do not meet City width standards and thus waivers will be required.

Response: Agreed.

Comment 4
Several of the driveways on Commercial Street do not meet City corner clearance and separation standards.

Response: Agreed, waiver will be required.

Comment 5
The City is requesting that truck parking on in-bound Commercial Street be prohibited for a specified distance in advance of the Beach Street intersection. The City will provide this restriction length.

Comment 6
The applicant should investigate the provision of a bicycle lane on Beach Street departing the intersection.

Response: There is currently a paved shoulder on Beach Street departing the intersection which functions as a bike lane.

Comment 7
I am concerned about traffic operations and congestion during peak time periods, particularly when the special Nova Seafood traffic signal phase is actuated. The applicant should investigate the ability to limit the traffic signal phase during peak time periods.

Response: The applicant met privately with Nova Seafood regarding the peak hour traffic. Nova Seafood has indicated that peak hour traffic cannot be controlled.

Comment 8
A sidewalk waiver has been requested and a review of the supporting information will be performed.

Response: Agreed.

Comment 9
A granite curbing waiver has been requested and a review of the supporting information will be performed.

Response: Agreed.

Comment 10
The applicant should provide information as it relates to use of the proposed traffic signal by existing IMT traffic. I believe there will be overall site traffic and safety benefits if all IMT traffic has the ability to use the traffic signal.

Response: The site traffic is dependent upon the level of security for each container, and therefore, the use of each entranceway is still required. Not all of the traffic generated at the IMT can utilize the traffic signal.

Comment 11
A construction management plan has been prepared. Additional information will be required as it relates to specific traffic, pedestrian, and bicycle impacts during construction.

Response: An initial construction management plan has been developed in brief and is included herein as Attachment I. Typically, a construction management plan is the responsibility of the contractor and is provided at the onset of construction. The project specifications will include the requirements outlined in the attachment in addition to the typical construction management requirements imposed by the State.

Comment 12
At the planning board workshop, there was discussion about the provision of a driveway entrance west of the project site for future development access and egress. The applicant should provide information in support of that driveway if that is to be included in the project approval.

Response: The driveway entrance in question is not part of this project. Any additional driveway entrances will be part of New Yard's future development.

Comment 13
The City does not support the use of pavement markings to delineated pavements areas for use by large trucks.

Response: The applicant is amenable to the use of cobblestones in areas traversed by large trucks in lieu of pavement markings. The cobblestone detail section will include cobblestones atop a sand layer atop a 6-inch thick fiber-reinforced concrete slab as shown in Attachment J.

Comment 14
The phasing for the intersection does not appear to be NEMA compliant. Please revise with Commercial Street as the main street, assuming an east-west phasing structure.

Response: Revised as shown in attached drawings.

Comment 15
The phasing sequence should begin with Commercial Street and end with Nova Seafood (currently designated as Phase 9).

Response: Revised as shown in attached drawings.

Comment 16
The peak hour cycle length seems unusually long for an intersection with this type of geometry, going as long as 150 seconds during the PM peak hour. Discussion should be provided as to why shorter cycle lengths cannot be achieved.

Response: With the addition of the Nova Seafood phase the natural cycle length is approximately 150 seconds, if the cycle length is shortened, LOS decreases. The Synchro Model has been provided to the City.

Comment 17
The pedestrian timing does not appear to provide sufficient crossing time, particularly for Commercial Street. Please confirm use of a standard 3.5 feet per second pedestrian crossing time from curb to curb.

Response: Revised as shown in attached drawings.

Comment 18
Given the sight distance issues for this intersection, the all-red clearance times should likely be extended.

Response: Revised as shown in attached drawings.

Comment 19
The City's technical standards are in the process to migrating to infra-red video detection as a requirement. The City now requires that either the cameras used with the VIP processors be the FLIR FC series or that the solution be based on the FLIR TrafiSense cameras.

Response: Revised as shown in attached drawings and in project specifications.

Comment 20
Please specify four-inch conduit to provide additional future wiring capabilities.

Response: Revised as shown in attached drawings.

Comment 21
Please provide one-piece pedestrian poles

Response: Revised as shown in attached drawings.

Comment 22
All pole bases, pull boxes and controller conduits should be sealed to prevent access by rodents and other small animals.

Response: Revised as shown in attached drawings.

Comment 23
Please confirm the method of advance notification when the Commercial Street westbound approach is red to account for minimal sight distances passing by Nova Seafood.

Response: There is a near side signal head on the southeast mast arm upright that is visible to westbound traffic.

Comment 24
It is my understanding that the Nova Seafood driveways will be restricted such that the easterly driveway will be an entrance only and the westerly driveway an exit only driveway. The plans do not reflect this.

Response: Nova seafood's owner intended for one way circulation with exiting traffic at signal.

Comment 25
There are areas of roadway pavement that appear to be located outside the public right-of-way. An agreement on maintenance may be required.

Response: HNTB agrees that an agreement would be prudent.

Comment 26
The applicant should note the material for the Nova Seafood island.

Response: Revised as shown in attached drawings. Type 1 curb will be installed on the street side, while Type 5 curb will be installed on the driveway side. The middle area will be filled with a 4-inch thick concrete infill.

Comment 27
The applicant should provide details for the area between the sidewalk and the Nova Seafood island.

Response: Revised as shown in attached drawings. The area will be cobblestone.

Comment 28
The left-turn bay shadowed island is depicted as paint. The applicant should investigate other material treatment for longevity purposes.

Response: The MaineDOT prefers paint in this application.

Comment 29
During Casco Bay Bridge openings, traffic may be backed up into the new traffic signalized intersection. The applicant should note whether there are any provisions for this scenario from a traffic signal perspective.

Response: There are no provisions for this scenario. If there are other intersections in the City where special provisions have been implemented, please provide these for our review.

Comment 30
The bicycle lane on the outbound side of Commercial Street continues to the limit of work, while the in-bound bicycle lane begins at the point where the left-turn lane is starting. The applicant should note why the in-bound bicycle lane can't start at the project limits.

Response: There is already a shoulder in this region for the bike lane, and our proposed bike lane ties into the existing layout.

Comment 31
The direction sign that notes Casco Bay Bridge 500 Feet is being removed. This removal should be confirmed by City staff.

Response: A new guide sign which is MUTCD compliant is being provided in lieu of the existing direction sign.

Comment 32
The plans illustrate that the sidewalk at the corner of the Nova Seafood building will not need to be reconstructed. Given that the curb is being relocated, the sidewalk will need to be upgraded.

Response: Agreed. We will show modifications to the existing sidewalk to illustrate the new location of the curb.

Comment 33
The length of curbing at the Nova Seafood driveway is being eliminated. Justification on this change shall be provided.

Response: Curbing is being removed from both sides of the driveway to facilitate truck entering/exiting movements.

Comment 34
A fire hydrant is located in the middle of the sidewalk east of the easternmost Nova Seafood driveway. It would be beneficial if this hydrant could be relocated.

Response: The hydrant is beyond the project limits of sidewalk work and is therefore not within the scope of this project.

Comment 35
The plan replaces an existing Casco Bay Bridge 500 Feet sign with a sign that notes Casco Bay Bridge (right) and Fore River Parkway (through). City staff should determine if this replacement is acceptable.

Response: A new guide sign which is MUTCD compliant is being provided in lieu of the existing direction sign.

Comment 36
It was my understanding that the bicycle lanes were going to have dashed line treatment through the intersection. The plans do not depict this.

Response: Revised as shown in attached drawings.

Comment 37
The applicant should confirm that adequate illumination will be provided at the two crosswalk locations.

Response: Dual-purpose mast arm uprights have been included in the project to provide adequate light for the intersection including the crosswalks.

COMMENTS FROM CITY STAFF MEMBERS (VIA EMAIL, JUNE 4, 2014, ATTACHMENT K) AND RESPONSES:

Comment 1
There is an assumption that brick along the expansive sidewalk apron by Nova could be damaged by heavy truck use. A comment from Alex is that he would prefer inlaid, narrow edge/soldier course brick. That is the preference. If someone can provide documentation that it's not possible to design a brick sidewalk without risking excessive damage to the sidewalk from truck traffic than we are open to another material.

Response: We will update the drawings to reflect the suggested change.

Comment 2
There was discussion about a protocol (or management) system that Nova would use to avoid potential problems with the traffic light such as trucks or cars parking within the signal detection area. Any progress on that?

Response: There is a provision within the video/Thermal detection system to skip a call once the call has reached a 240 second duration. It would mean two cycles, but would not continue beyond two calls. No additional cost, this is a programming feature of the system.

Comment 3
People seem to like the pervious panels but would like further info and references regarding product history, maintenance and durability. There were several comments indicating it will be a challenge for the city to maintain the panels. (Would the State be willing to maintain it?) A question came up whether there could be scuppers or breaks in the wall to serve as an outlet for water in case there was a failure.

Response: Additional information regarding the pervious panels is provided in Attachment C. In previous discussions, the City has indicated that it was willing to perform the maintenance of the panels and maintain the infrastructure in the right-of-way, hence the reason for the earlier literature request (please see Comments #2 and #3 from David Pineo Margolis on May 14, 2014). In the event the panels do not provide adequate drainage as intended, there are two manholes at the eastern end of the concrete barrier to provide adequate drainage for runoff.

Comment 4
Green bike lane questions came up regarding maintenance, available warranty and durability. Further info would be helpful. One comment was whether it would make sense to shave some of the pavement first prior to installation so when the bike lane material is applied it would be thicker.

Response: Additional information regarding the bike lane material is provided in Attachment L. *The design team agrees that shaving the pavement is an appropriate step to ensure longevity in the coating material to avoid damage by plows.*

Comment 5
By Nova Seafood, City wants the cobblestones back because it provides a clear delineation for circulation movements (trucks, cars, peds). The material should Belgium blocks. The expansive sidewalk apron along Nova we are open to a non-brick material because of potential truck damage to bricks. We are open to colored concrete or some other similar material (ability to support heavy trucks) which would provide a contrast from the Nova black top parking area and the Belgium blocks.

Response: The design team has re-implemented the use of cobblestones in the project to delineate circulation movements within this region. The material will be Belgium blocks. The sidewalk apron will continue to be brick to provide a durable textured surface and a clear contrast to the Belgium blocks.

Comment 6
The area on the southerly side of Commercial St (which allows Nova trucks the ability to turn where cobblestones were previously located) should be concrete rather than black top.

Response: The design team believes that this area should remain cobblestone in order to provide a uniform traffic delineation to the intersection while minimizing the number of various construction materials.

ADDITIONAL ATTACHMENTS (PER APPLICANT):

ATTACHMENT M DEP PERMIT

Craig Morin

From: David Margolis-Pineo <DMP@portlandmaine.gov>
Sent: Wednesday, May 14, 2014 12:55 PM
To: Barbara Barhydt; Rick Knowland
Cc: Bruce Hyman; Chris Pirone; Charles Wordell; Doug Roncarati; Eric Labelle; Jeremiah Bartlett; Jane Ward; Jeff Tarling; John Emerson; Katherine Earley; Michael Farmer; Michelle Sweeney; William Clark; Tom Errico; David Senus
Subject: Review Comments for 528 Commercial St - IMT

