## Town of Kittery Planning Board Meeting August 8, 2019

### ITEM 1 – 76 Dennett Road – Site Preliminary Plan Review

Action: Hold Public Hearing. Approve with or without conditions, continue consideration of or deny plan. Owners William J. Cullen and Sail Away, LLC and applicant William Wharff request consideration of a mixed-use residential development on 23.3+- acres of land at 76 Dennett Road (Tax Map 6 Lots 15B & 16A and Tax Map 13, Lot 4) in the Mixed Use - Neighborhood (MU-N) Zone. Agent is Shawn Tobey, P.E. Hoyle, Tanner Associates, Inc.

### PROJECT TRACKING

REQ'D	ACTION	COMMENTS	STATUS
YES	Sketch Plan Acceptance/Approval	5/9/2019 Meeting	APPROVED
YES	Site Visit	7/23/2019	HELD
YES	Preliminary Plan Review Completeness/Acceptance	Scheduled for 7/11/2019 Meeting	ACCEPTED
YES	Public Hearing	Scheduled for 8/8/2019 Meeting	
YES	Preliminary Plan Approval		
YES	Final Plan Review and Decision		

Applicant: Prior to the signing of the approved Plan any Conditions of Approval related to the Findings of Fact along with waivers and variances (by the BOA) must be placed on the Final Plan and, when applicable, recorded at the York County Registry of Deeds. PLACE THE MAP AND LOT NUMBER IN 1/4" HIGH LETTERS AT LOWER RIGHT BORDER OF ALL PLAN SHEETS. As per Section 16.4.4.L - Grading/Construction Final Plan Required. - Grading or construction of roads, grading of land or lots, or construction of buildings is prohibited until the original copy of the approved final plan endorsed has been duly recorded in the York County registry of deeds when applicable.

### **Background**

The site consists of three (3) parcels totaling 23.3 +- acres which will be merged for the proposed development. The development proposes one four-story mixed-use residential building with 3,000 sf of mercantile space along Dennett Road, two four-story residential buildings at the rear of the site, a 5,250 sf amenity building, and five covered parking structures in various locations in the parking lot.

The residential buildings will have a mix of studio, one-bedroom and two-bedroom units totaling 303 dwelling units. The design includes the construction of a private roadway, parking lots totaling 401 spaces, landscaping, sidewalks, a pool and outdoor amenity space, a nature trail, supporting utilities and drainage infrastructure.

At the July 11<sup>th</sup> meeting, the Board accepted as complete the site preliminary plan and scheduled a site walk for July 23<sup>rd</sup>. The site walk was conducted and the draft minutes are attached.

### **Staff Review**

### Mixed-Use Requirements

1. All of the proposed uses are permitted in the newly created MU-N Zone. The residential units comply with the minimum land area per dwelling unit – mixed-use building and multiunit residential requirements.

### Net Residential Acreage / Density

The MU-N Zone is exempt from Title 16.7.8.2 Net Residential Acreage Calculation but is subject to the minimum land area per dwelling unit as defined in Chapter 2 Definitions except that 50% of all wetlands may be subtracted, rather than 100%. As shown on sheet C5 Overall Site Plan, the proposed development meets the land area per dwelling unit calculations of the MU-N Zone.

### Parking Requirements

2. Per Section 16.3.2.10.F. (4) (d) [1] and [2], Parking for development that includes trails and low intensity recreation: Development that includes the creation of public trails and low intensity recreational opportunities such as wildlife observation stations or boardwalks may apply the pertinent off-street parking standards below. All other off-street parking standards as found in § 16.8.9.4 shall apply.

Multiunit residential buildings and mixed-use buildings that include residential.

- One parking space for studio and one-bedroom dwelling units.
- One and one-half parking spaces for two-bedroom dwelling units plus one guest parking space per every four dwelling units.
- Parking spaces for more-than-two-bedroom dwelling units.
- 3. Parking calculations are listed on sheet C5 of the preliminary plans. The development will provide a total of 401 spaces:
  - a. Front Building = 114 spaces
  - b. Rear Buildings = 287 spaces

The provided parking meets and exceeds the Ordinance requirements.

### Landscaping, Screening and Buffers

4. The landscaping, screening and buffering details are provided on sheets C17 and C18. Per 16.3.2.10.F (9) (a) a landscape plan prepared by a registered landscape architect is a submission requirement. However, a landscape plan done by other design professionals may be allowed at the Planning Board's discretion. The proposed development will be generously landscaped and appears to meet the requirements of the MU-N zone. CMA Engineers in their initial review of the preliminary plans noted that the ordinance requires that a minimum of 10% of surface parking areas be landscaped with trees and vegetated islands. CMA questioned whether this standard was being met. In reviewing the landscaping plans, the parking lot bump-outs do include one tree and grass plantings. The applicant has indicated that shrubbery was avoided in these areas because of salting and sanding of the parking areas that could damage the plantings. Figures need to be provided for these landscaped areas to determine whether they comply with the 10% requirement and revisions made to the plans if the standard is not met. According to the landscape calculations shown on Sheets C17 & 18 they are providing over triple the number of trees per parking spaces under the Ordinance requirement.

### Wetlands / Open Space

5. The existing property contains wetlands and a vernal pool. Per the regulations for the MU-N zone, the wetlands and vernal pool were reviewed by Longview Partners, LLC as a third-party reviewer in

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April 2019. The review found the wetlands delineation to be accurate and within the normal range of best professional judgement and consistent with wetlands delineation standards.

Staff researched the question regarding previously approved wetlands impacts. On February 14, 2002, the Planning Board approved the site plan for a Professional and Business Park proposed by William Cullen which permitted approximately 1600 sf of total wetlands fill, primarily for a road crossing of wetlands. A permit will be required for a modification to the previously approved wetlands crossing and for disturbance to the vernal pool buffer (250'). There will be no disturbance within the vernal pool buffer (100') or the wetlands. The wetlands, vernal pool and property lines shown on the preliminary plan are based on actual survey data. Sheet C5 Overall Site Plan contains Vernal Pool Buffer Calculations, which includes 24,535 sf of buffer restoration. Update: The applicant has submitted a Site Location of Development Act permit application with Maine DEP for the project. The culvert upsizing under the development road and the wetlands buffer impacts will be reviewed under this permit and the State's Permit by Rule (PBR) regulations.

6. Open space meeting the requirements of the zone will be provided (73.5% of the parcel) which will include a nature loop trail with wildlife viewing stations for passive recreation for the development. An Amenities building (Building 4) and an outdoor pool are also proposed to provide recreational use for the residents of the property. Update: Notes have been added to the Overall Site Plan, Sheet C5 designating the areas of open space.

### Utilities / Site Improvements

7. The plans show detailed information regarding utilities that will service the site development. Water, gas, electrical and telecommunication lines will be extended from Ranger Drive along Dennett Road to serve the site. They will be constructed underground underneath the proposed private roadway. Existing sewer is located at the rear of the property and will be extended onto and throughout the site underneath the roadway.

The applicant's engineer has met with the Kittery Water District and the Kittery Sewer Department and letters are provided to confirm they both have adequate capacity for the proposed development.

Proposed Fire Department connections are shown and noted on the plans. The Fire Chief has reviewed the plans for fire service during staff technical review and provided his comments in a memorandum dated July 3, 2019 which was provided to the Board at the July 11<sup>th</sup> meeting. Update: the applicant has revised the plans to address the Fire Chief's comments.

### Stormwater Management

8. Under Section 16.10.5.2.C, supporting documentation must include a stormwater management plan. The applicant has submitted a Drainage Narrative to comply with Maine Department of Environmental Protection (MEDEP) Stormwater Site Location of Development Law.

According to the narrative, "The drainage design utilizes the existing hydrologic and hydraulic patterns, minimizes impacts to surrounding areas, and uses Maine's Best Management Practices (BMPs) to provide effective pollutant removal, stormwater cooling, channel protection, and flood control for pre-development and post-development peak runoff rates for the proposed site development."

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A copy of the narrative has been forwarded to CMA Engineers for their review and comment. The narrative and grading and drainage plans are also being reviewed by the Town's Stormwater Coordinator in coordination with DPW.

Jessa Kellogg, Shoreland Resource Officer/Stormwater Coordinator has provided a memorandum (attached) with her and Public Works Commissioner David Rich's initial comments regarding the stormwater management plans. In the memo, they have also provided comments relative to the proposed sidewalk along Dennett Road. Update: The Response to Review Comments letter from Hoyle, Tanner & Associates is included in the Board's packets.

### Other Reviews

- 9. The Board will find included in the packets for this item a letter from CMA Engineers with their initial review comments on the preliminary plans for conformance with Title 16 and general engineering practices. Update: The Response to Review Comments letter from Hoyle, Tanner & Associates is included in the Board's packets. CMA Engineer's 2<sup>nd</sup> round of review comments is also included in the Board's packets.
- 10. Jessa Kellogg, Interim Code Enforcement Officer, has also provided a memorandum regarding her initial building code review conceptual floor plans that have been submitted. Update: The Response to Review Comments letter from Hoyle, Tanner & Associates is included in the Board's packets.
- 11. A Maine DOT Traffic Movement Permit (TMP) is required and has been applied for. After an initial review by Maine DOT, the trip generation rates needed to be revised and a new Traffic Movement Permit Application has been submitted to DOT. A copy of the application has also been provided to CMA Engineers and DPW Commissioner Dave Rich for review and comment. Copies of the application are included in the Board's packets.