ATTACHMENT A

May 14, 2014

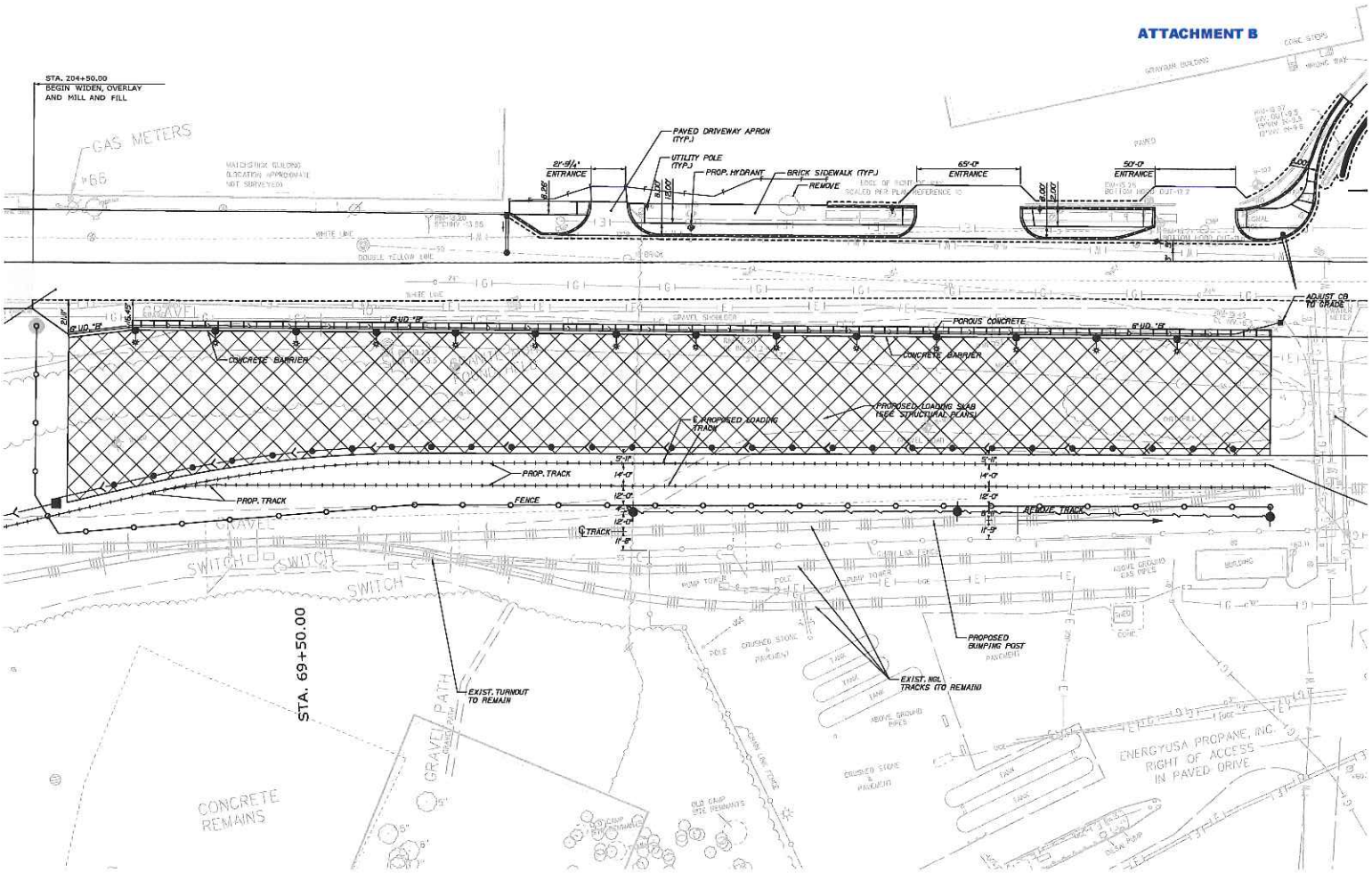
Memo To: Rick Knowland
Barbara Barhydt
From: David Margolis-Pineo
Re: Review Comments from Public Services
528 Commercial Street – International Marine Terminal

The Department of Public Services has the following comments.

1. A four foot concrete barrier is proposed along the Commercial Street right of way adjacent to the proposed loading dock. Also proposed along this same area within the right of way are porous concrete panels. It seems apparent that snow removal will be required to allow for proposed parking and to allow drainage. Since the City cannot guaranty snow removal in a timely fashion, it is proposed that the applicant pull all infrastructure back onto the applicant's property six feet and to reach an agreement with the City to allow for snow storage in this vacated area on the applicant's property.
2. To accommodate vehicle turning movement, the applicant is proposing to pave from the road right of way well onto the applicant's property. The City agrees to maintain infrastructure within the right of way with the understanding that all proposed work within the road right of way meets City of Portland Techincal Manual standards.
3. It is understood that the proposed porous concrete panel are design for an H-20 loading, and prior to project approval the applicant submit the manufactures recommended maintenance requirements for these panel and that the City agrees to maintain those panels so they will function as designed.

We have no further comments.

ATTACHMENT B



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ATTACHMENT C

Stormcrete™ Operation and Maintenance Manual

Introduction:

Stormcrete™ is a modular precast porous concrete stormwater system and is able to provide a low risk alternative to poured in place porous pavements. Routine operation and maintenance (O&M) procedures are similar to that of conventional porous pavements. However, Stormcrete™ provides the security of knowing that the slabs can be easily lifted for maintenance and repairs or in some cases even replaced when standard maintenance practices are insufficient.

Planning / Placement:

Proper planning and placement of porous surfaces is fundamental to their longevity and effectiveness. All projects are unique and careful attention should be taken to each situation. Locate porous surfaces where they will be most effective from a StormWater perspective and least susceptible to heavy loading of sediment and debris. For example, potential issues can arise in locations of winter operations (i.e. snow storage, deicing material storage, etc.), site entrances, dirt to pavement vehicle traffic, and run-on from landscaped areas.

Regular Inspection:

Regular inspection of the Stormcrete™ System is critical to developing a site specific maintenance program. Inspection should be performed several times in the first few months and then 2-4 times per year depending upon the intensity of use. The following should be included in any ongoing inspection program:

- Confirm "good housekeeping" practices are in place. Do not store materials such as sand/salt, mulch, soil, yard waste, and other stock piles on Stormcrete™ surfaces or in such a way that the material can be washed or blown on to Stormcrete™.
- During inspection note the accumulation of sediment and debris. Voids should be checked for accumulation of fine material. This will aid in determining proper vacuum sweeping frequency and the ability to target areas with higher accumulation rates.
- Inspect for surface deficiencies. (i.e. raveling, spalling, cracking, etc.)
- Inspect for evidence of ponding. (i.e. staining or unusual light sediment or debris)
- Inspect for evidence of run-on from perimeter unpaved areas or nearby erosion.
- Inspect for evidence of accidental or illicit spillage.
- Maintain a log detailing all inspection and maintenance activities.

Routine Maintenance:

Even with the advantages of the Stormcrete™ System, all porous surfaces require some routine maintenance activities to preserve permeability and service life. A minimum amount of planning and regular maintenance is more effective than surface rehabilitation or replacement.

- **Blower:** A high-powered backpack blower (similar to a Sthil BR600) can be used with a swirl pattern to loosen sediment and debris lodged into the Stormcrete™ System. A vacuum can be used to remove the material dislodged by the blower.
- **Vacuum Sweeping:** Vacuum a minimum of 2 times per year is recommended for most installations. Site specifics (land use, climate, tree cover, site conditions, winter de-icing practices, construction activities, etc.) along with data from regular inspections will ultimately determine how frequently the surface should be vacuumed. Minimum vacuum cleaning should occur in spring (after snow melt) and fall (after leaf drop). Additional cleaning should be scheduled any time accumulated sediment / debris is visible on surface.

- **Proper Equipment:** Use of a powerful vacuum for routine maintenance is critical. Regenerative air vacuum sweepers and high-efficiency vacuum only sweepers are recommended. Equipment condition and proper maintenance is also critical to maximize vacuum efficiencies.

- **Operator experience and diligence** is critical to maximize vacuum efficiencies. Vehicle speed, equipment settings, timing for proper access, and type of material being removed are only a few of the factors an operator needs to properly gage.

- **Maintenance Staff / Public awareness:** On-site personnel and contractors should be made aware of the porous surface and proper O&M procedures. (i.e. signage / pavement demarcation, snow removal, etc.)

Rehabilitation, Repairs, and Replacement:

- **Focused Power Washing**: Power-washing can be an effective tool for unclogging plugged areas. Power-washing should be used in conjunction with a focused, high-velocity vacuum head so that debris is removed and not just displaced. Power-washing should occur at moderate pressure and at low angle (<45 degrees) to drive materials into the vacuum head. Care should be taken with water pressure until effect of water pressure on surface is realized.

- **Remove, Restore & Reset**: In the event that focused power-washing does not provide adequate flow capacity, the slab(s) can be lifted, removed, flushed and replaced.

    - Please note: Removal and replacement should be completed using Stormcrete™ lifting swivels. Reference the Stormcrete™ Removable & Replaceable Manual.

- **Replacement:** In the event that the slab(s) is plugged beyond rehabilitation the slab(s) can easily be removed and replaced.

Winter Maintenance / Snow Removal: Routine winter operations are similar to that of conventional porous pavements.

- **De-icing & Chemicals:**

    - If at all possible avoid applying sand to StormCrete™.
        - Due to the nature of porous pavement de-icing chemicals have a difficult time forming a melting solution (brine) on the surface. This tends to lead to needless excessive chemical use.

- **Plowing & Snow Removal:**
    - Snow can be removed using conventional plow blades equipped with shoes. Well maintained plow blades can prevent damage to porous surface. Back dragging is not recommended. Where possible, plow passes should be made at a 45-degree angle to the slab joints.
    - Operator training: Snow removal operators should be aware of the presence of the StormCrete™ System.
    - Snow within pores of porous pavement can make them appear more snow covered than standard impervious pavements. Porous surface should not be "over plowed" or scraped.

Additional Help:

For guidance or a quote to maintain your porous surface please contact Stormwater Compliance, LLC at sweeping@stormwatercomp.com or 1-877-271-9055.

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SAMPLE SPECIFICATION

Porous Pavement Maintenance Specifications

(Vacuum Sweeping, Power Washing, Flow Testing, Documentation)

Scope: Furnish all equipment, materials and labor to provide Porous Pavement Vacuuming, Selective Power Washing, and Documentation as specified below.

Qualifications and Experience: Porous pavement systems (PPS) are specialized pavement systems with the designed purpose of collecting and treating stormwater runoff. Designs and intended function vary from installation to installation. There are four main categories of PPS; Porous Asphalt, Cast in Place Porous Concrete, Permeable Pavers, and Precast Modular Porous Concrete (see below). Knowledge of intended stormwater functions for all types of PPS is critical to proper maintenance and identification of deficiencies. Contractor shall be familiar with all types of PPS and have demonstrable experience with maintenance of these systems. Contractor must also be experienced with effective inspection and documentation processes. Proposal should include a summary of similar projects / experience and biographies of key personnel.

- Porous Asphalt (PA): a type of asphalt that has a high porosity due to an increased void space to facilitate water infiltration through the porous asphalt into a stone reservoir and then into the ground.

- Cast in Place Porous Concrete (CPPC): a type of concrete that has a high porosity due to an increased void space to facilitate water infiltration through the porous concrete into a stone reservoir and then into the ground.

- Permeable Pavers (PP): an alternative to traditional hardscape paving which allows water to infiltrate between the pavers and through permeable layers below ground. When vacuuming porous pavers, the setting should be adjusted to a lower power in order to prevent complete removal of aggregate between voids (unless more intensive vacuuming is required to alleviate clogged areas).

- Pre-cast Modular Porous Concrete (PMPC, e.g. Stormcrete): similar to CPPC but precast in slabs of varying sizes under controlled conditions and shipped to the project location ready for installation. Because PMPC is modular it can be removed and replaced if

Work Completion Time (after notice to proceed): Porous pavement vacuuming shall occur in the spring and fall. Spring vacuuming shall be completed between April 1st and May 30. Spring vacuuming should follow initial spring cleanup of gross sand and debris accumulations. Fall vacuuming shall be completed between October 1st and November 30. Where necessary, power washing / rehabilitation of plugged porous pavements shall occur at the direction of _____ at the times and locations identified during post sweeping inspections. Bidders shall provide a unit price per square yard of porous pavement power washing with their bid.

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Required Vacuum Equipment: For Safety and Effective completion of work, all equipment utilized of this work will be maintained in good functional and aesthetic condition. Equipment shall have operational safety devices as required by all state, local, and federal regulations.

It is anticipated that the use of push brooms, backpack blowers, walk behind vacuums, ride-on type vacuums, etc. will be required for some sidewalks, plazas, and other areas not navigable buy truck mounted vacuum sweepers. The Contractor must utilize this equipment where necessary to properly maintain all areas of Porous Pavement.

Regenerative Air Vacuum Sweepers will be the only vacuum sweepers acceptable for use within this Contract. The Contractor shall submit descriptions of all porous pavement vacuum equipment to be used within the bid package.

- Regenerative Air Vacuum Sweepers: This type of vacuum sweeper uses a blower system that generates a high velocity air column, forcing it against the pavement at an angle, and creating a "peeling" or "knifing" effect. The high volume air blast loosens the debris from the pavement surface so it can be removed by vacuum. Equipment must have a water system for dust suppression.

- GPS Tracking: Over the road sweeper equipment shall be equipped with a GPS module and software capable of recording the equipment's route and timing details while on site. This system shall be utilized in the event of dispute/damage to property and work verification. Records should be available upon request.

Permeability Testing: Contractor shall be experienced and equipped to perform Falling Head Infiltrometer permeability testing as required by _____ personnel. Procedures and results will be documented and presented in a cohesive format. A unit price should be provided per testing location.

Maintenance Procedures:

Porous Pavement Vacuuming is done in order to remove sediment that may lead to a clogging of the porous surface, preventing water from infiltrating through the pavement into the stone reservoir.

Frequency: Semi-Annual vacuuming is recommended for Porous Pavement Systems

Labor Requirements: 1 sweeper operator and 1 laborer

Maintenance Procedure:

- Safety set-up: Set up safety perimeter. Ensure that no vehicles are parked in the vicinity of the location and that area is closed to the public.

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- Inspect: Visually inspect porous pavement for damage, including holes, cracks, excessive scuffing, settlement, and areas of standing water. Inspect status of aggregate between voids in porous pavers before and after vacuuming to see if additional replacement aggregate is needed. Record observations/damage in the Maintenance Log Report, include photos if possible, and report as necessary.

- Prepare site for vacuuming: Remove (by hand) bulky debris and waste materials from surface of porous pavement that may be too large to be picked up and/or block/clog the vacuum hose prior to using vacuum. Use a push broom to loosen debris as needed. Pay particular attention to inside corners, curb lines, and heavily loaded areas.

Vacuum: Vacuum porous pavement per the vacuum manufacturer recommendations.

Note: If vacuuming permeable pavers, set vacuum at a lower power in order to prevent complete removal of aggregate between voids (unless more intensive vacuuming is required to alleviate clogged areas). Vacuum machine speed should be adjusted so that the vacuum draws out the first inch or so of stone and dirt in the openings between porous pavers, as this is where most unwanted sediment/debris typically collects.

- Follow all steps in the Manufacturer's Operation Checklist for the specified vacuum.

- Engage the Water Feature/ Water Dust Control Option of the vacuum (or equivalent on specific vacuum model).

- Operate the vacuum at a highest vacuum setting that will not damage the surface. Sweeping speed should be less than 3 miles per hour. Drive the vacuum over the porous pavement, Overlap the edges of the vacuum runs and make two passes over the entire porous pavement area.

- Continuously verify pick up efficacy especially when vacuuming areas with excessive sediment.

- Post-vacuuming inspection: After two passes, visually inspect porous pavement to ensure adequate debris removal. Any areas with visible debris/sediment still present should be vacuumed again until debris is removed. In the event that the surface of the porous pavement becomes clogged with fine dirt or sand, record observations in the Maintenance Log Report.

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- Disposal: Material collected should be containerized and covered for proper disposal. Material should be disposed according to all applicable regulations. Disposal location and Manifest should be included in the Maintenance Log Report

Porous Pavement Power Washing should be done if porous pavement surfaces become clogged with fine dirt or sand. Power washing of the pavement surface allows partial restoration of the original void space and therefore permeability and should immediately follow the porous pavement vacuum task.

Frequency: As needed for rehabilitation based on post vacuuming inspection

Labor Requirements: 1 sweeper operator and 1 laborer

Maintenance Procedure:

- Safety set-up: Set up safety perimeter. Ensure that no vehicles are parked in the vicinity of the location and that area is closed to the public.

- Inspect: Visually inspect porous pavement for damage, including holes, cracks, excessive scuffing, settlement, and areas of standing water. Inspect status of aggregate between voids in porous pavers before and after vacuuming to see if additional replacement aggregate is needed. Record observations/damage in the Maintenance Log Report, include photos if possible, and report as necessary.

- Prepare site for power washing: Remove (by hand) bulky debris and waste materials from surface of porous pavement that may block or impede power washer access to the surface. Use a rigid push broom to loosen debris as needed. Pay particular attention to pavement edges and heavily loaded area.

Power wash: Follow manufacturer's recommendations for use of the power washer unit with the clarifications noted below. Ensure that the water inlet valve and pump are both on.

- Set the pressure levels to be no greater than 500 PSI.

- Pressure wash plugged surface with wand spraying at a 45 degree angle. Use care not to damage the surface. Nearly simultaneous vacuum should be applied at washing site to remove loosened material.

- Post-power washing inspection: Note areas that appear to still be plugged. Note if water remains ponded in any areas of the porous pavement. Record observation with photographs. Record observations in the Maintenance Log Report.

- Safety completion: Remove safety perimeter and re-open lot for parking/public access.

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Permeable Paver Restoring Aggregate: Following vacuuming of permeable pavers, refill the voids (joints) between pavers with additional aggregate material to replace any material that has been lost by vacuuming and/or due to natural migration, settlement, and erosion.

Frequency: As needed when gravel infill is not within ½ inch of the paver surface, immediately following vacuuming

Labor Requirements: 2 Laborers

Maintenance Procedure:

- Safety set-up: Set up safety perimeter. Ensure that no vehicles are parked in the vicinity of the location and that area is closed to the public.

- Inspect: Visually inspect permeable pavers for damage, including broken pavers, cracks, settlement, and any areas of standing water or evidence of standing water. Inspect status of aggregate infill material in the voids between porous pavers to see if additional replacement aggregate is needed. Evaluate if voids (joints) between porous pavers are clogged or not. Inspect to see if pavers themselves are missing from any areas and note need for replacement pavers. Record observations/ damage in the Maintenance Log Report, include photos of all notable observations, and report as necessary.

- Prepare site: Remove (by hand) bulky debris and waste materials from surface of pavers.

- Cleaning Clogged Voids: If voids (joints) between porous pavers are still clogged even after area has been vacuumed, use a ridged too to pry material out joint until clean aggregate is found. Follow aggregate replacement instructions below.

- Add aggregate: Using a shovel, spread aggregate over the surface of the pavers. Using a broom, sweep aggregate into the voids between porous paves, taking care to fill in any obvious holes. Once the aggregate has been added to the pavers, and the voids have been filled, perform a final sweeping pass with the hand broom to remove any excess gravel from the paver surface.

- Safety completion: Remove safety perimeter and re-open area for parking/public access.

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Maintenance Coordination and Scheduling: Contractor shall be responsible for advanced notifications and coordination of access to maintenance locations. Coordination with _____ personnel and private property owners may be required to ensure unobstructed access to certain maintenance locations. Unforeseen, obstructions to complete maintenance efforts will be described and photo documented in the Location Maintenance Report (outlined below).

Maintenance Log Reporting: A maintenance report log shall be kept by the Contractor for each location maintained. Each Maintenance Log Report shall include the following information:

- Location name, Date and time on site, Personnel on site, Description of pavement system.
- Inspection observations prior to and following maintenance.
- Photos of any notable observations and/or marked up site plan / aerial photo / sketch.
- Obstructions preventing complete maintenance (such as parked cars) shall be photo documented.

Electronic Document Management: Contractor must have the means and experience to create, store, and transfer Location Maintenance Reports and other contract documents electronically. A web based, password protected portal that enables _____ to view, print, and download all pertinent contract documents and maintenance reports is the preferred method of document management. Contractor shall outline electronic document management procedures in their bid package.

Pre and Post-Maintenance Inspection: A pre and post-maintenance inspection shall occur with the Contractor and the Representative from _____ at each location to be maintained within this Contract. The purpose of the inspections will be to identify and document (with photographs) damage, additional maintenance needs, and potential access issues. If damage to porous pavements is the result of the Contractor's operations, the Contractor is responsible for repairing the damage at the Contractor's expense. The post-maintenance inspection shall occur within one (1) week of the completion of each maintenance activity.

Additional Porous Pavement Vacuuming: At any time during the Contract period, _____ may request that the Contractor perform additional porous pavement vacuuming (beyond the spring and fall vacuuming included in the Contract) at any of the locations noted above. This will indicated as a Unit Price on the pricing page.

The Contractor shall coordinate additional porous pavement vacuuming with _____, and complete the work in a timely manner. The Contractor shall submit a payment application for the additional vacuuming after the work is completed for payment.

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Site Safety Responsibilities: The Contractor shall maintain all maintenance locations in a safe, neat and orderly condition, and free from human hazard. If an unsafe condition is encountered, the affected activity shall be suspended until the unsafe condition is corrected. The Contractor is also solely responsible by law for compliance, and regulatory reporting requirements, for all workplace and employee safety issues.

Specific Permit Information: All permits required shall be the responsibility of the Contractor. In all cases, for all permits the Contractor shall be responsible for payment of all required fees, charges, maintenance, bonds, insurance, and penalties or fines for non-compliance, associated with all required permits.

Craig Morin

From: Jeff Tarling <JST@portlandmaine.gov>
Sent: Friday, May 09, 2014 5:05 PM
To: Rick Knowland
Cc: David Margolis-Pineo
Subject: IMT Project
Attachments: 501 Danforth St. Portland, ME 2012 (1).jpg; GreenWall.jpg; ChestnutPlanter.JPG

ATTACHMENT D

Hi Rick -

In review of the proposed modifications to the IMT West Commercial Street site I wanted to include the following landscape items:

a) C18 Landscaping Plan - Due to the space requirements on the IMT or 'water side' of Commercial Street the project directs street tree planting across the street along an improved sidewalk and esplanade. This compromise is a fair approach given the scale of the proposed project.

Landscape mitigation of the proposed wall should be explored...

Options could include: varying the wall texture or scoring so that certain length of wall panels are accentuated vs continuous the same, create pockets for vegetation, some spaces could have a grove of Bayberry, others with vines perhaps. Could local MECA be advised of possible concrete forming options with a local arts theme?
Explore fence options including using black vinyl chain link vs galvanized to reduce glare. Unsure if barbed wire is needed?

b) Proposed benches along Commercial Street - the proposed granite or stone benches set on the sidewalk would be best to be set back behind the walk to reduce sidewalk plowing conflicts. There maybe additional review of the bench type - but the type as shown fits into the nearby Harborview Memorial Park use of that material.

c) Interpretive signage & graphics - this aspect is a positive approach to connect the proposed project with an historical context. Perhaps somewhere along the wall expanse a sign / graphic could be used to identify the site and use. Celebrating the Port of Portland and the intermodel function of ship to rail and truck is a positive feature for the City of Portland and the State of Maine, and perhaps the rail service. I couldn't find an example off hand of PanAm railway but the CSX graphic could be an example.

IMPASSE II®

ATTACHMENT E



HIGH SECURITY STEEL PALISADE FENCING

Maintaining a secure perimeter is your first line of defense against potential threats. Impasse II fence systems serve as a *visual deterrent backed with heavy steel components* that give a higher level of protection compared to the traditional chain link or architectural mesh fence alternatives. Impasse II is the *best choice for securing at risk facilities or protecting specific assets within a property.*

DESIGN INTEGRATION

The Impasse II framework is a raceway for wiring, conduits, and/or security cabling required around the perimeter of a project. This integrated design eliminates the need for costly trenching and boring becoming a value added solution for perimeter security upgrades.

When installing these security elements use Impasse II as a platform:

- ***Communication & Video Cables***
- ***Intrusion Detection / Fiber Optic Cables***
- ***Access Control Wiring***
- ***Conduits***
- ***Anti-Ram Cabling*** *(Stalwart)*

PRIMARY APPLICATIONS

- ***Military Sites***
- ***Government Facilities***
- ***Petroleum & Chemical Facilities***
- ***Power Plants & Substations***
- ***Airports***
- ***Data Centers***
- ***Ports of Entry***
- ***Water Treatment & Storage***

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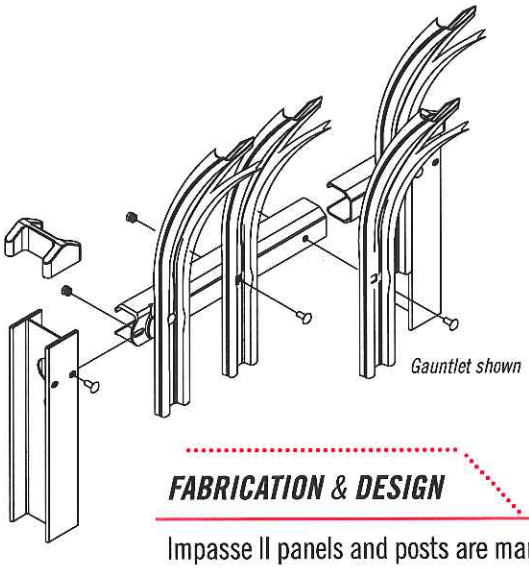
IMPASSE II®

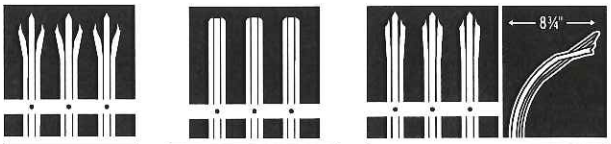
HIGH SECURITY STEEL PALISADE FENCING

2.75"w x 14ga PALES | 2" x 2" x 11ga RAILS | 3" x 2.75" x 12ga & 4" x 2.75" x 11ga I-BEAM POSTS



Gauntlet shown

STYLE OPTIONS



TRIDENT™ STRONGHOLD™ GAUNTLET™

FABRICATION & DESIGN

Impasse II panels and posts are manufactured using high-tensile pre-galvanized G-90 steel. Each component has been roll-formed into a unique profile that yields significant strength properties. Impasse II's distinct design enables the fence to traverse aggressive changes in grade in order to maintain security along any perimeter. Each connection point of the Impasse II system is secured with tamper-proof fasteners providing the highest level of security and versatility.

PERMACOAT™ PROTECTIVE FINISH

Ameristar's production facilities use a state-of-the-art polyester powder coating system that provides a durable and scratch resistant finish. Impasse II is protected with Ameristar's PermaCoat multi-layer coating process. The combination of these layers delivers a system that increases weathering resistance and product durability. The Ameristar coating system results in finished surfaces with unmatched performance.