### **Recommendation / Action**

Now that the Board has accepted the site preliminary plan application as complete it needs to hold a public hearing which is scheduled for the August 8, 2019 meeting. Following the public hearing, the Board will want to discuss any further items of interest and then vote on the site preliminary plan.

Staff recommends that the Board:

Move to approve the site preliminary plan, dated June 20, 2019, as revised on 07/24/19 and prepared by Hoyle, Tanner & Associates, Inc., for owners William J. Cullen and Sail Away, LLC and applicant William Wharff for a mixed-use residential development on 23.3+- acres of land at 76 Dennett Road (Tax Map 6 Lots 15B & 16A and Tax Map 13, Lot 4) in the Mixed Use - Neighborhood (MU-N) Zone with the following conditions:

- 1. Revise the Inspection and Maintenance Manual to meet the Town's annual reporting criteria;
- 2. Provide details of the proposed sidewalk for the full length of the property for Final Plan review; and,
- 3. Revise the plans for Final Plan review to indicate that the studio units will meet the 650-sf habitable space requirement of Title 16.
- 4. Revise the landscaping plan to comply with the standard that requires a minimum of 10% of the surface parking areas are landscaped with trees and vegetated islands.
- 5. Address to the satisfaction of CMA Engineers their 2<sup>nd</sup> round of plan review comments.

July 25, 2019

Jamie Steffen Town Planner Town of Kittery 200 Rogers Road Kittery, ME 03904 Hoyle, Tanner Associates, Inc.

> Pease International Tradeport 100 International Drive, Suite 360 Portsmouth, New Hampshire 03801 603-431-2520 603-431-8067 fax www.hoyletanner.com

Re: Response to Review Comments

Proposed Mixed-Use Residential Development Project 76 Dennett Road, Kittery, ME 03904

Dear Mr. Steffen,

We have received the review comments for the above referenced project from CMA Engineers, Inc. dated July 2, 2019, Town of Kittery Department of Public Works dated July 2, 2019, Town of Kittery Code Enforcement Office dated July 2, 2019 and Town of Kittery Fire Department dated July 3, 2019. We offer the following responses to the comments (shown in italics) for your consideration, along with copies of the revised Site Plans. There were no changes made to the Drainage Narrative, Color Site Plan, Aerial Rendering, Floor Plans and Elevations for this submission.

### CMA Engineers, Inc. Comments:

The landscaping plan does not appear to have been prepared by a registered landscape architect. It is detailed, with extensive plantings with multiple species. The applicant should describe how the plan was developed and the qualifications of the designer.

The Town of Kittery regulations allow for the landscape plan to be prepared by other design professionals at the discretion of the Planning Board. Hoyle, Tanner has provided landscape design on numerous large scale projects in the seacoast area as well as the state of Maine and we feel the prepared landscape plans satisfies the requirements set forth in the Town of Kittery Land Use & Development Code. The planting list, quantity, size and layout are consistent with other developments in close proximity to the project. All species are readily available at local nurseries and are resistant to the harsh New England climate.

• The standard requires that a minimum of 10% of surface parking areas be landscaped with trees and vegetated islands. No such vegetated features are included in the design. There are light poles extending into the parking area. Perhaps these could be extended to include vegetation. There may be other ways to comply with the requirement.

Hoyle, Tanner will work with Town Staff to make any necessary changes to the landscaping plans to ensure this standard is met.

• The site plan includes areas of significant open space. Much of it is wetlands, including a vernal pool. However, it is not designated with notes dedicating it as open space.

Notes have been added to the Overall Site Plan, Sheet C5 designating the areas as open space.

• The KWD suggests that booster pumping may be required to serve all the locations and elevations. How is that decision going to be made? No provisions are currently made on the site plan for such facilities as needed.

Utility Note #5 was added to the Utility Plans on Sheets C13 & C14 specifying that the MEP engineer is responsible for testing and modelling the water pressure and designing the systems accordingly.

• Has the separate fire supply line sizing been confirmed? Has KWD reviewed the details?

The fire supply line sizes are approximate. Utility Note #4 on Sheets C13 & C14 specifies the final sizes will be based on the MEP design plans. KWD has reviewed the schematic layout and approved the domestic water and fire service configuration.

 Conventional sewer services and sewerage layouts have been incorporated. The system ties into a sewer manhole on what appears to be a KWD interceptor. For clarity, the applicant should provide additional schematic details indicating how piping goes from that connection to the WWTP.

A note was added to Utility Plan Sheet C14 detailing the connection to the WWTP.

Has the Kittery Sewer Department reviewed the design?

The Kittery Sewer Department reviewed the design of the preliminary plans and approved the layout. We will submit a copy of the updated plans to the Sewer Department for final review

 Has there been any evaluation of the presence of historically significant sites or resources; or archaeological sources on the property?

As part of the Maine DEP Site Law Permit, we have coordinated with the Maine Historic Preservation Commission and they determined there were no historic properties affected by the proposed development. A copy of their findings will be included when the Maine DEP Site Law Permit is submitted.

### Town of Kittery Public Works Comments:

 Appendix G Inspection and Maintenance Manual in the Drainage Narrative dated June 20, 2019 does not meet the criteria for annual reporting to the Town. It is recommended that the applicant work with staff to ensure the annual inspection and reporting requirements are fully incorporated in the Association documents.

Hoyle, Tanner will meet with staff to revise the document to meet the Town's annual reporting criteria.

• Sidewalks are required per Table 1 of Title 16.8. The preliminary plans show a sidewalk running the length of the property from the entrance northwest along Dennett Road, however no sidewalk is shown on the southeast side of Dennett Road.

A sidewalk spanning the full length of the property will be incorporated into the final plans. We wanted to coordinate the sidewalk design, layout and crossings with Maine DOT. If a bus shelter is proposed, it will also be coordinated with Maine DOT.

### Town of Kittery Code Enforcement Comments:

• The conceptual floor plans submitted show three sizes of units, including studios averaging 650sf, 1-bed averaging 710sf and 2-bed averaging 900sf. It is not clear if these sizes meet the dwelling unit minimum requirements and what is meant by averaging.

The unit sizes will vary depending on their location within the building. Each studio unit will be a minimum 650sf of habitable space per the Town of Kittery Land Use & Development Code. We will revise the plans for the final submission.

• The plans list "MEP, T/D, and CTL" without a key to understand what those spaces in the building are for.

A key will be added to the plans for final submission. Below is a key of those terms:

MEP Mechanical, Electrical & Plumbing

T/D Telephone/Data

CTL Control (Fire Control Room)

### Town of Kittery Fire Department Comments:

- Buildings 1, 2A, 2B and 3 will require full fire suppression systems including;
   NFPA 13 sprinkler system, all floor standpipes including standpipe service to roof areas, monitored fire alarm systems and Knox Box systems on each building.
- Building 4, while not large enough by code to require sprinkler systems is recommended to have a NFPA 13 system. The building will also have a monitored alarm system and Knox Box system installed.
- All alarm systems will have a main panel with remote annunciators located per the direction of the Fire Chief.
- Fire Department Connections will also be located per the direction of the Fire Chief.
- Due to the size of the buildings, the Fire Chief may direct that more than one Knox Box per building be installed. These may be located at the entrances where remote annunciators are installed. A master key for all doors shall be placed in the Knox Boxes.
- Final plans must be submitted to the Maine Fire Marshal's Office for review and approval

The above fire protection notes were incorporated into the Utility Plans on Sheet C13 & C14.

We trust that these revisions and responses have thoroughly addressed all comments and concerns. Please do not hesitate to contact our office with any additional questions or comments regarding this project.

Sincerely,

HOYLE, TANNER & ASSOCIATES, INC.

Shawn M. Tobey, P.E.

Shrum Tobey

**Project Manager** 



CMA ENGINEERS, INC. CIVIL | ENVIRONMENTAL | STRUCTURAL

35 Bow Street Portsmouth, New Hampshire 03801-3819

> P: 603|431|6196 www.cmaengineers.com

August 1, 2019

Jamie Steffen, Town Planner Town of Kittery 200 Rogers Road Kittery, Maine 03904

RE: Town of Kittery, Planning Board Services

Mixed-Use Development Proposal – 76 Dennett Road Lots 6-15B, 6-16A, 13-4

Preliminary Plan Approval Application

Review of HTA Responses dated July 25, 2019; and

MDOT Traffic Movement Permit Application dated July 1, 2019

CMA #591.125

Dear Jamie:

CMA Engineers has received and reviewed the following information for Assignment #125, review of the Mixed-Use Development at 76 Dennett Road (Tax map Lots 6-15B, 6-16A, and 13-4):

- 1) Letter from Hoyle Tanner & Associates, Inc. (HTA) including responses to review comments to June Preliminary submittal for 76 Dennett Road mixed-use proposal.
- 2) Revised project drawings dated July 24, 2019.
- 3) Application for Traffic Movement Permit to MDOT, dated July 1, 2019.

Below are our comments and additional responses to these materials. (Please refer to our July 2, 2019 initial review letter for project background and our first comments).