15 YEAR LIMITED WARRANTY

Impasse II is coated using Ameristar's PermaCoat process, this dual-coat finish yields the best results for durability and weathering in the fence industry. Ameristar has over 25 years of experience and research in coating fence products allowing Impasse to support a 15 year warranty.

DOMESTIC MANUFACTURING

Ameristar is committed to providing products that are manufactured in the USA. We have made significant investments in technology, process improvement, and employee training in an effort to secure American jobs and combat inferior import products.

#9792 | REVISED 03/2014

MEMORANDUM

ATTACHMENT F

To: FILE

From: Richard Knowland

Subject: Application ID: 2014-038

Date: 5/6/2014

Comments Submitted by: Marge Schmuckal/Zoning on 5/6/2014

I have breifly looked at this submission. The project is located in the WPDZ zone with a Shoreland overlay. The proposed use for intermodal transportation facilities is a listed, permitted use under section 14-319(b)1. However the applicant explains that "there may be times where there will be truck to truck .." exchanges, I would want the applicant to explain that in more detail outlining how this is an accessory use and not a principal use. The zone does not permit trucking terminals per se. I want to be sure that the truck to truck component is not more than the other proposed intermodal uses. I note that that same section of permitted uses does allow intermodal transportation for railroad transportation services.

I also reviewed the submission concerning shoreland regulations. There is information concerning the clearing of vegetation. The verbage goes on to say "see enclosed plans for specifics." I did not find an enclosed plan that related to what was written. Please provide such plans or indicate which plan it is within the submission, so I can review compliance with our Ordinance.

Marge Schmuckal
Zoning Administrator

Craig Morin

From: Patrick Carroll <pcarroll@carroll-assoc.com>
Sent: Monday, May 19, 2014 4:30 PM
To: Craig Morin; Mitch Elliott; Bruce Munger
Cc: Matthew Phillips
Subject: FW: IMT Expansion -- Traffic Comments

ATTACHMENT G

Craig,

This just in from Tom Errico.
PC

From: Tom Errico [mailto:thomas.errico@tylin.com]
Sent: Monday, May 19, 2014 4:04 PM
To: Rick Knowland
Cc: David Margolis-Pineo; Katherine Earley; Jeremiah Bartlett; Jeff Tarling (JST@portlandmaine.gov)
Subject: IMT Expansion -- Traffic Comments

Rick – The following presents a brief summary of traffic issues that need resolution and can serve as discussion items for Wednesday's meeting. My review continues and therefore additional comments should be expected.

1. The traffic signal plan includes special signal phasing for Nova Seafood. I would suggest that a City agreement with Nova Seafood be crafted related to traffic operations and a memorandum of understanding and for traffic control.
2. The driveway apron material at Nova Seafood does not meet City standards and a waiver will be required.
3. Several of the driveways on Commercial Street (IMT, Nova Seafood, and Gray Bar) do not meet City width standards and thus waivers will be required.
4. Several of the driveways on Commercial Street do not meet City corner clearance and separation standards.
5. The City is requesting that truck parking on in-bound Commercial Street be prohibited for to be specified distance in advance of the Beach Street intersection. The City will provide this restriction length.
6. The applicant should investigate the provision of a bicycle lane on Beach Street departing the intersection.
7. I am concerned about traffic operations and congestion during peak time periods, particularly when the special Nova Seafood traffic signal phase is actuated. The applicant should investigate the ability to limit the traffic signal phase during peak time periods.
8. A sidewalk waiver has been requested and a review of the supporting information will be performed.
9. A granite curbing waiver has been requested and a review of the supporting information will be performed.
10. The applicant should provide information as it relates to use of the proposed traffic signal by existing IMT traffic. I believe there will be overall site traffic and safety benefits if all IMT traffic has the ability to use the traffic signal.
11. A construction management plan has been prepared. Additional information will be required as it relates to specific traffic, pedestrian, and bicycle impacts during construction.
12. At the planning board workshop, there was discussion about the provision of a driveway entrance west of the project site for future development access and egress. The applicant should provide information in support of that driveway if that is to be included in the project approval.
13. The City does not support the use of pavement markings to delineated pavements areas for use by large trucks.
14. The phasing for the intersection does not appear to be NEMA compliant. Please revise with Commercial Street as the main street, assuming an east-west phasing structure.
15. The phasing sequence should begin with Commercial Street and end with Nova Seafood (currently designated as Phase 9).
16. The peak hour cycle length seems unusually long for an intersection with this type of geometry, going as long as 150 seconds during the PM peak hour. Discussion should be provided as to why shorter cycle lengths cannot be achieved.

17. The pedestrian timing does not appear to provide sufficient crossing time, particularly for Commercial Street. Please confirm use of a standard 3.5 feet per second pedestrian crossing time from curb to curb.
18. Given the sight distance issues for this intersection, the all-red clearance times should likely be extended.
19. The City's technical standards are in the process to migrating to infra-red video detection as a requirement. The City now requires that either the cameras used with the VIP processors be the FLIR FC series or that the solution be based on the FLIR TrafiSense cameras.
20. Please specify four-inch conduit to provide additional future wiring capabilities.
21. Please provide one-piece pedestrian poles.
22. All pole bases, pull boxes and controller conduits should be sealed to prevent access by rodents and other small animals.
23. Please confirm the method of advance notification when the Commercial Street westbound approach is red to account for minimal sight distances passing by Nova Seafood.
24. It is my understanding that the Nova Seafood driveways will be restricted such that the easterly driveway will be an entrance only and the westerly driveway a exit only driveway. The plans do not reflect this.
25. There are areas of roadway pavement that appear to be located outside the public right-of-way. An agreement on maintenance may be required.
26. The applicant should note the material for the Nova Seafood island.
27. The applicant should provide details for the area between the sidewalk and the Nova Seafood island.
28. The left-turn bay shadowed island is depicted as paint. The applicant should investigate other material treatment for longevity purposes.
29. During Casco Bay Bridge openings, traffic may be backed up into the new traffic signalized intersection. The applicant should note whether there are any provisions for this scenario from a traffic signal perspective.
30. The bicycle lane on the outbound side of Commercial Street continues to the limit of work, while the in-bound bicycle lane begins at the point where the left-turn lane is starting. The applicant should note why the in-bound bicycle lane can't start at the project limits.
31. The direction sign that note Casco Bay Bridge 500 Feet is being removed. This removal should be confirmed by City staff.
32. The plans illustrate that the sidewalk at the corner of the Nova Seafood building will not need to be reconstructed. Given that the curb is being relocated, the sidewalk will need to be upgraded.
33. The length of curbing at the Nova Seafood driveway is being eliminated. Justification on this change shall be provided
34. A fire hydrant is located in the middle of the sidewalk east of the easternmost Nova Seafood driveway. It would be beneficial if this hydrant could be relocated.
35. The plan replaces an existing Casco Bay Bridge 500 Feet sign with a sign that notes Casco Bay Bridge (right) and Fore River Parkway (through). City staff should determine if this replacement is acceptable.
36. It was my understanding that the bicycle lanes were going to have dashed line treatment through the intersection. The plans do not depict this.
37. The applicant should confirm that adequate illumination will be provided at the two crosswalk locations.

If you have any questions, please contact me.

Best regards,

Thomas A. Errico, PE
Senior Associate
Traffic Engineering Director
T.Y. Lin International
12 Northbrook Drive
Falmouth, ME 04105
207.781.4721 (main)
207.347.4354 (direct)
207.400.0719 (mobile)
207.781.4753 (fax)
thomas.errico@tylin.com
Visit us online at www.tylin.com

ATTACHMENT H

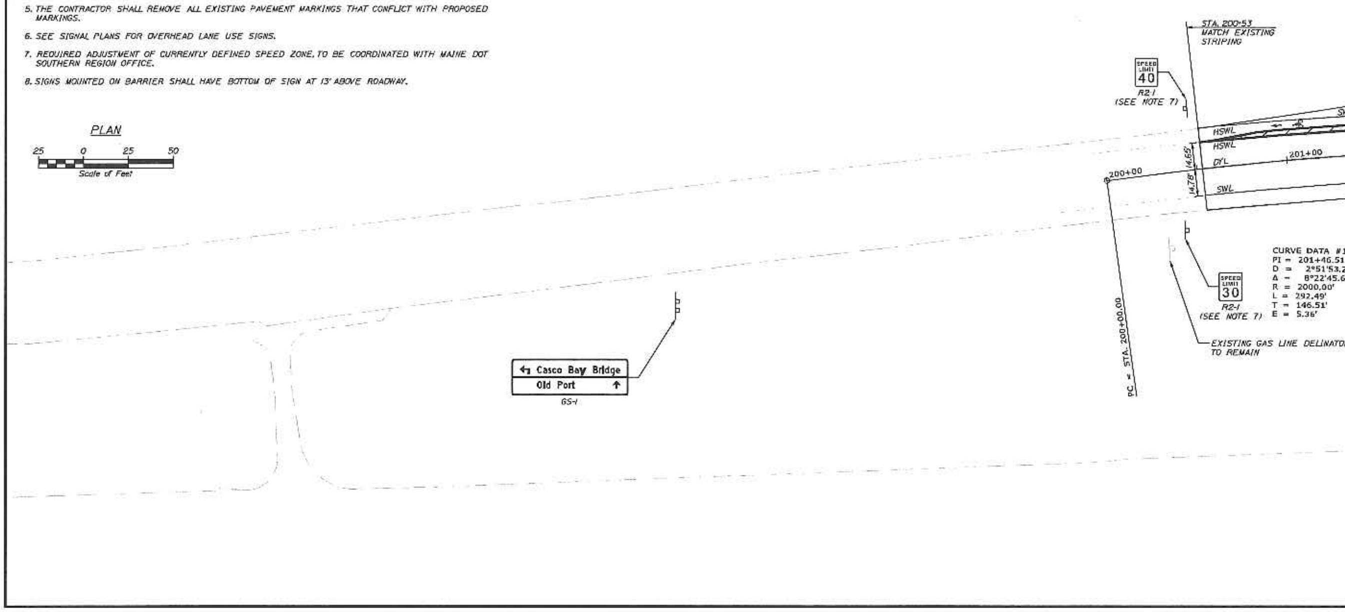
LEGEND

SWL	SOLID WHITE LINE (4")
SYL	SOLID YELLOW LINE (4")
DYL	DOUBLE YELLOW LINE (4")
BWL	BROKEN WHITE LINE (4")
DL	4" DOTTED WHITE LINE (2' LINE & 6' GAP)
CW	CROSS WALK STRIPE (12")
SL	STOP LINE (24")
HSWL	HEAVY SOLID WHITE LINE (12")

- STRAIGHT ARROW PAVEMENT MARKING
- LEFT ARROW PAVEMENT MARKING
- RIGHT ARROW PAVEMENT MARKING
- SHARED STRAIGHT & RIGHT/LEFT ARROW PAVEMENT MARKING
- "ONLY" PAVEMENT MARKING

NOTES:

1. ALL WORK TO CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES AND STANDARD DETAILS
2. ALL PROPOSED WORK SHALL BE IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND "STANDARD HIGHWAY SIGNS", U.S.D.O.T., F.H.W.A. LATEST EDITION.
3. PAYMENT FOR REMOVAL OF EXISTING SIGNS SHALL BE INCIDENTAL TO 645 ITEMS.
4. SIGNS INSTALLED ON ISLANDS SHALL BE INSTALLED ON 4 LB/FT U-CHANNEL POSTS AND BREAKAWAY DEVICE. THE BREAKAWAY DEVICE SHALL BE MARION STEEL LAP SPLICE U-CHANNEL BREAKAWAY SYSTEM. "THE RIB-BAK."
5. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED MARKINGS.
6. SEE SIGNAL PLANS FOR OVERHEAD LANE USE SIGNS.
7. REQUIRED ADJUSTMENT OF CURRENTLY DEFINED SPEED ZONE, TO BE COORDINATED WITH MAINE DOT SOUTHERN REGION OFFICE.
8. SIGNS MOUNTED ON BARRIER SHALL HAVE BOTTOM OF SIGN AT 13' ABOVE ROADWAY.