### A. Zoning

### 16.3 Zoning Regulations

### **Reiterated comment:**

- F. (8) Building design standards
  - This section references the Kittery Design Handbook. We have not evaluated the design with respect to the Handbook.
  - We note that the buildings are large in area and height and would be the largest multi-unit residential structures in Kittery.
  - It is described, but not graphically shown that the building height meets the 50' standard.
  - Flat roofs are proposed.
- F. (9) Landscaping, Screening and buffers
  - (a) The landscaping plan appears not to have been prepared by a registered landscape architect. It is detailed, with extensive plantings with multiple species. The applicant should describe how

the plan was developed, and the qualifications of the designer. The Planning Board may desire a landscape architects design input, as provided in this provision of the ordinance.

### **HTA Response**

HTA notes that the Kittery LUDC provides that design professionals other than registered landscape architects may be allowed to prepare landscape plans, with at the Planning Board's discretion.

### CMA Engineer Comment:

Does the Planning Board accept the landscape plan being prepared by HTA, without registered LA professional?

(b) (3) This standard requires that a minimum of 10% pf surface parking areas be landscaped with trees and vegetated islands. No such vegetated features are not included in the design. There are light poles extending into the parking area. Perhaps these could be expanded to include vegetation. There may be other ways to comply with the requirement.

### HTA Response

"HTA will work with the Town Staff to make any necessary changes to the landscaping plans to ensure this standard is met."

### **CMA Engineer Comment:**

The LUDC requirements are specified. HTA should propose a design which meets the requirement. The Town can review the proposal.

### F. 10 Open Space

- The site plan includes significant areas of open space. Much of it is wetlands, including the vernal pool. However, it is not designated with notes dedicating it as open space.
- The plan does include a limited network of walking trails.

### HTA Response

"Notes have been added to the overall Site Plan, Sheet C5 designating the areas as open space."

### CMA Engineer Comment:

While the new notes call out Open Space, the designations are unclear as to the limits of designated open space. The horizontal limits of what will be designated Open Space should be presented on the plan.

### 16.8 Design and Performance Standards-Built Environment

### Article VI Water Supply

The KWD suggests that booster pumping may be required to serve all the locations and
elevations. How is that final decision going to be made? No provisions are currently made on the
site plan for such facilities if needed.



### HTA Response

A note has been added indicating a future MEP engineer will be responsible for testing and modelling the water pressure and designing the systems accordingly.

### CMA Engineer Comment:

The requirement in the LUDC is that the Water District determine that the supply and pressure are available to serve the development. The pressure issues are important, should be identified at this stage of the project. HTA should be capable of making these preliminary determinations. The facilities that may be necessary for service should be identified and included on the site plan.

### 16.9 Design and Performance Standards-Natural Environment

<u>Article II. Retention of Open Spaces and Natural or Historic Features</u>

• Has there been any evaluation of the presence of historically significant sites or resources; or archaeological sources on the property?

### HTA Response

The main historic preservation commission has determined there were no historic properties affected by the proposed development. A copy of their findings will be included when the Maine DEPS Site Law Permit is submitted.

### CMA Engineer Comment:

A copy of that determination should be provided to the Town at this time.

### B. Traffic Movement Permit

The traffic evaluation requirements in the Kittery LUDC may be covered by the evaluations included in the documentation included in the MDOT Traffic Movement Permit (TMP) process. We have assumed that to be the case in this proposal. A TMP is required when the proposed development is expected to generate more than 100 passenger car equivalent (PCE) trips, which is the case for this 76 Dennett Road project.

The applicant has prepared an application for a MDOT Traffic Movement Permit (TMP) for the proposed development. Additionally, because the development is expected to generate more than 200 PCE trips, MDOT rules require the applicant prepare a Traffic Study, including existing intersection turning movement counts, capacity analysis, auxiliary turn land analysis, sight distance analysis, and recommendations for remediation if required.

The application does not yet include the required full Traffic Study, which will be necessary to meet the MDOT requirements, and also the Kittery LUDC requirements.

We understand that the scoping meeting with MDOT has not yet occurred for the TMP. The Town should request to be present and/or be represented for review meetings between the applicant and MDOT regarding the Traffic Movement Permit review. (We can represent the Town).



### Comments on the TMP application:

Specific preliminary comments on the TMP application so far include:

- The trip distribution should consider the potential cut through traffic via Ranger Drive/Valles Road to access the Route 1 bypass.
- The trip generation underestimates the new traffic (one trip) generated on Dennett Rd NW bound.

Should you have any questions, please do not hesitate to call.

Very truly yours,

CMA ENGINEERS, INC.

William A. Straub, P.E. Project Manager

WAS/kao

cc: Shawn Tobey, P.E., HTA

To the Maine Department of Environmental 6/28/19 Dennett Rd. cince 1959. We know a glitch along the left side of our house with a culvest under the when the high level budge was Suit they made the new Dennott Rd. suttery a culvert under the kood not used up with the dities on my Our family have manitained one projectly. ditch year round to be sure the water could reen off when necessary towards the creeks. Mostly summers it was drey. Jam correcered with me Culling new project on the new deart of the Dennett Rd. Dennett Rd. Wet lands and there touching the wet lands and there are alat of them, Heard there are alit of spring ged land where is all times water going? They haven I shown any where they will reen this water and the can't affer to have any more on my property. my biggest Correct their drainage have alot more water abreadi when the abready when the cubiest was installed on new Hennett Rd. Frem a novy concerned reighbor. Barbara J. Hall Thankingon for reading my Concerno.

# TRAFFIC MOVEMENT PERMIT APPLICATION

**FOR THE** 

# PROPOSED MIXED-USE RESIDENTIAL DEVELOPMENT PROJECT 76 DENNETT ROAD KITTERY, MAINE

**JULY 2019** 

## PREPARED FOR:

AZTEC, LLC 62 PORTLAND ROAD, SUITE 25 KENNEBUNK, MAINE 04043

Hoyle, Tanner

Associates, Inc.

www.hoyletanner.com

Department of Transportation Traffic Engineering Division

FOR MDOT USE

1/2000

ID#

16 State House Station Augusta, Maine 04333 Total Fees: Telephone: 207-287-3775 Date: Received PERMIT APPLICATION - TRAFFIC TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. § 704 - A Please type or print: This application is for: Traffic 100-200 PCE's Traffic 200+ PCE's Name of Applicant: Aztec, LLC Address: 62 Portland Road, Suite 25, Kennebunk, ME 04043 Telephone: Name of local contact or agent: Hoyle, Tanner & Associates c/o Shawn Tobey Address: 100 International Drive, Suite 360, Portsmouth, NH 03801 Telephone: (603) 431-2520 x29 Name and type of development: A mixed use development consisting of residential apartments and retail space. Location of development including road, street, or nearest route number: Proposed development is on Dennett Road, approximately 365' north of the I95 SB On-Ramp. 6-15B, 6-16A, City/Town/Plantation: Kittery , County: York , Tax Map # & 13-4 , Lot # Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? Yes No Was this development started prior to obtaining a traffic permit? No Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30 - A, chapter 187)? Is this project located within a compact area of an urban compact municipality? Yes No Is this development or any portion of the site currently subject to state or municipal enforcement action? Existing DEP or MDOT permit number (if applicable): N/A Name(s) of DOT staff person(s) contacted concerning this application: None; To be determined at Scoping Meeting

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applications:

1/2000

### CERTIFICATION

The traffic engineer responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the application for traffic approval is complete and accurate to the best of his/her knowledge.

Re/Cert/Lic No.: 12706 Name (print): TODO M, CLARK Date: July 16, 2019

If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information including the possibility of fine and imprisonment."

Signature of applicant

William Wharff

### NOTICE OF INTENT TO FILE

Please take notice that

Aztec, LLC 62 Portland Rd, Suite 25, Kennebunk, ME 04043 (339) 337-4500

is intending to file a Traffic Movement Permit application with the Maine Department of Transportation pursuant to the provisions of 23 M.R.S.A. § 704 - A on or about

July 16th, 2019

The application is for a mixed use development proposing 4, 4-story buildings with 303 apartments and 3,000 sf of retail space at 76 Dennett Road, Kittery, ME. The proposed development is anticipated to generate approximately 2,600 new vehicle trips throughout the day, with 170 vehicle trips in the AM and PM peak hours. Construction is expected to begin in Spring 2020 and be open to tenants in Summer 2021.

at the following location:

76 Dennett Road, Kittery, ME, approximately 400' north of the I95 SB On-Ramp.

A request for a public hearing must be received by the Department, in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application.

The application will be filed for public inspection at the Department of Transportation Division office (Presque Isle, Ellsworth, Bangor, Fairfield, Rockland, Scarborough or Dixfield) during normal working hours. A copy of the application may also be seen at the municipal offices in

Kittery	, Maine.
(town)	

Written public comments may be sent to the Department of Transportation, Traffic Engineering Division, 16 State House Station, Augusta, Maine 04333.

# SECTION 1 SITE AND TRAFFIC INFORMATION

### Proposed Development

The existing site is mostly wooded and undeveloped with a gravel access road and a gravel lot that is used as a lay down area for construction materials. No buildings or permanent structures exist onsite. The proposed development is for four 4-story apartment buildings totaling 303 units and including 3,000 sf of commercial use on the first floor of one of the buildings. The Town of Kittery was contacted about any other proposed developments in the vicinity of the proposed mixed-use residential development project, and they reported no other projects were pending or approved.

### **Trip Generation**

Trip generation calculations for the proposed development were performed using ITE Trip Generation, 7<sup>th</sup> Edition (2003). The primary land use for the proposed development is residential apartments. There are four apartment buildings proposed, each 4-stories tall, totaling 303 dwelling units. The 1<sup>st</sup> floor of one of these buildings will also include 3,000 sf of commercial use, split into two areas of 1,500 sf each. The exact tenants of the commercial area are unknown at this time. For the purposes of determining off-street parking, the commercial uses were assumed to be a convenience store and a coffee shop, so for consistency these uses will be used in determining trip generation.

The 4-story height of the apartment buildings makes land use 223 – Mid-Rise Apartments appropriate for determining the residential trips generated, however there is no data available in ITE 7<sup>th</sup> edition for total weekday trips generated by Mid-Rise Apartments. Therefore, the weekday daily trip rate for land use 220 – Apartments is used to approximate the weekday daily trips, while the peak hour trip rates are approximated using the land use 223 data. The trips generated from the commercial space has been calculated using the Convenience Market (851) and Fast-Food Restaurant without Drive-Through Window (933) land uses, based on 1,500 SF GFA each. Land use 933 has supplemental data for Coffee Shops in Table 2 which has been used to estimate the AM & PM peak hour trips, however there is no weekday daily trip data in this supplemental table and so the weekday daily trip rate for the generic land use 933 has been used.

The trip generation for the development is summarized in the table below.

		Trip Generation by Land Use						
					933 - Fast-l	ood	1	
223 - Mid-Rise		d-Rise	851 - Convenience		Restaurant w/o Drive-			
	Apartm	nent	Market		Through			
	(303 Uı	nits)	(1,500	SF)	Table 2: Coffee Shop			
					(1,500 SF)			
	Rate		Rate		Rate			
	(trips /	Trips	(trips /	Trips	(trips / 1,000	Trips		
	unit)	#	1,000 sf)	#	sf)	#	Total	
Weekday Daily Trips	6.72 ^	2036	737.99	1107	716 ^^	1074	4217	
Weekday AM Peak Hour	0.30	91	67.03	101	73.03	110	302	
Weekday PM Peak Hour	0.39	118	52.41	79	28.79	43	240	

<sup>^</sup> There is no data in ITE 7th Edition for weekday daily trips generated by Mid-Rise Apartments, therefore the weekday daily trip rate for Land Use 220 - Apartment was used.
^^ ITE 7th Edition Land Use 933 has supplemental data for Coffee Shops in Table 3, however there is no data on the weekday daily trips, therefore the weekday daily trip rate for the generic land use 933 was used.

As the development is mixed-use, consideration is also given to internal capture on site. It is estimated 10% of the Convenience Market and Coffee Shop traffic will originate from or be destined to the residential units. As a result, the total vehicles entering & exiting Land Uses 851 & 933 are 90% of the total trips calculated above. The trip volumes adjusted for internal capture are summarized in the table below.

	Trip Generation by Land Use Adjusted for Internal Circulation						
					933 - Fas	st-Food	
	223 - Mid	-Rise	851 - Convenience		Restaurant w/o		
	Apartm	ent	Market		Drive-Through		
	(303 Un	its)	(1,500	SF)	Table 2: Co	ffee Shop	
					(1,500 SF)		
	Rate		Rate		Rate		
	(trips /	Trips	(trips /	Trips	(trips /	Trips	
	unit)	#	1,000 sf) # 1,000 sf) #		#	Total	
Weekday Daily Trips	6.72	2036	737.99	996 ^^^	716	967 ^^^	3999
Weekday AM Peak Hour	0.3	91	67.03	90 ^^^	73.03	99 ^^^	280
Weekday PM Peak Hour	0.39	118	52.41	71 ^^^	28.79	39 ^^^	228

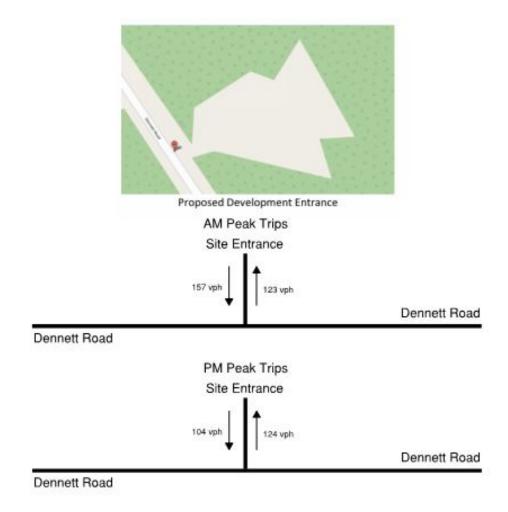
^^^ Internal capture trips are anticipated for this mixed-use development. It is estimated 10% of the Convenience Market and Coffee Shop traffic will originate from or be destined to the residential units. As a result, the total vehicles entering & exiting Land Uses 851 & 933 are 90% of the total trips calculated above.

## **Trip Distribution**

Trip distribution was calculated using the directional distributions available in Trip Generation, 7<sup>th</sup> Edition, for the land uses of the development. The Convenience Market and Coffee Shop are relatively quick turnover locations, so the entering & exiting distributions are nearly 50 / 50. The apartment units have more directional flow based on the time of day. During the AM peak, 69% of the trips attributable to the apartments are exiting the development, and during the PM peak, 58% are entering the development. The directional distribution percentages and trips are summarized in the tables and figure below.

	Directional Distribution % by Land Use						
	223 - Mid-Rise Apartment (303 Units)		Apartment Market		ket	933 - Fast-Food Restaurant w/o Drive-Through Table 2: Coffee Shop (1,500 SF)	
	Entering %	Exiting %	Entering %	Exiting %	Entering %	Exiting %	
Weekday Daily Trips	50%	50%	50%	50%	50%	50%	
Weekday AM Peak Hour	31%	69%	50%	50%	51%	49%	
Weekday PM Peak Hour	58%	42%	51%	49%	52%	48%	

	Directional Distribution Trips by Land Use						
	223 - Mid-Rise Apartment (303 Units)		851 - Convenience Market (1,500 SF)		933 - Fast-Food Restaurant w/o Drive-Through Table 2: Coffee Shop (1,500 SF)		
	Entering #	Exiting #	Entering #	Exiting #	Entering #	Exiting #	
Weekday Daily Trips	1018	1018	498	498	484	483	
Weekday AM Peak Hour	28	63	45	45	50	49	
Weekday PM Peak Hour	68	50	36	35	20	19	



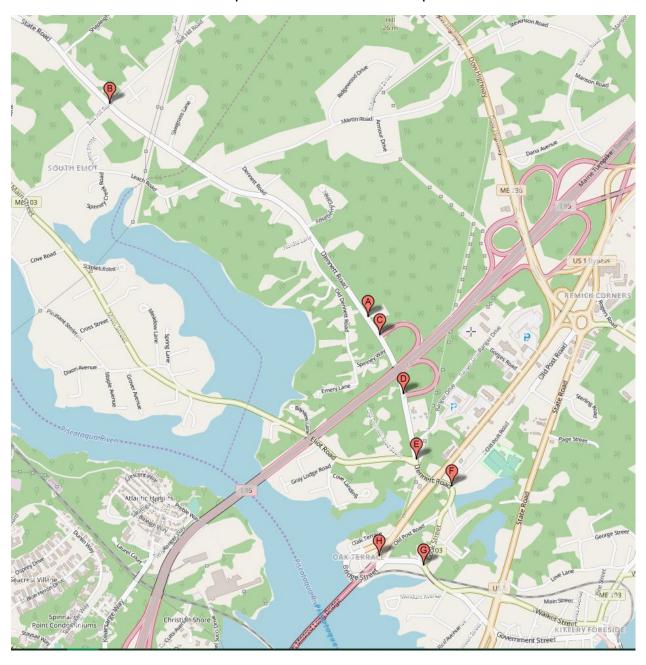
A portion of the Convenience Market & Coffee Shop trips are expected to be pass-by trips. These pass-by trips will be included in the trip assignment for the proposed development, but will be removed from the trip assignment at the other intersections within the study area as they are not new trips resulting from the development. It is anticipated that a coffee shop that has no drive through and has a few indoor seats would fall somewhere around a 65% pass-by trip rate while the Convenience Market data suggests a 51% pass-by trip rate, which will be used for the Convenience Market trips. The table below summarizes the pass-by reduction rate and the resulting trips which will be assigned through the study area.