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

PROJ. MANAGER	J. KITTREDGE	BY	DATE
DESIGN-DETAILED	CDH	CDH/RNH	05/14
CHECKED-REVIEWED	-	-	05/14
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

SIGNATURE

P.E. NUMBER

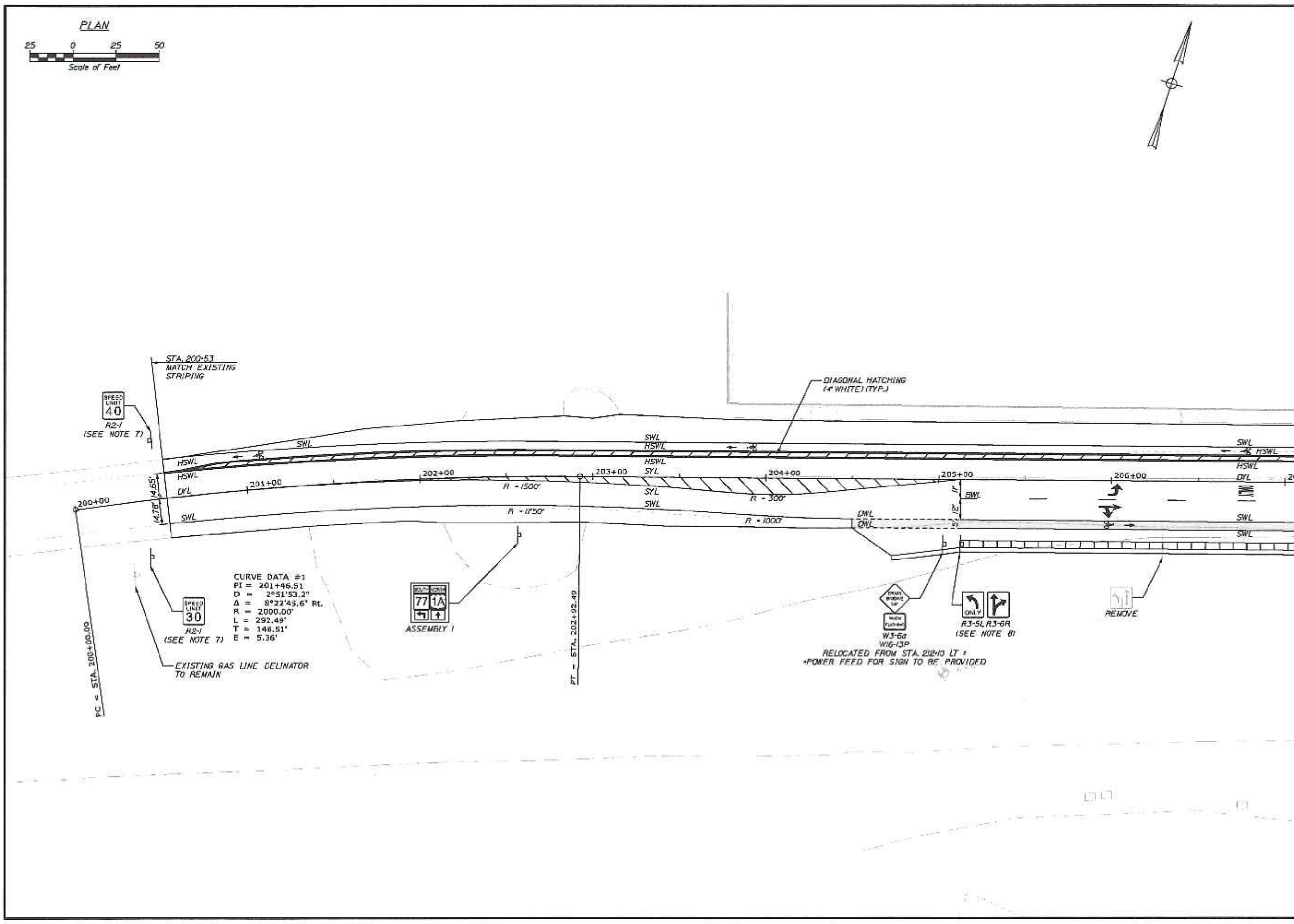
DATE

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY
COMMERCIAL STREET
SIGNING & STRIPING PLANS

SHEET NUMBER
H29
63 OF 113

Date:6/5/2014 Username: Division: Filename: 063_SSPlan1.dgn

Filename: 064_SSPlan2.dgn Division: Username: Date:6/5/2014



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER 022809.20

WIN
022809.20

	BY	DATE
PROJ. MANAGER	A. WITHERELL	
DESIGN-DETAILED	CDH	
CHECKED-REVIEWED	CDH/JBH	
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

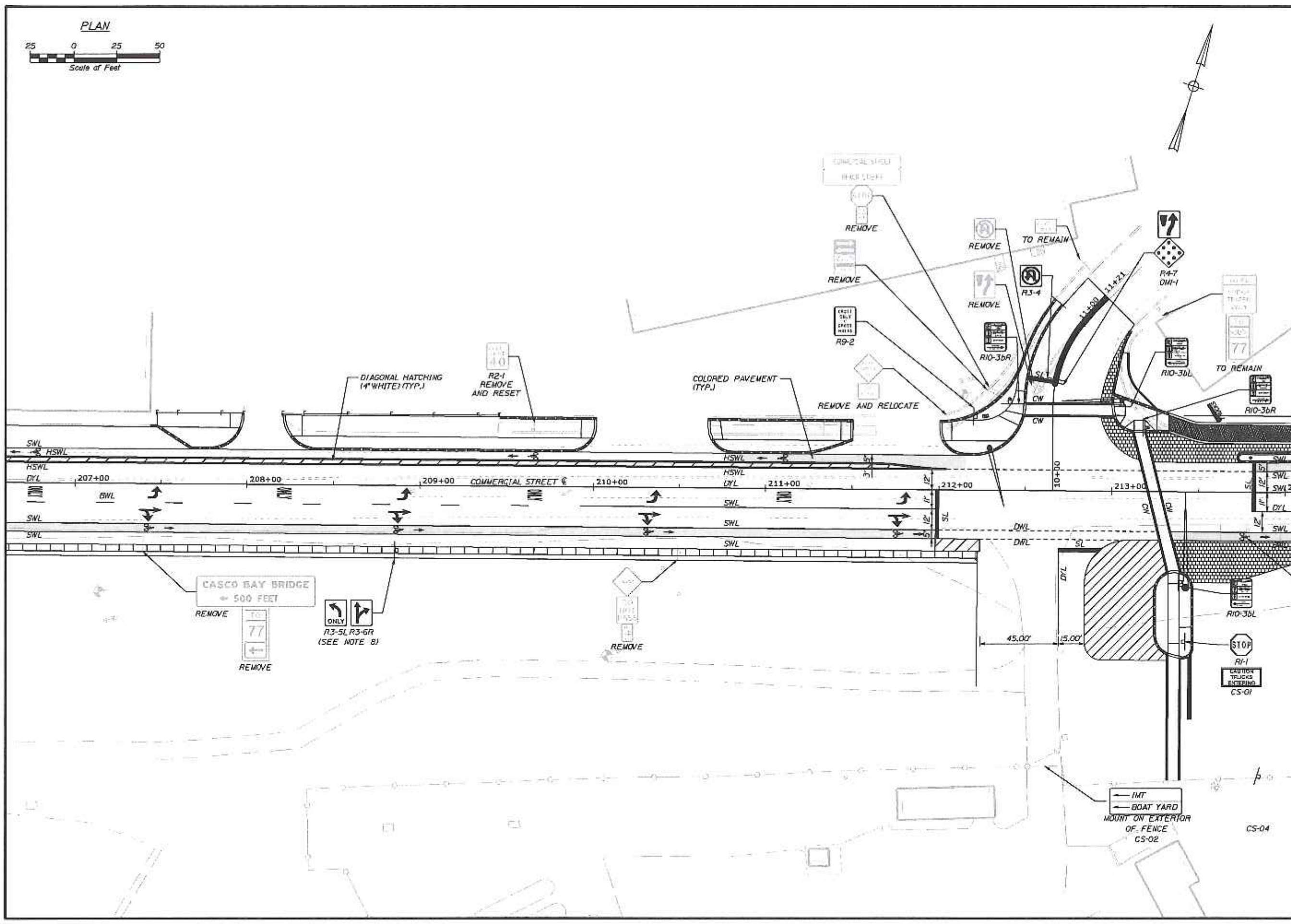
PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

COMMERCIAL STREET
SIGNING & STRIPING PLANS

SHEET NUMBER
H30

64 OF 113

Filename: 065_SSPlan3.dgn Division: Username: Date:6/5/2014



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

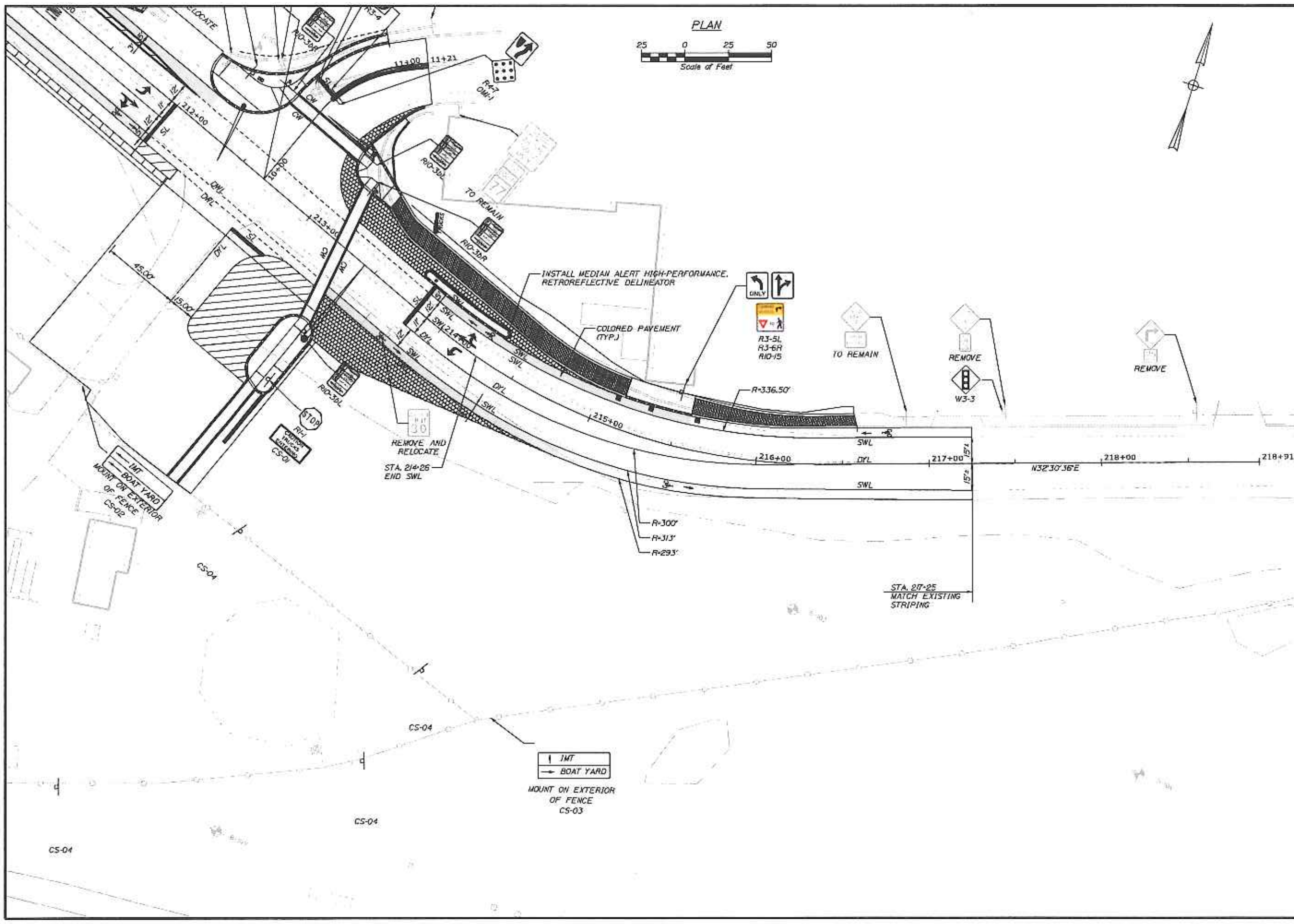
PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