	Directional Distribution Trips by Land Use w/ Pass-By Reduction						
	223 - Mid-Rise Apartment (303 Units)		Apartment Market		ket	933 - Fast-Food Restauran w/o Drive-Through Table 2: Coffee Shop (1,500 SF)	
	Entering #			Exiting #	Entering #	Exiting #	
Weekday Daily Trips	1018	1018	244	244	169	169	
Weekday AM Peak Hour	28	63	22	22	18	17	
Weekday PM Peak Hour	68	50	18	17	7	7	

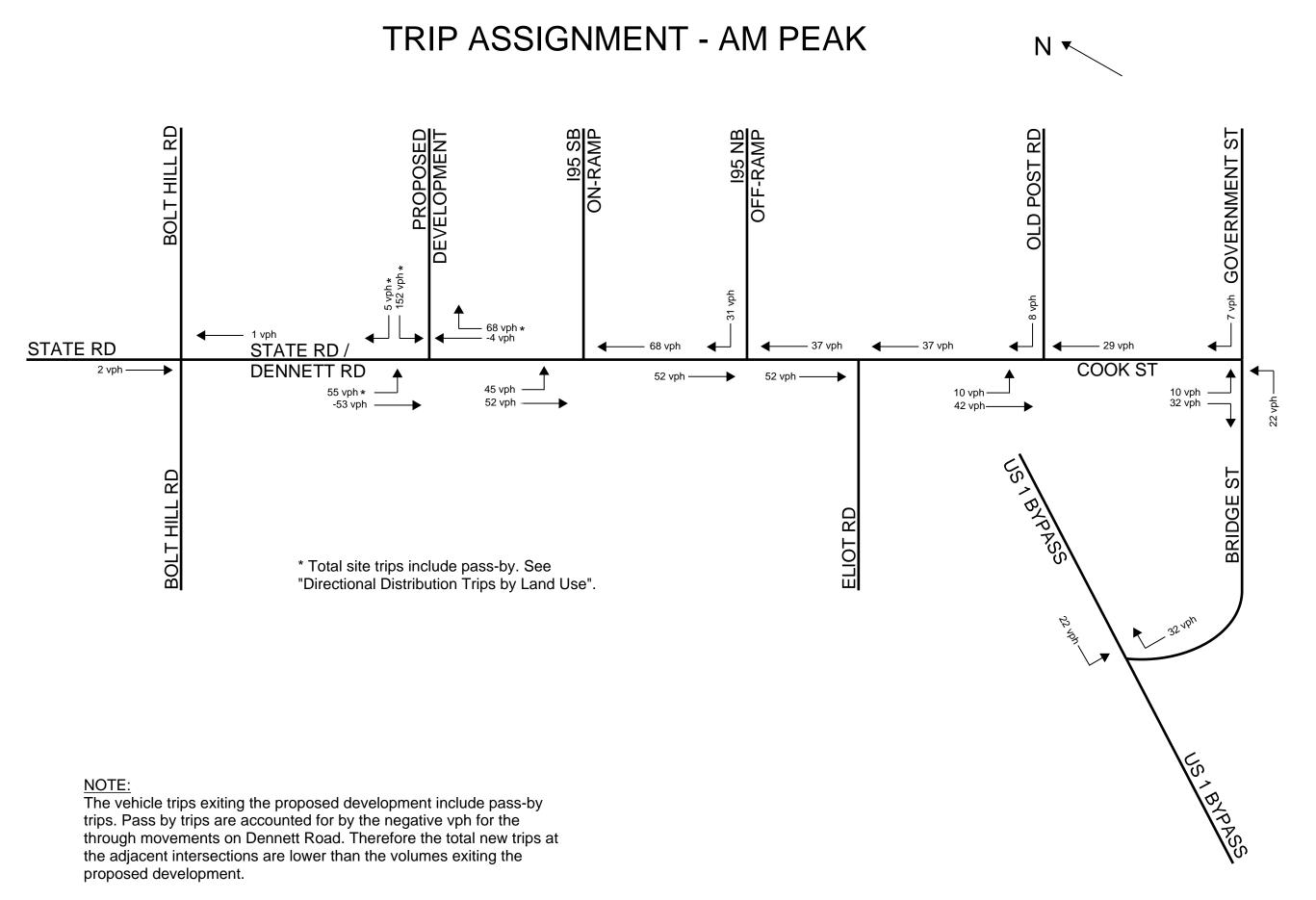
The 2010 Census Journey to Work Data was used to allocate trip assignments through the study area. The data provides the number of people traveling from Kittery to whichever city or town they work in. The majority of the destination towns are in Maine, New Hampshire, and Massachusetts. Some assumptions needed to be made on the route residents would take to reach their destination. Overall, residents destined for a New Hampshire or Massachusetts location would be expected to use the I95 on & off ramps adjacent to the proposed development. The few exceptions to this are the New Hampshire destinations of Dover, Rochester, and Somersworth. These drivers are anticipated to still mostly use the I95 ramps, but some may travel northwest on Dennett Road to reach Route 101 or 236 as a means to get to their destination. Similar but opposite, destinations within the state of Maine were primarily assumed to utilize Dennett Road east to Bridge Street and eventually the US 1 Bypass to travel north. The two exceptions to this were the Town of Eliot, which would be reached by traveling west on Dennett Road, and the Town of Kittery. It is estimated that 70% of the Kittery destination trips would still use the US 1 Bypass route to travel toward the outlets, and the remaining 30% would turn east onto Government Street, towards the Shipyard and the riverfront area. After applying these distributions to the census data, it was determined that the trips generated from the proposed development would be assigned as such: 3% travel Dennett Rd west of the development, 45% use the I95 ramps adjacent to the proposed development to travel south, 40% use US 1 Bypass to travel north, 12% take Government Street east.

The trip assignment results in a negligible impact at the intersection of State Road and Bolt Hill Road with a 3 vph increase during the AM peak, and 4 vph increase during the PM peak. The other intersections within the study area see more substantial increases ranging from 54 vph (US 1 Bypass / Bridge St during PM peak) to 166 vph (I95 SB on ramp during PM peak). Figures detailing the trip assignments through the study area can be found in this section.

# Trip Distributions Locus Map

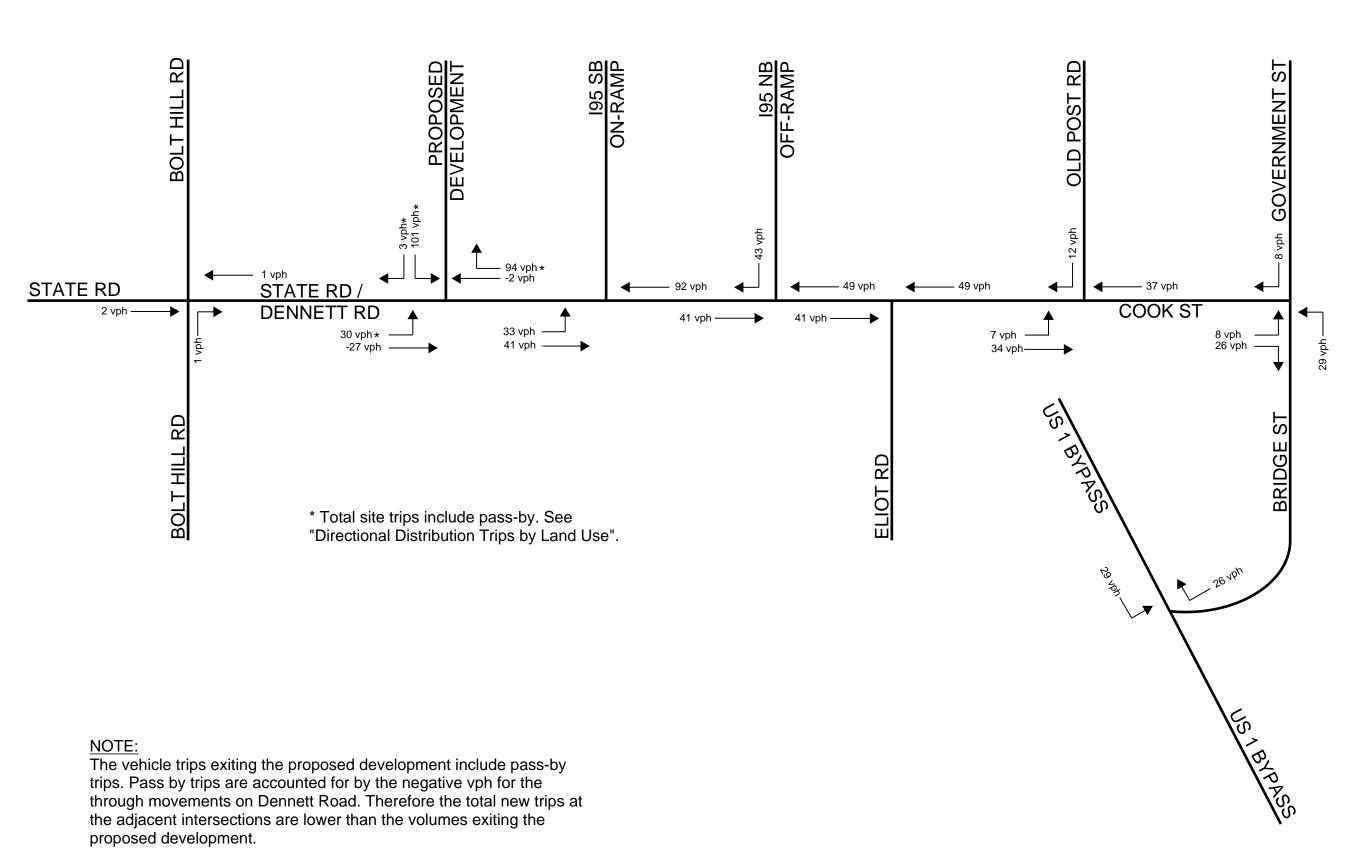


- A Proposed Development Entrance
- B State Road / Bolt Hill Road
- C Dennett Road / I95 SB On-Ramp
- D Dennett Road / I95 NB Off-Ramp
- E Dennett Road / Eliot Road
- F Dennett Road / Old Post Road
- G Cook Street / Bridge Street / Government Street
- H Bridge Street / US 1 Bypass



# TRIP ASSIGNMENT - PM PEAK





# SECTION 2 TRAFFIC CRASHES

# **Traffic Crashes**

The Maine Public Crash Query was used to investigate crashes in the vicinity of the proposed development. In total there were 38 crashes within the anticipated study area since 2016. The table below details these accidents. In summary, the three most prevalent crash types are Rear End / Sideswipe (34%), Intersection Movement (24%), and Went Off Road (21%). The Query did not identify any of these as high crash locations.

	Accident History Inventory							
Intersection		Date &						
or Segment	Location	Time	Туре	Severity				
		5/31/2019						
Segment	Bridge St 70' east of Old Post Rd	11:48	Other	Injury (non-fatal)				
	-	5/3/2019	Rear End /	Property Damage				
Intersection	Int. of Bridge St & Old Post Rd	5:19	Sideswipe	Only				
		4/1/2019	Rear End /					
Intersection	Int. of Bridge St & US 1 Bypass	15:01	Sideswipe	Injury (non-fatal)				
		3/4/2019		Property Damage				
Intersection	Int. of Bridge St & US 1 Bypass	4:42	Went off Road	Only				
	Dennett Rd 300' south of Old	1/12/2019		Property Damage				
Segment	Dennett Rd	16:04	Deer	Only				
	Int. of Dennett Rd & I95 NSB	12/12/201	Intersection	Property Damage				
Intersection	Off-Ramp	8 17:43	Movement	Only				
	Dennett Rd 70' south of Dennett	11/21/201						
Segment	Rd Ext	8 18:19	Went off Road	Injury (non-fatal)				
		10/20/201	Intersection					
Intersection	Int. of Bridge St & US 1 Bypass	8 11:39	Movement	Injury (non-fatal)				
		8/12/2018	Rear End /	Property Damage				
Intersection	Int. of Bridge St & US 1 Bypass	15:13	Sideswipe	Only				
		5/29/2018		Property Damage				
Intersection	Int. of Bridge St & US 1 Bypass	17:44	Went off Road	Only				
		5/14/2018	Rear End /	Property Damage				
Intersection	Int. of Bridge St & US 1 Bypass	17:54	Sideswipe	Only				
		4/27/2018	Intersection					
Intersection	Int. of Bridge St & US 1 Bypass	21:06	Movement	Injury (non-fatal)				
	Dennett Rd 150' south of Old	4/23/2018						
Segment	Dennett Rd	21:11	Went off Road	Injury (non-fatal)				
_	Dennett Rd 50' south of Estuary	4/8/2018		Property Damage				
Segment	Dr	4:55	Deer	Only				
	Int. of Cook St, Bridge St, &	3/22/2018	Rear End /	Property Damage				
Intersection	Government St	7:37	Sideswipe	Only				
	Dennett Rd 30' south of Sunset	1/2/2018	Rear End /					
Segment	Dr	7:50	Sideswipe	Injury (non-fatal)				
		10/23/201	0.1	Property Damage				
Intersection	Int. of Dennett Rd & Ranger Dr	7 19:53	Other	Only				
	Int. of Cook St, Bridge St, &	9/26/2017	Rear End /	Property Damage				
Intersection	Government St	7:05	Sideswipe	Only				

1		8/27/2017	Rear End /	Property Damage
Intersection	Int. of Dennett Rd & Ranger Dr	16:34	Sideswipe	Only
		8/24/2017	·	Property Damage
Segment	Dennett Rd at I95 Overpass	8:45	Other	Only
		8/9/2017	Intersection	Property Damage
Intersection	Int. of Leach Rd & Dennett Rd	15:16	Movement	Only
	Dennett Rd 70' south of I95 SB	8/7/2017		Property Damage
Segment	On-Ramp	13:45	Deer	Only
		5/6/2017		Property Damage
Segment	Old Post Rd at Sue's Seafood	6:35	Went off Road	Only
	Int. of Dennett Rd & I95 SB On-	4/11/2017	Head-on /	Property Damage
Intersection	Ramp	6:58	Sideswipe	Only
		3/9/2017	Rear End /	Property Damage
Intersection	Int. of Dennett Rd & S Eliot Rd	8:00	Sideswipe	Only
	Int. of Cook St, Bridge St, &	2/22/2017	Intersection	Property Damage
Intersection	Government St	21:52	Movement	Only
		11/7/2016	Intersection	Property Damage
Intersection	Int. of Dennett Rd & Ranger Dr	15:18	Movement	Only
		9/25/2016		
Segment	Old Post Rd at Sue's Seafood	16:32	Went off Road	Injury (non-fatal)
	Dennett Rd 50' north of Dennett	9/24/2016		
Segment	Rd Ext	1:06	Went off Road	Fatal
		9/18/2016		Property Damage
Intersection	Int. of Dennett Rd & S Eliot Rd	1:43	Rollover	Only
	Int. of Cook St, Bridge St, &	7/22/2016	Intersection	Property Damage
Intersection	Government St	15:15	Movement	Only
	Int. of Cook St, Bridge St, &	7/20/2016	Intersection	
Intersection	Government St	20:43	Movement	Injury (non-fatal)
	Int. of Dennett Rd & I95 NSB	6/3/2016	Rear End /	
Intersection	Off-Ramp	16:18	Sideswipe	Injury (non-fatal)
		5/26/2016	Rear End /	Property Damage
Intersection	Int. of Bridge St & US 1 Bypass	9:38	Sideswipe	Only
		4/21/2016	Intersection	Property Damage
Intersection	Int. of Bridge St & US 1 Bypass	9:38	Movement	Only
		4/4/2016		Property Damage
Intersection	Int. of Leach Rd & Dennett Rd	16:28	Went off Road	Only
	Int. of Dennett Rd & I95 NSB	3/8/2016	Rear End /	Property Damage
Intersection	Off-Ramp	14:30	Sideswipe	Only
		2/29/2016	Rear End /	Property Damage
Intersection	Int. of Bridge St & US 1 Bypass	11:32	Sideswipe	Only

# SECTION 3 DEVELOPMENT ENTRANCES & EXITS

# **Development Entrances & Exits**

The proposed development will create one tee intersection with Dennett Road, centered approximately 365' (0.07 miles) northerly of the I95 SB On-Ramp. The entrance road is proposed as a 24' wide paved drive flared at Dennett Road with 25 foot radii with granite curbing, and a 5 foot concrete sidewalk northward from the entrance road.

# SECTION 4 TITLE, RIGHT, OR INTEREST

### AGREEMENT FOR PURCHASE OF REAL PROPERTY

### 1. PARTIES:

The parties to this Agreement are Sail Away, LLC and William J. Cullen, (Sellers), and Aztec, LLC, Buyer.

### 2. PROPERTY:

The Property that is the subject of this Agreement consists of two parcels of land consisting of 14 acres more or less located on Dennett Road, Kittery, Maine shown on Map 6, as Lot 15-B & Map 13 as Lot 4 on the tax maps of the Town of Kittery.

### 3. AGREEMENT TO PURCHASE:

Buyers agrees to purchase from the Sellers and the Sellers agrees to sell to Buyer the Property under the terms and conditions set forth below.

### 4. PRICE:

The purchase price of the Property is dollars

The price shall be paid as follows:

- Deposit of upon execution of this agreement which deposit shall be released to Sellers and shall be non-refundable regardless of any approvals the Buyer may or may not obtain from the Town of Kittery. The Deposit shall be refundable only in the event of inability of Sellers to deliver marketable title, or there are hazardous materials/substances on the Property that reasonably present a material impediment to Buyers' development that are not remediated as provided below
- Balance of the purchase price of hall be paid at closing.

### 5. TRANSFER OF PROPERTY:

- a. DEED: Marketable title shall be transferred to the Buyer by Warranty Deed free of any liens or encumbrances.
- b. TIME: Transfer of title shall take place 60 days after approvals are obtained from the Kittery Planning Board providing no appeal has been filed from the decision. If an appeal is filed, closing shall take place 30 days after issuance of any appeal decision which is final and binding on the parties. If an appeal results in remand to the Planning Board, the above time for

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closing shall apply to any new Planning Board decision and appeal.

c. PRO-RATIONS/WITHHOLDING: Taxes, and other customary items shall be pro-rated as of the date of transfer of title. SELLERS and BUYER acknowledge that Maine Law requires that if the purchase price exceeds \$50,000 it is BUYER'S responsibility to withhold and transmit to the State Tax Assessor a percentage of the purchase price unless SELLERS furnishes either the required affidavit that SELLERS is a Maine resident as of the date of closing, or a State Tax Assessor's Exemption form, if SELLERS is a non-resident.