COMMERCIAL STREET
SIGNING & STRIPING PLANS

SHEET NUMBER
H31

65 OF 113

Filename: 066_SSPlan4.dgn
Division:
Username:
Date:6/5/2014



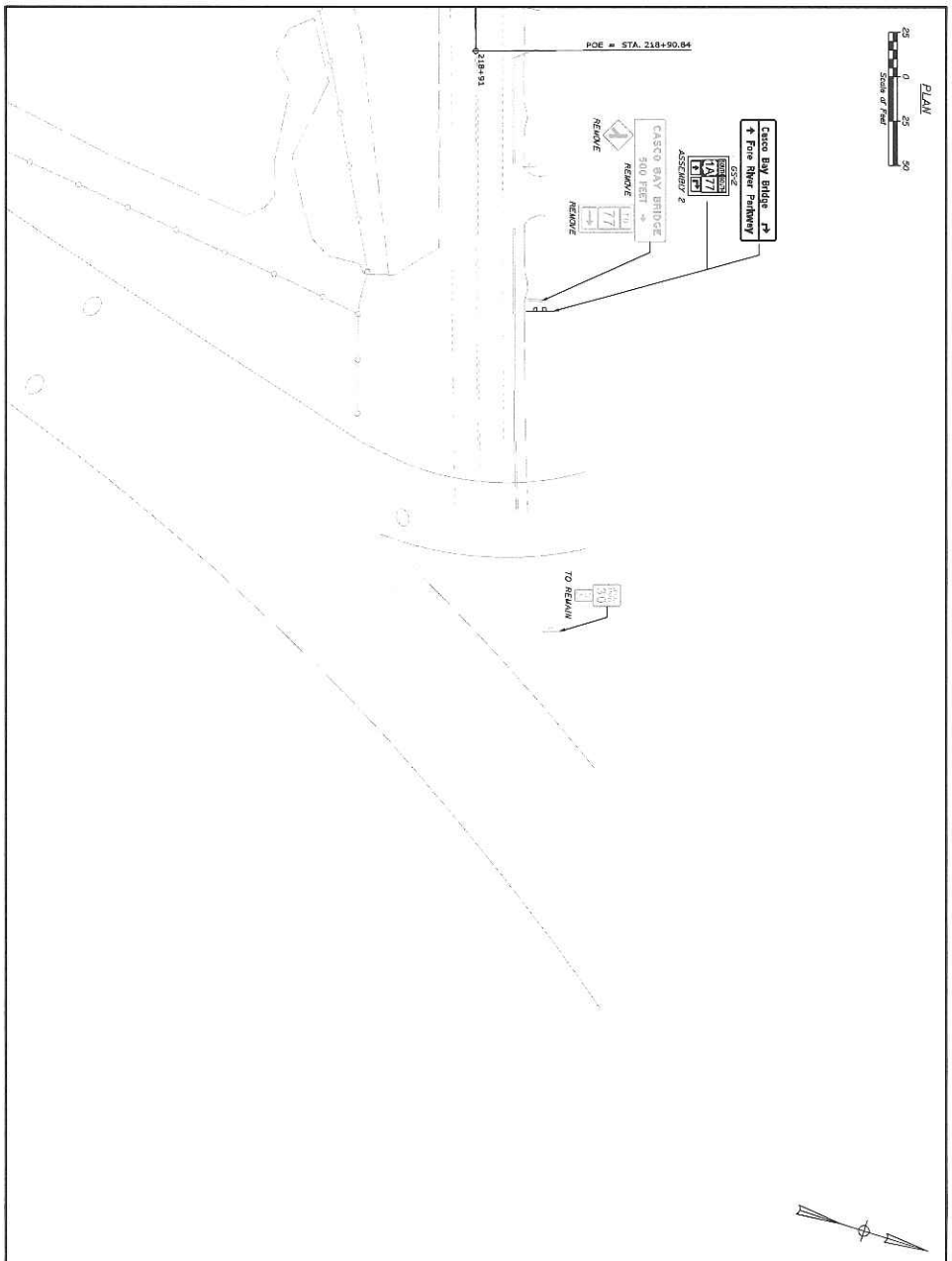
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

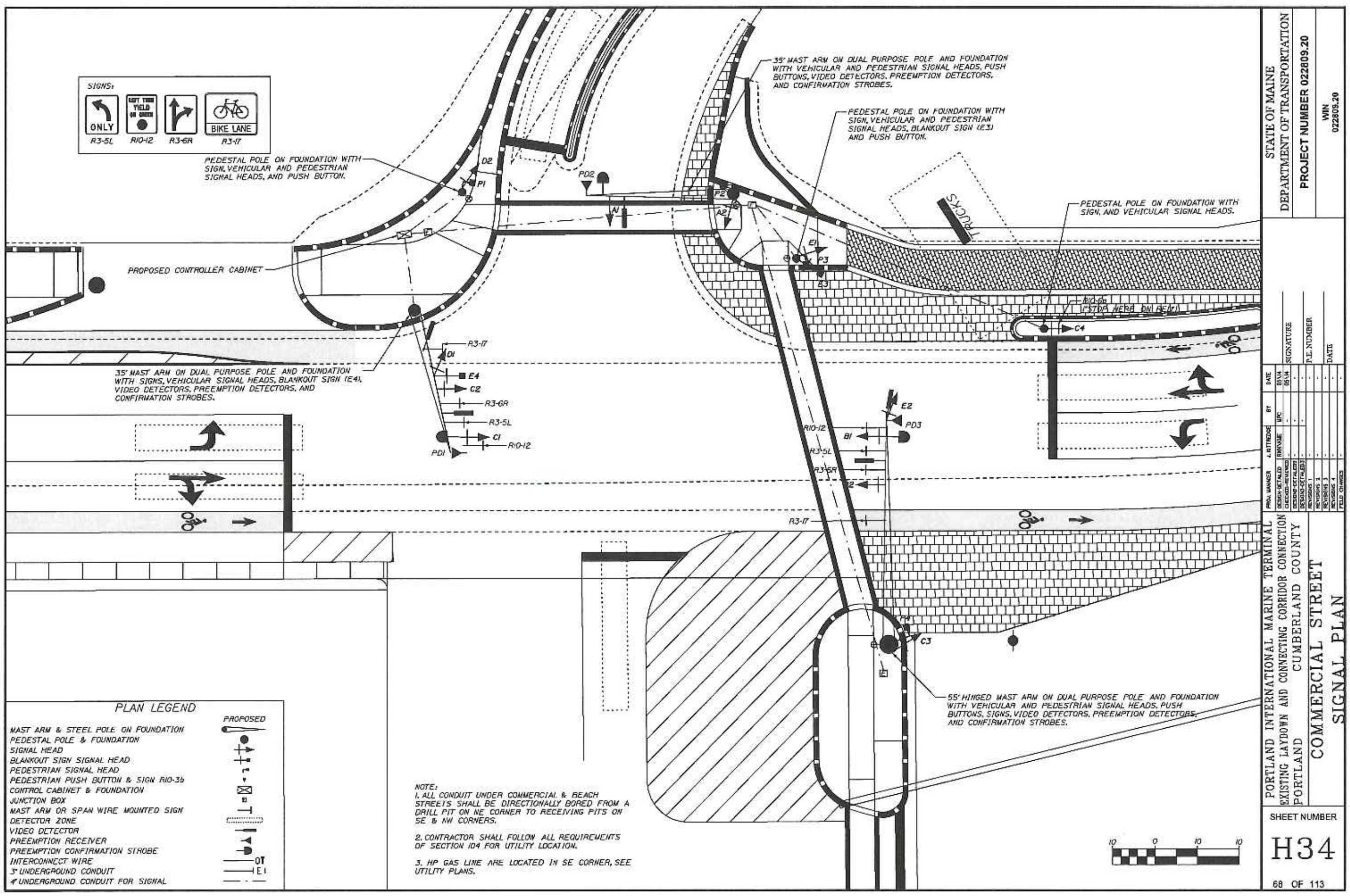
COMMERCIAL STREET
SIGNING & STRIPING PLANS

SHEET NUMBER
H32

Filename: 067_SSPlan5.dgn Division: Username: Date:6/5/2014

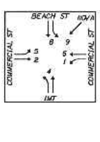


SHEET NUMBER H33	PORTLAND INTERNATIONAL MARINE TERMINAL EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION PORTLAND CUMBERLAND COUNTY COMMERCIAL STREET SIGNING & STRIPING PLANS	PROJ. MANAGER: J. KITTREDGE DESIGN-DETAILED: CDR / BY: CDH/RRR / DATE: 05/14 CHECKED-REVIEWED: - / - / 05/14 DESIGN2-DETAILED3: - / - / - DESIGN3-DETAILED3: - / - / - REVISIONS 1: - / - / - REVISIONS 2: - / - / - REVISIONS 3: - / - / - REVISIONS 4: - / - / - FIELD CHANGES: - / - / -	SIGNATURE P.E. NUMBER DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION PROJECT NUMBER 022809.20 WIN 022809.20

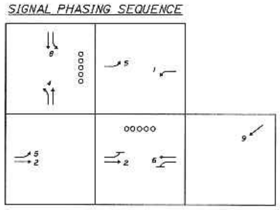

SIGNS:
ONLY
R3-5L
LEFT TURN YIELD ON GREEN
R10-12
R3-6R
BIKE LANE
R3-17
PEDESTAL POLE ON FOUNDATION WITH SIGN, VEHICULAR AND PEDESTRIAN SIGNAL HEADS, AND PUSH BUTTON.
35' MAST ARM ON DUAL PURPOSE POLE AND FOUNDATION WITH VEHICULAR AND PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS, VIDEO DETECTORS, PREEMPTION DETECTORS, AND CONFIRMATION STROBES.
PEDESTAL POLE ON FOUNDATION WITH SIGN, VEHICULAR AND PEDESTRIAN SIGNAL HEADS, BLANKOUT SIGN (E3) AND PUSH BUTTON.
PEDESTAL POLE ON FOUNDATION WITH SIGN, AND VEHICULAR SIGNAL HEADS.
PROPOSED CONTROLLER CABINET
35' MAST ARM ON DUAL PURPOSE POLE AND FOUNDATION WITH SIGNS, VEHICULAR SIGNAL HEADS, BLANKOUT SIGN (E4), VIDEO DETECTORS, PREEMPTION DETECTORS, AND CONFIRMATION STROBES.
55' HINGED MAST ARM ON DUAL PURPOSE POLE AND FOUNDATION WITH VEHICULAR AND PEDESTRIAN SIGNAL HEADS, PUSH BUTTONS, SIGNS, VIDEO DETECTORS, PREEMPTION DETECTORS, AND CONFIRMATION STROBES.
PLAN LEGEND
PROPOSED
MAST ARM & STEEL POLE ON FOUNDATION
PEDESTAL POLE & FOUNDATION
SIGNAL HEAD
BLANKOUT SIGN SIGNAL HEAD
PEDESTRIAN SIGNAL HEAD
PEDESTRIAN PUSH BUTTON & SIGN R10-3b
CONTROL CABINET & FOUNDATION
JUNCTION BOX
MAST ARM OR SPAN WIRE MOUNTED SIGN
DETECTOR ZONE
VIDEO DETECTOR
PREEMPTION RECEIVER
PREEMPTION CONFIRMATION STROBE
INTERCONNECT WIRE
3" UNDERGROUND CONDUIT
4" UNDERGROUND CONDUIT FOR SIGNAL
NOTE:
1. ALL CONDUIT UNDER COMMERCIAL & BEACH STREETS SHALL BE DIRECTIONALLY BORED FROM A DRILL PIT ON NE CORNER TO RECEIVING PITS ON SE & NW CORNERS.
2. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF SECTION 104 FOR UTILITY LOCATION.
3. HP GAS LINE ARE LOCATED IN SE CORNER, SEE UTILITY PLANS.
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20
SIGNATURE
P.E. NUMBER
DATE
PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY
COMMERCIAL STREET
SIGNAL PLAN
SHEET NUMBER
H34
68 OF 113

PROPOSED TIMING & PHASING

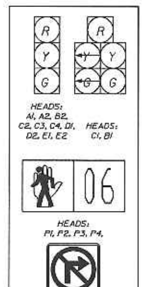
NEMA PHASE IDENTIFICATION



SIGNAL PHASING SEQUENCE



PROPOSED SIGNAL HEADS



AM SIGNAL TIMING (CYCLE LENGTH 150.0 S)

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9*
MINIMUM GREEN	4	4	-	4	4	4	-	4	4
VEHICLE EXTENSION	3	3	-	3	3	3	-	3	3
MAXIMUM GREEN	4	91	-	16	24	71	-	16	24
YELLOW	3	4	-	4	3	4	-	4	4
ALL RED	2	3	-	2	2	3	-	2	2
RECALL MODE	MIN	MAX	-	MIN	MAX	MIN	-	MIN	NONE
WALK	-	-	-	4	-	4	-	-	-
PED CLEAR	-	-	-	18	-	13	-	-	-

*A 45 SECOND DELAY IN ACTIVATION OF PHASE 9 SHALL BE PROGRAMMED INTO THE PHASE 9 TIMINING.

PM SIGNAL TIMING (CYCLE LENGTH 150.0 S)

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9*
MINIMUM GREEN	4	4	-	4	4	4	-	4	4
VEHICLE EXTENSION	3	3	-	3	3	3	-	3	3
MAXIMUM GREEN	5	91	-	16	12	84	-	16	24
YELLOW	3	4	-	4	3	4	-	4	4
ALL RED	2	3	-	2	2	3	-	2	2
RECALL MODE	MIN	MAX	-	MIN	MAX	MIN	-	MIN	NONE
WALK	-	-	-	4	-	4	-	-	-
PED CLEAR	-	-	-	18	-	13	-	-	-

*A 45 SECOND DELAY IN ACTIVATION OF PHASE 9 SHALL BE PROGRAMMED INTO THE PHASE 9 TIMINING.