### 6. CONDITIONS/CONTINGENCIES:

- a. Purchase by Buyer is contingent upon Buyer obtaining approvals for construction of a 150 unit apartment/condominium complex on the Property. In the event that Buyers obtain approval for less than 150, the purchase price shall be reduced to
- b. Marketable title. If Buyer desires an examination of title, it shall be done at Buyer's expense. Buyer shall complete examination of title and notify Sellers in writing of any defects in title no later than 90 days prior to closing, time being of the essence. Any title defect which could have been discovered in the exercise of reasonable diligence which is not noticed to Sellers as provided above, is deemed waived. In the event of notice of a title defect, Sellers shall take reasonable steps to cure the defect provided that the cost to cure the defect does not exceed \$10,000.00. In the event that Sellers cannot deliver marketable title to Buyer after reasonable efforts to clear title on or before 180 days after notification, Buyer may terminate this agreement, the nonrefundable deposit shall be returned to Buyer and both parties shall be released from their obligations under this Agreement.
- c. Application for approval to the Kittery Planning Board shall be made within 60 days of execution of this Agreement and Buyer shall diligently and expeditiously pursue approvals with the Town of Kittery. Sellers shall cooperate with Buyers regarding the approval process but Sellers shall have no obligation for any expenditures related to the approval process nor to make any commitments to the Town related to any approvals requested or obtained.
- d. Prior to Buyers doing any investigation or due diligence work on the Property, Buyers shall obtain liability insurance with limits of no less than \$1,000.000.00 naming Sellers as additional insureds. Buyer shall hold Sellers harmless from any and all claims that may arise resulting from any action Buyer or any of Buyer's agents, servants, employees or independent contractors hired by Buyer may take on the Property prior to closing.
- e. Buyer may conduct any testing for hazardous substances on the Property at Buyer's expense. Buyer shall indemnify Sellers from any claims associated with hazardous substances that may be deposited on the property resulting from any investigation or work done by Buyer, Buyer's agents, servants, employees or independent contractors employed



by Buyer during the approval process. In the event that any hazardous material/substance is discovered, which material/substance is a material impediment to Buyers development of the Property, Sellers shall have a reasonable opportunity to remove/remediate the condition and upon receipt of a report from an environmental engineering firm that the remediation is complete, this continency shall be deemed satisfied.

### 7. DEFAULT:

- a. Default If Buyer shall default in the performance of its obligations under this agreement, Sellers shall be entitled all legal remedies and any additional due diligence engineering work and any approvals granted shall be assigned to Sellers.
- b. In the event that Sellers fail or refuse to convey the property, Buyer may obtain an order from the court for specific performance. In the event, and only in the event, that:
  - 1) the title to the property is deemed not marketable and Sellers fail to provide a reasonable cure for the title defect, or
  - 2) Hazardous substances on the Property cannot be remediated as referred to ¶6.e.

Buyer may withdraw from this agreement, the deposit shall be refunded, and the parties shall have no further obligation to each other.

- 8. FINANCING CONTINGENCY: There is no financing contingency.
- 9. SELLERS/BUYER REPRESENTATIONS.

Sellers and Buyer acknowledge that no party has been influenced to enter into this transaction by, nor has any party relied upon any statements, warranties or representations not set forth or incorporated by reference in this Agreement. Sellers have provided information on the Property to the Buyers in the form of plans, surveys, wetlands information, etc. produced by third parties. Sellers make no representations as to the validity or accuracy of any information provided. Buyers acknowledge that they are evaluating such information themselves and are not relying upon any representations from the Sellers as to such information.

### 10. REAL ESTATE BROKER.

Sellers and Buyer represent and warrant each to the other that there are no real estate agents or brokers involved in this transaction, nor is there any real estate commission due to any person on the sale of this property.

### 11. ENTIRE AGREEMENT:

The provisions of this Agreement represent the entire understanding between the parties and all representations, statements and understandings made between the parties prior to execution of

we so

this document are merged in this Agreement. Each party has entered into this Agreement after opportunity for investigation and after having the opportunity to consult an attorney and neither party is relying upon any representations, statements or understandings not contained in this Agreement.

IN WITNESS WHEREOF the parties have executed this Agreement on the dates set forth next to their signatures.

Aztec, LLC

BY:

Jason 6. How, far.

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Sail Away, LLO

BY:

Day une day of many and day of many and

4/17/19 Date

Witness

17/19 Wil

William J. Cullen Nur

### PURCHASE AND SALE AGREEMENT

(70 Dennett Road, Kittery)

AGREEMENT is and entered into this day by and between PISCATAQUA REALTY, LLC, a Maine limited liability company ("Seller") and AZTEC, LLC, a Maine limited liability company ("Buyer"). In consideration of the mutual covenants contained herein, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree to purchase and sell the property all as set forth below:

- 1. **PROPERTY**: Seller agrees to sell to Buyer, and Buyer agrees to purchase, a certain lot or parcel of land, with any improvements thereon, located at 70 Dennett Road, in the Town of Kittery, County of York, State of Maine so called, as generally described in Town of Kittery Maine Assessor's Tax Map 6, Lot 16(A), the said parcel being more particularly described in a deed dated April 9, 2002, and recorded with the York County Registry of Deeds in Book 11537, Page 105 ("Premises"). Buyer's obligation to purchase, and Seller's obligation to sell depend on satisfactory completion of the terms of this Agreement.
- 2. **PURCHASE PRICE**: The total purchase price for the Premises is for and other good and valuable consideration to be transferred at closing, equal at least to assessed value.
- 3. CLOSING: Closing shall take place within 60 days after all necessary Town of Kittery approvals have been granted (such time period running from the end of any challenge or appeal period for such approvals), all at the Law Offices of Bergen & Parkinson, LLC, at 62 Portland Road, Kennebunk, Maine. At closing, Seller shall convey the Premises to Buyer in fee simple with good and marketable title by Quitclaim Deed. Buyer shall pay the balance of the Purchase Price simultaneously with the delivery of the Deed.
- 4. **BROKERAGE**: Seller and Buyer represent and warrant to each other that neither party has engaged the services of a real estate broker with respect to this transaction but if a claim is asserted for the same, the party who so engaged a broker agrees to be responsible to pay any such commission and to indemnify and hold the other harmless as to such commission.
- 5. PURCHASE CONTINGENT UPON MUNICIPAL APPROVALS: As a condition of Buyer's obligation to close on its purchase of the Premises, Seller and Buyer agree that Buyer is entitled to first obtain municipal, state, or federal approvals necessary to develop the project to be proposed before the Town of Kittery. Seller and Buyer agree that the number and scope of approvals is solely at Buyer's discretion, and Seller agrees that Buyer has eighteen months within which to complete the same.
- 6. MISCELLANIOUS: (a) Seller warrants that they have full authority to enter into and perform all obligations pursuant to this Agreement; (b) This Agreement is binding upon heirs, successors in interests and assigns of the parties; (c) Time is of the essence; (d) Parties agree to mediate any dispute arising from this transaction in the State of Maine; (e) Electronic signatures on this document shall be deemed to have the same effect as originals, and this Agreement may be executed in counterpart; (f) Photocopies or digitally scanned reproductions of the final, executed Agreement, whether in whole or in counterpart, shall be binding as if original; (g) This Agreement constitutes the entire understanding of the parties; (h) This agreement shall be governed by the

laws of the State of Maine, which courts shall hold exclusive jurisdiction hereover; (i) Seller and Buyer covenant that each has obtained, or knowingly chosen not to obtain professional advice prior to executing this Agreement.

IN WITNESS WHEREOF, the undersigned parties have hereunder set their hands and seals as of this 13' day of May, 2019.

Witness

PISCATAQUA REALTY, LLC

("Seller")

By: William J. Cullen, its Manager

Thereunto Duly Authorized

Witness

AZTEC, LLC ("Buyer")