IMT SIGNAL NOTES:

FREE SIGNAL TIMING (CYCLE LENGTH 100.0 S)

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9*
MINIMUM GREEN	4	4	-	4	4	4	-	4	4
VEHICLE EXTENSION	3	3	-	3	3	3	-	3	3
MAXIMUM GREEN	4	41	-	16	7	38	-	16	24
YELLOW	3	4	-	4	3	4	-	4	4
ALL RED	2	3	-	2	2	3	-	2	2
RECALL MODE	MIN	MAX	-	MIN	MAX	MIN	-	MIN	NONE
WALK	-	-	-	4	-	4	-	-	-
PED CLEAR	-	-	-	18	-	13	-	-	-

*A 45 SECOND DELAY IN ACTIVATION OF PHASE 9 SHALL BE PROGRAMMED INTO THE PHASE 9 TIMINING.

SIGNAL NOTES

1. CONDUITS INSTALLED ON UTILITY COMPANY OWNED POLES WILL BE INSTALLED BY THE RESPECTIVE UTILITY. THE CONDUIT WILL BE PROVIDED BY THE CONTRACTOR.
2. THE LOCATION OF ALL SIGNAL EQUIPMENT AND RELATED ITEMS SHALL BE IN CONFORMITY WITH 'AMERICANS WITH DISABILITIES ACT' (ADA) ACCESSIBILITY STANDARDS. USE OF SIDEWALKS AND PEDESTRIAN RAMPS SHALL NOT BE OBSTRUCTED.
3. TRAFFIC CONTROLLER CABINETS SHALL BE NAZTEC MODEL P44 TS2 TYPE 1 SERIES T ONLY. THE CABINET SHALL HAVE AN EXTENSION BASE AND BE MOUNTED ON A CONCRETE PAD FOUNDATION.
4. ALL NEW SIGNAL SECTIONS SHALL HAVE LED LENSES 12 INCHES IN DIAMETER WITH 5" BACK PLATES.
5. ALL SPLICES WILL BE MADE IN THE CABINETS MEETING MAINEDOT SPECIFICATIONS.
6. THE BOTTOM OF THE HOUSING OF NEW MAST ARM MOUNTED SIGNAL FACES SHALL BE AT LEAST 16 FEET BUT NOT MORE THAN 19 FEET ABOVE THE PAVEMENT GRADE AT THE CENTER OF THE ROADWAY.
7. TWO COPIES OF AS-BUILT PLANS, SIGNAL TIMING, AND CONTROLLER MANUALS SHALL BE LEFT IN THE CONTROLLER CABINET.
8. THE CONTRACTOR IS RESPONSIBLE FOR FINDING EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL CONTACT DIG-SAFE AND APPROPRIATE AUTHORITIES PRIOR TO ANY SUBSURFACE ACTIVITIES.
9. TRAFFIC SIGNAL WORK SHALL BE COMPLETED IN A MANNER AND ORDER THAT WILL CAUSE THE MINIMUM DISRUPTION TO TRAFFIC.
10. THE RESIDENT, MAINE DOT, AND CITY SHALL HAVE THE RIGHT AND AUTHORITY TO DETERMINE THE ACCEPTABILITY OF WORK AND MATERIALS IN PROGRESS OR COMPLETED AND SHALL HAVE THE RIGHT TO REJECT ANY WORK OR MATERIALS WHICH DO NOT CONFORM, IN ITS SOLE OPINION, TO THE PLANS OR SPECIFICATIONS.
11. THE CONTRACTOR SHALL PROVIDE THE RESIDENT AND THE CITY OF PORTLAND WITH A SCHEDULE OF WORK FOR CONSTRUCTING THE TRAFFIC IMPROVEMENTS.
12. THE CONTRACTOR SHALL PREPARE A MATERIAL SCHEDULE BASED UPON HIS PLAN REVIEW. ALL SCHEDULES SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ORDERING MATERIALS OR PERFORMING WORK.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING RED-LINE AS-BUILT DRAWINGS OF THE FINAL WORK TO THE RESIDENT. THOSE DRAWINGS SHALL BE A CLEAN SET OF PLANS SHOWING ALL CHANGES, MODIFICATIONS, AND ELEVATIONS TO THE BID PLANS.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOUNDATION DESIGN AND DOCUMENTATION FOR ALL PEDESTAL POLES. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION THAT IS STAMPED BY A REGISTERED PROFESSIONAL ENGINEER UNDER THEIR OFFICIAL SEAL TO THE RESIDENT FOR REVIEW AND APPROVAL.
15. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 80 CONDUIT WHEN PLACED UNDER PAVEMENT AND SCHEDULE 40 BEYOND PAVEMENT LIMITS.
16. AM TIMING SHALL BE FROM 7:00 - 9:00 AM; PM TIMING SHALL BE FROM 3:30 - 6:30 PM. FREE TIME OPERATION WILL BE FROM 9:00 AM - 3:30 PM AND 6:30 PM - 7:00 AM.
17. CONTRACTOR SHALL SET THE PROPOSED SIGNAL TO FLASHING MODE ONE WEEK PRIOR TO ACTIVATING THE PROPOSED SIGNAL TIMING AND PHASING. FLASHING MODE SHALL BEGIN DURING THE BEGINNING OF A WEEK.
18. THE THREE SECTION SIGNAL HEADS FOR NOVA SEAFOOD (E1 AND E2) SHALL BE EQUIPPED WITH GEOMETRICALLY PROGRAM LOUVERS TO LIMIT FIELD OF VIEW TO 15° ON EITHER SIDE OF CENTER OF THE STOP BAR FOR ALL SIGNAL INDICATORS. THE LOUVERS SHALL BE CONTAINED IN A FULLY ENCLOSED UNIVERSAL VISOR AND SHALL BE INSTALLED ON ALL SIGNAL INDICATORS.
19. THE CONTRACTOR SHALL MEET ALL UTILITY REQUIREMENTS FOR THE NEW SERVICE CONNECTION.
20. FOR POLE MOUNTED SIGNAL HEADS, THE BOTTOM OF THE HOUSING SHALL BE MOUNTED AT LEAST 8 FEET BUT NOT MORE THAN 19 FEET ABOVE THE SIDEWALK, OR ABOVE PAVMENT GRADE AT THE HIGH POINT OF THE ROAD.
21. ALL PEDESTRAIN POLES SHALL BE ONE-PIECE.
22. CONTRACTOR SHALL POVIDE AND INSTALL ALL JUNCTION BOXES. ALL JUNCTION BOXES SHALL BE INCIDENTAL TO ITEM 643.80.
23. THE CONTRACTOR SHALL REFER TO THE SPECIAL PROVISIONS FOR CITY OF PORTLAND SIGNAL REQUIREMENTS.
24. ALL POLE BASES, PULL BOXES, AND OTHER CONTROLLER CONDUITS SHALL BE SEALED TO PREVENT ACCESS BY RODENTS AND OTHER SMALL ANIMALS.

VIDEO DETECTION

1. VIDEO DETECTION SHALL CONSIST OF TRAFICON MODEL VIP 3.1 AND 3.2 SERIES PROCESSOR BOARDS, TRAFICON MODEL VIEWCOM/E COMMUNICATION BOARD, TRAFICON CAMERA ASSEMBLIES, 9" B/W MONITOR, SURGE/FUSE PANEL AND TRAFICON KEYPAD ONLY.
2. DETECTION CAMERA FOR PHASE 9 SHALL BE A TERMAL TRAFFIC SENSOR SYSTEM PER CITY AND MAINEDOT. FOR ADDITIONAL INFORMATION SEE SPECIAL PROVISIONS.
3. THE RESIDENT RESERVES THE RIGHT TO DIRECT THE CONTRACTOR TO FIELD ADJUST THE HEIGHT, EITHER LOWER OR HIGHER, OF THE VIDEO DETECTOR FOR LOCAL CONDITIONS IDENTIFIED DURING OR AFTER CONSTRUCTION. NO ADDITIONAL COSTS WILL BE ALLOWED FOR FIELD ADJUSTING THE VIDEO DETECTOR.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

PROJ. MANAGER	J. NITTRIDGE	BY	DATE
DESIGN-DETAILED	RSM	RWH	05/14
CHECKED-REVIEWED	-	-	05/14
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1	ADDED PLAN		4/24/14
REVISIONS 2	Revised Int. for Amend. 3		5/12/14
REVISIONS 3	-		-
REVISIONS 4	-		-
FIELD CHANGES	-		-

SIGNATURE
P.E. NUMBER
DATE

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

COMMERCIAL STREET
SIGNAL NOTES

SHEET NUMBER H35

Filename: 070_SignSummary.dgn Division: Username: Date:6/5/2014

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET	NOTES
OM1-1	18"	18"		TEXT DIMENSIONS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			1	COLORS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			2.25 (2.25)	
CS-01	24"	30"	CAUTION TRUCKS ENTERING				1				4.50 (4.50)	
R1-1	30"	30"	STOP				1				6.25 (6.25)	
R2-1 (30) R2-1 (40)	30"	36"	SPEED LIMIT XX				1 1				7.50 (7.50) 7.50 (7.50)	
R3-4	24"	24"					1				4.00 (4.00)	
R3-5L	30"	36"	ONLY				5				7.50 (37.50)	
R3-6R	30"	36"					5				7.50 (37.50)	
R4-7	24"	30"					1				5.00 (5.00)	
R9-2	12"	18"	CROSS ONLY AT CROSS WALKS				1				1.50 (1.50)	
R10-36L	9"	12"					2				0.75 (1.50)	
R10-36R	9"	12"					2				0.75 (1.50)	
R10-12	30"	36"	LEFT TURN YIELD ON GREEN				2				7.50 (15.00)	
R10-15	30"	30"	TURNING VEHICLES TO				1				6.25 (6.25)	

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	LEGEND BORDER	BORDER RADIUS	AREA IN SQUARE FEET	NOTES
CS-04	18"	30"		TEXT DIMENSIONS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			4	COLORS SHALL CONFORM TO "2004 EDITION - STANDARD HIGHWAY SIGNS - 2012 SUPPLEMENT"			3.75 (15.00)	
W3-3	30"	30"					1				6.25 (6.25)	
W3-6a	36"	36"	DRAW BRIDGE UP				1				9.00 (9.00)	
W16-13P	24"	18"	WHEN FLASHING				1				3.00 (3.00)	
GS 1	36"	108"	Casco Bay Bridge / Old Port				1				27.00 (27.00)	
GS-2	36"	108"	Casco Bay Bridge / Fore River Parkway				1				27.00 (27.00)	
CS-02	24"	48"	IMT / BOAT YARD				1				8.00 (8.00)	
CS-03	24"	48"	IMT / BOAT YARD				1				8.00 (8.00)	
M1-4	24"	24"	1A				2				4.00 (8.00)	
M1-5	24"	24"	77				2				4.00 (8.00)	
M3-1	24"	12"	NORTH				1				2.00 (2.00)	
M3-3	24"	12"	SOUTH				3				2.00 (6.00)	
R3-17	24"	18"	BIKE LANE				2				3.00 (6.00)	

SIGN ASSEMBLY NO. 1
(1 REQUIRED)

SIGN ASSEMBLY NO. 2
(1 REQUIRED)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROJECT NUMBER 022809.20
WIN 022809.20

PROJ. MANAGER	J. KITTREDGE	BY	DATE
DESIGN-DETAILED	CDH	CDH/WH	05/14
CHECKED-REVIEWED	-	-	05/14
DESIGN2-DETAILED2	-	-	-
DESIGN3-DETAILED3	-	-	-
REVISIONS 1		-	-
REVISIONS 2		-	-
REVISIONS 3		-	-
REVISIONS 4		-	-
FIELD CHANGES		-	-

SIGNATURE
P.E. NUMBER
DATE

PORTLAND INTERNATIONAL MARINE TERMINAL
EXISTING LAYDOWN AND CONNECTING CORRIDOR CONNECTION
PORTLAND CUMBERLAND COUNTY

SIGN SUMMARY

SHEET NUMBER
H36

ATTACHMENT I

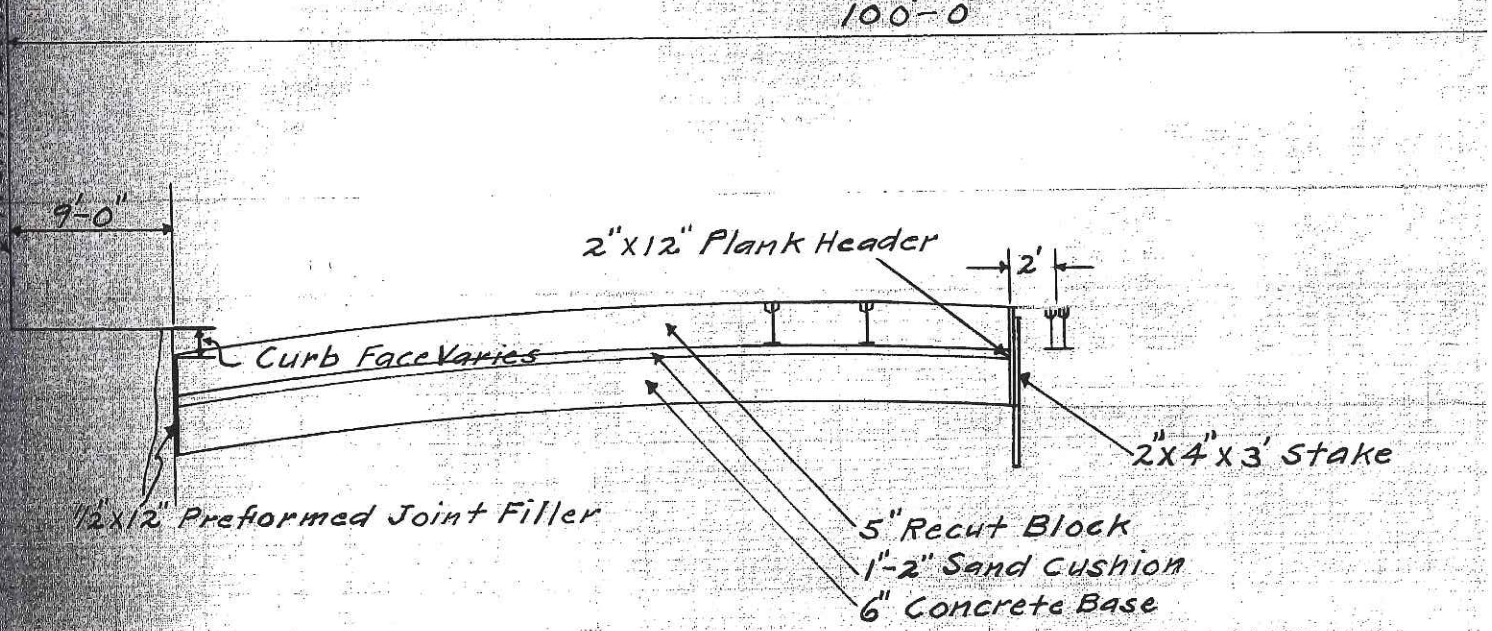
Portland International Marine Terminal
Existing Laydown and Connecting Corridor Connection Project

CONSTRUCTION MANAGEMENT PLAN

The following outline represents the anticipated construction management plan that will be provided by the winning bidder for the project:

- The contractor shall maintain a minimum of a 11 foot lane through lane (and a 10 foot Left turn lane for eastbound commercial street) for each approach through the duration of the project unless otherwise noted.
- The contractor shall maintain a minimum of a 3 foot sidewalk for existing pedestrian approaches for the duration of the project unless otherwise noted.
- All full lane closures on Commercial street shall only be allowed from 7 PM to 7 AM Sunday night through Friday Morning. Full lane closures shall have a minimum of an 11 foot lane of alternating one way traffic.
- All Traffic Control Devices shall comply with the latest edition of the MUTCD.
- All temporary pedestrian facilities shall comply ADA requirements.
- No unpaved surfaces (gravel) shall be allowed within the work zone on Commercial Street.
- The Contractor Shall provide Certified Flaggers for any construction operation requiring short term stoppages of traffic.

ATTACHMENT J



SECTION AT STA. 4+56.64

ATTACHMENT K

From: Rick Knowland [mailto:RWK@portlandmaine.gov]
Sent: Wednesday, June 04, 2014 11:48 AM
To: pcarroll@carroll-assoc.com
Cc: Alex Jaegerman; Barbara Barhydt; David Margolis-Pineo; Thomas.Errico@tylin.com
Subject: imt

Hi Pat, As a quick follow-up to our phone conversation. It would be very helpful to have responses to Tom Errico's last review memo. We deal in written documentation so unless we see it in writing it doesn't exist. It would be helpful to all parties concerned if Tom's list of issues in his memo could be reduced in number. This should be emailed to Tom and myself asap otherwise it will be too late to incorporate in Tom's memo to the Planning Board.

Meeting held yesterday with Mike B., K. Earlie, David M-P and others. People seem to like the pervious panels but would like further info and references regarding product history, maintenance and durability. There were several comments indicating it will be a challenge for the city to maintain the panels. (Would the State be willing to maintain it?) A question came up whether there could be scuppers or breaks in the wall to serve as an outlet for water in case there was a failure.

Green bike lane questions came up regarding maintenance, available warranty and durability. Further info would be helpful. One comment was whether it would make sense to shave some of the pavement first prior to installation so when the bike lane material is applied it would be thicker.

By Nova Seafood, City wants the cobblestones back because it provides a clear delineation for circulation movements (trucks, cars, peds). The material should Belgium blocks. The expansive sidewalk apron along Nova we are open to a non-brick material because of potential truck damage to bricks. We are open to colored concrete or some other similar material (ability to support heavy trucks) which would provide a contrast from the Nova black top parking area and the Belgium blocks.

The area on the southerly side of Commercial St (which allows Nova trucks the ability to turn where cobble stones were previously located) should be concrete rather than black top.

This provides you an update on staff comments regarding the imt. Needless to say we are very interested in any updates on the access/utility easement issue regarding new yard and imt.

Should you have any questions please feel free to contact me.

MEMORANDUM

To: FILE

From: Richard Knowland

Subject: Application ID: 2014-038

Date: 7/7/2014

Comments Submitted by: Marge Schmuckal/Zoning on 7/3/2014

I have reviewed the information recently submitted in response to my last comments. They do address my concerns. I have learned since then that working waterfront land is now exempt from meeting the clearing of vegetaion under the shoreland area. Under Sec. 2.38 MRSA subsection 439-A, sub 6-A. Therefore the WPDZ standards for this project are being met.

Marge Schmuckal
Zoning Administrator

Rick Knowland - FW: Inspection & Maintenance porous yard IMT

From: David Senus <dsenus@woodardcurran.com>
To: "Rick Knowland (Portland)" <rwk@portlandmaine.gov>
Date: 7/8/2014 2:05 PM
Subject: FW: Inspection & Maintenance porous yard IMT
CC: David Margolis-Pineo <DMP@portlandmaine.gov>
Attachments: STORMWATER POLLUTION PREVENTION PLAN 07-8-2014.pdf

Rick:

The Applicant for the IMT has submitted a revised Stormwater Pollution Prevention Plan dated 7/8/2014 that covers the Inspection and Maintenance of the Post Construction Stormwater Best Management Practices on the site (see attached). We have reviewed the plan and find it to be acceptable, pending final review and approval by the City DPS Office regarding responsibility of inspection and maintenance of the porous concrete panels proposed in the West Commercial Street Right-of-Way.

All other review comments prepared by Woodard & Curran have been adequately addressed.

Thank you,
Dave Senus

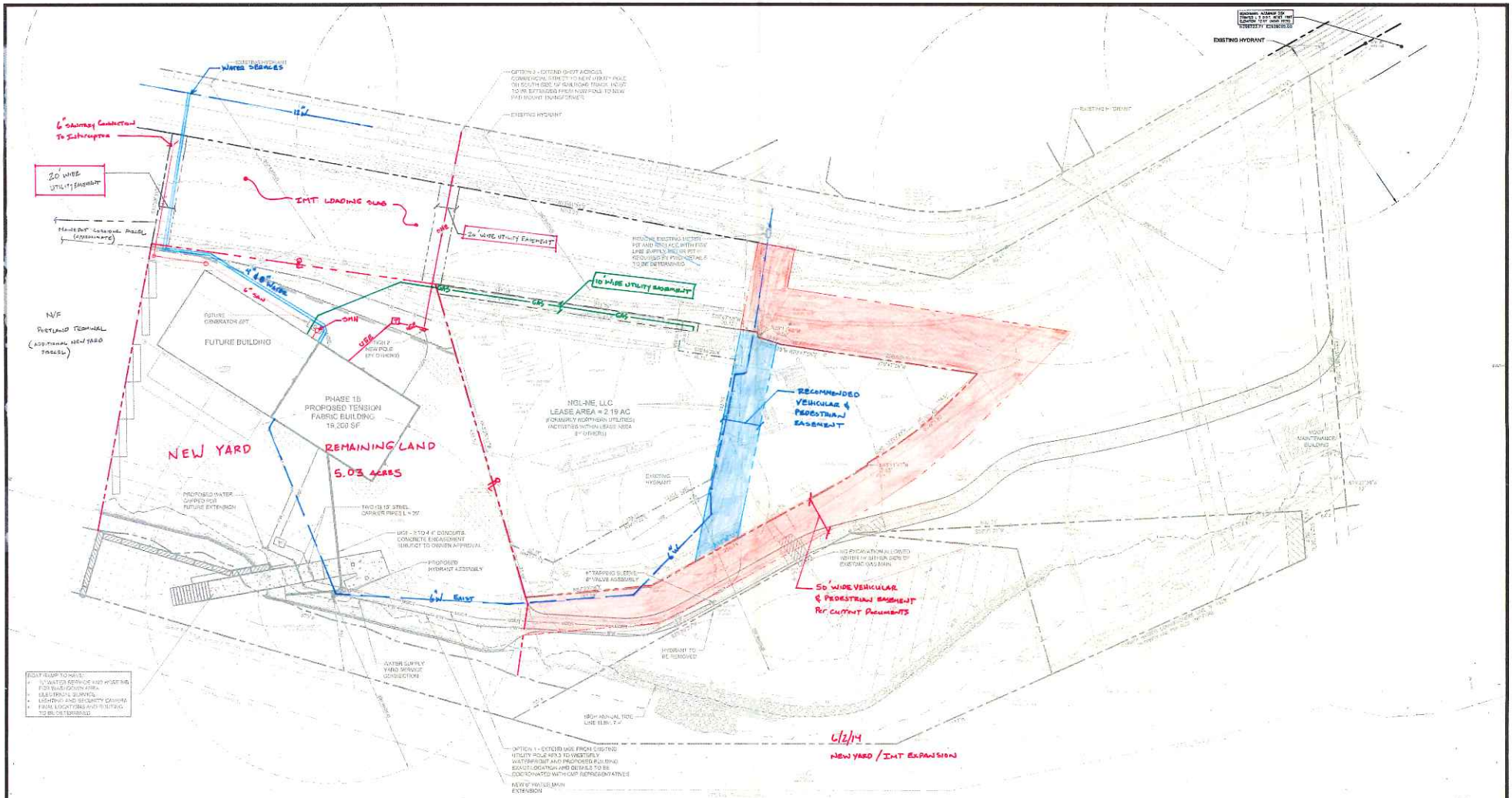
David Senus, PE (Maine), Project Manager
Woodard & Curran, Inc.
41 Hutchins Drive
Portland, ME 04102
Phone: (800) 426-4262 x3241
Cell: (207) 210-7035
Fax: (207) 774-6635

Woodard & Curran
www.woodardcurran.com
Commitment & Integrity Drive Results

From: Mitch Elliott [mailto:mielliott@HNTB.com]
Sent: Tuesday, July 08, 2014 10:58 AM
To: David Senus
Subject: Inspection & Maintenance porous yard IMT

Hi Dave,
I have revised our SWPPP to include specific sections for the chassis storage yard and the Commercial Street porous pavement. I have also attached to the document a sample inspection form and the O&M manual for the Commercial Street pavement. Would you have time to quickly review to see if this addresses all of your responses in your June 30th review letter?

Thanks again for your time and assistance.
Mitch



PRELIMINARY - NOT FOR CONSTRUCTION

ROUTING OF ON-SITE WATER AND PRIMARY AND SECONDARY ELECTRICAL SYSTEMS TO BE DETERMINED

FLOATING DOCK SYSTEM TO HAVE THREE PHASE POWER, FINAL LOCATION TO BE DETERMINED

REV	DATE	DESCRIPTION
3	09.20.13	REVISED PHASE 1B BUILDING ALIGNMENT & RESUBMITTED TO CITY
2	10.31.12	FINAL SITE PLAN APPLICATION SUBMISSION
1	08.21.12	PRELIMINARY APPLICATION TO CITY OF PORTLAND

REVISIONS

STATE OF MAINE — STEPHEN BUSHEY — REGISTERED PROFESSIONAL ENGINEER

P.E. STEPHEN BUSHEY
LIC. # 7429

PROJECT: CANAL LANDING AMENDED SITE PLAN
SHEET TITLE: AMENDED UTILITY PLAN PHASE 1B
CLIENT: NEW YARD LLC
58 FORE STREET
PORTLAND, ME 04101

ENGINEER: FST — FAY, SPOFFORD & THORNDIKE, INC.
ENGINEERS · PLANNERS · SCIENTISTS
778 MAIN ST., SUITE 8, SOUTH PORTLAND, ME 04106

DRAWN: CMW	DATE: AUGUST 2013
DESIGNED: SRB	SCALE: 1" = 50'
CHECKED: SRB	JOB NO.: 3091.02 / SP-M0409
FILE NAME: 3091.02-UTILITY	
SHEET	C-4.1