By: William Wharff, its Agent &

Authorized Party

Thereunto Duly Authorized

# SECTION 5 PUBLIC OR PRIVATE RIGHTS-OF-WAY

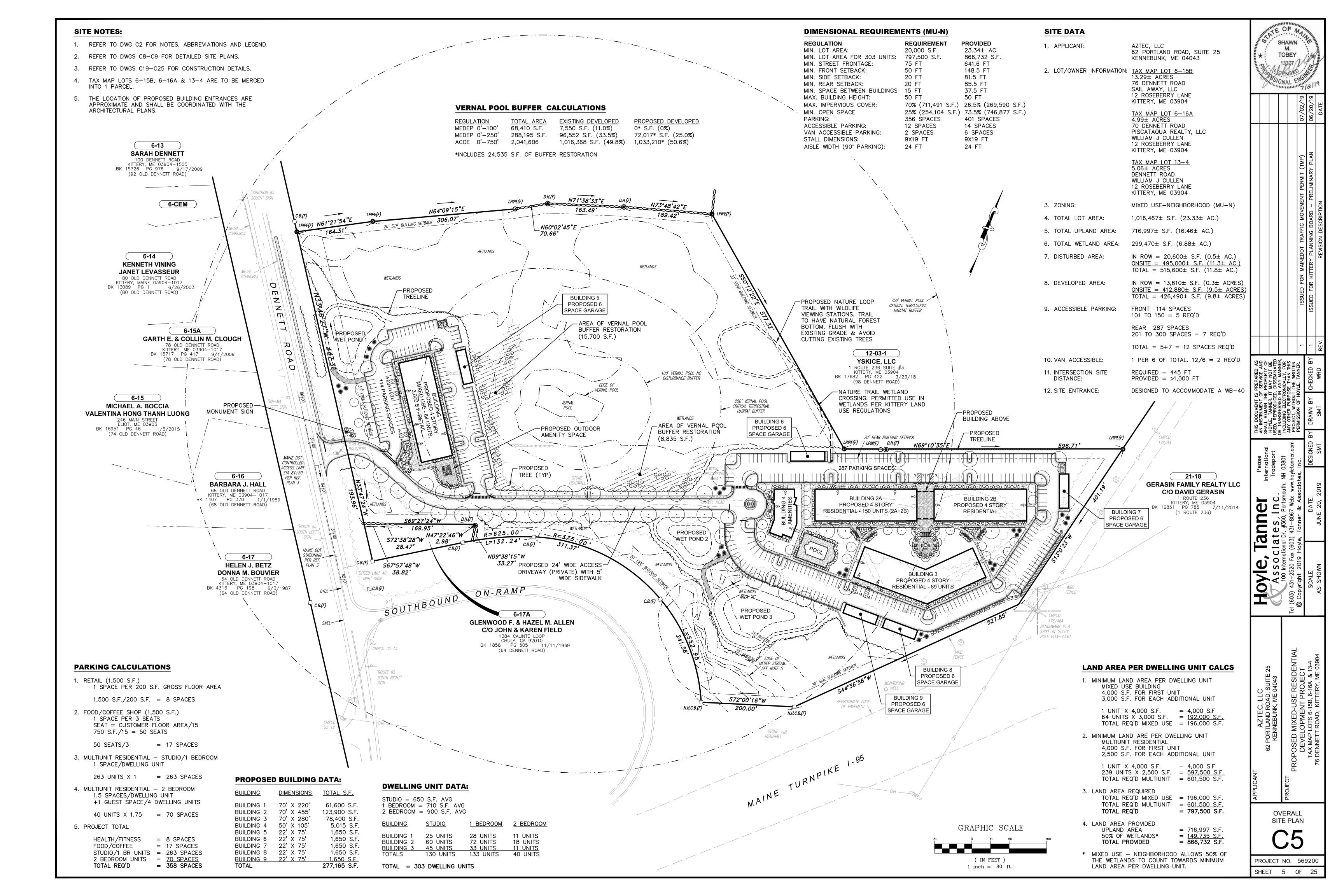
### Public or Private Rights-of-Way

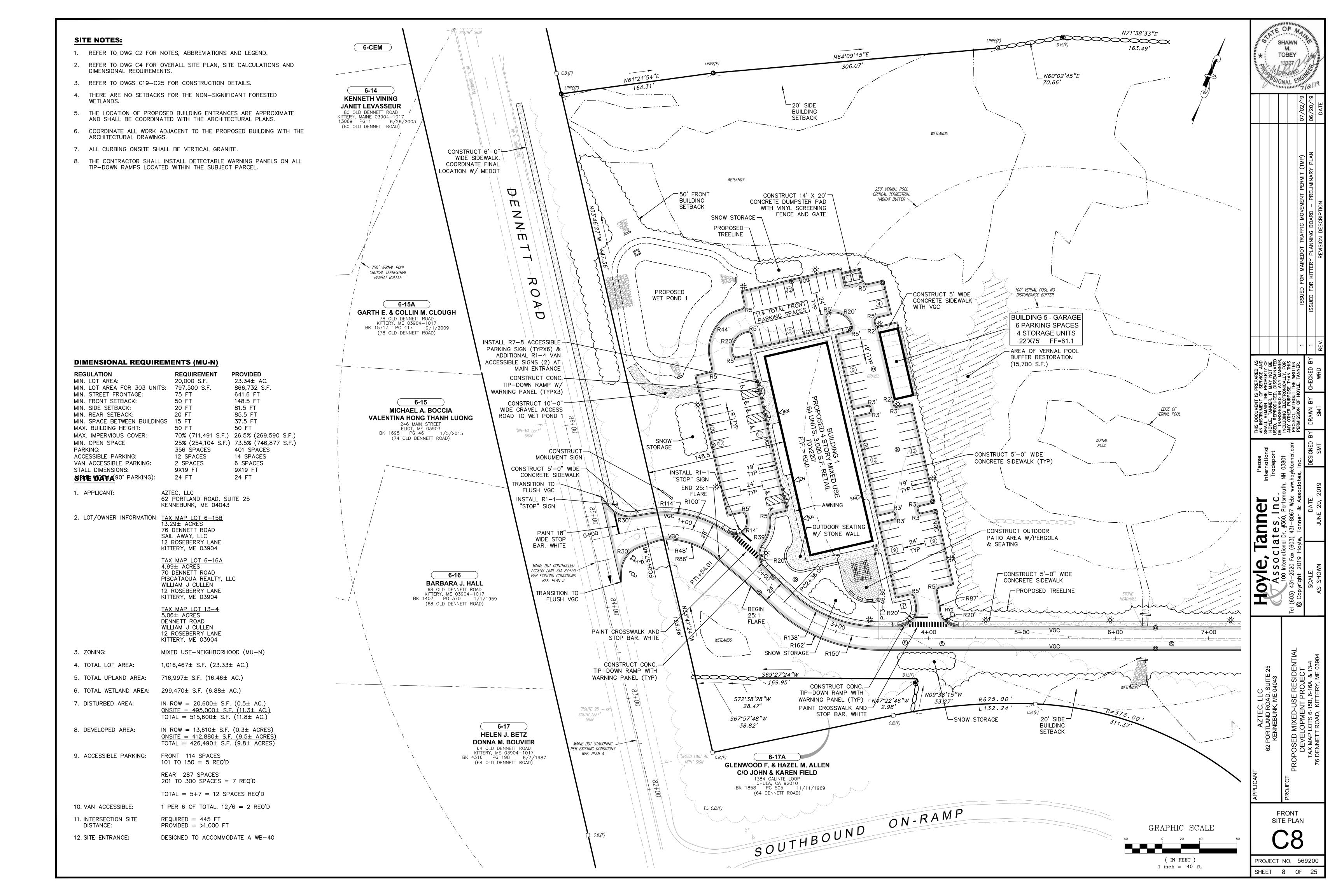
There are no public rights-of-way proposed within the development. The project abuts the Dennett Road right-of-way, immediately adjacent to the limit of the Maine DOT Controlled Access Right-of-Way associated with the I95 SB On-Ramp. No easements are anticipated for this project.

# SECTION 6 SCHEDULE

### Construction Schedule

The project is expected to begin construction in Spring 2020 and be completed in Summer 2021.





# SITE DEVELOPMENT PLANS

FOR A

# PROPOSED MIXED-USE RESIDENTIAL DEVELOPMENT PROJECT

76 DENNETT ROAD KITTERY, ME 03904

*APPLICANT* 

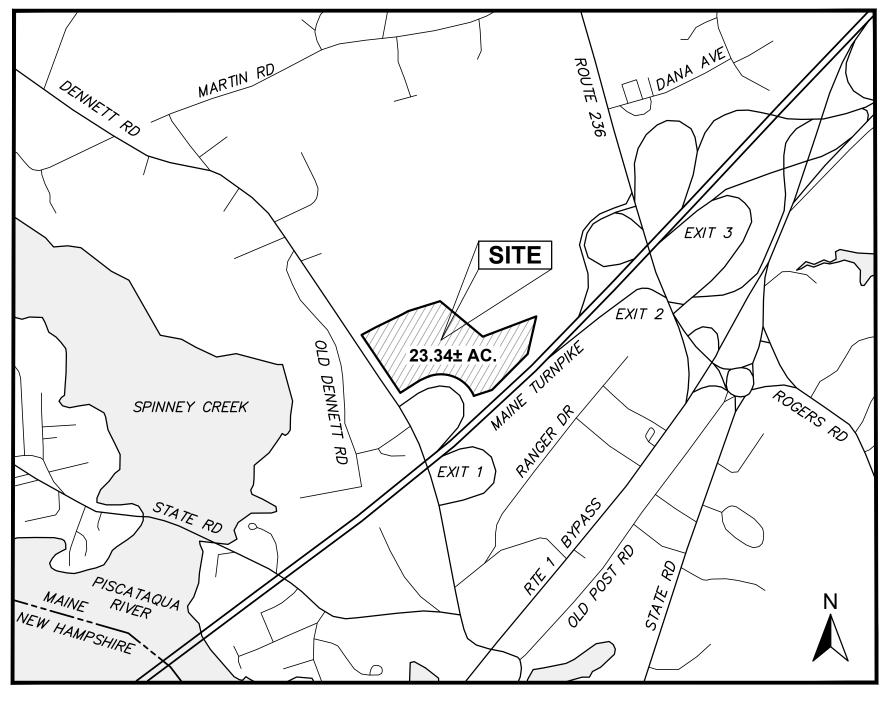
AZTEC, LLC **62 PORTLAND ROAD, SUITE 25 KENNEBUNK, ME 04043** 

**DATE: JULY 24, 2019** 

# **TOWN OF KITTERY, PLANNING BOARD** DATE

### LIST OF DRAWINGS

LIOI (	JF DKAN	MINGS
DWG#	SHEET#	DWG NAME
C1	1	TITLE SHEET
C2	2	NOTES, ABBREVIATIONS & LEGEND
C3	3	OVERALL EXISTING CONDITIONS PLAN
C4	4	HIGH INTENSITY SOIL MAP
C5	5	OVERALL SITE PLAN
C6	6	E. C. & HOUSEKEEPING PLAN - FRONT
C7	7	E. C. & HOUSEKEEPING PLAN - REAR
C8	8	SITE PLAN - FRONT
C9	9	SITE PLAN - REAR
C10	10	GRADING & DRAINAGE PLAN - FRONT
C11	11	GRADING & DRAINAGE PLAN - REAR
C12	12	ROADWAY PLAN & PROFILE
C13	13	UTILITY PLAN - FRONT
C14	14	UTILITY PLAN - REAR
C15	15	LIGHTING PLAN - FRONT
C16	16	LIGHTING PLAN - REAR
C17	17	LANDSCAPING PLAN - FRONT
C18	18	LANDSCAPING PLAN - REAR
C19	19	CONSTRUCTION DETAILS 1
C20	20	CONSTRUCTION DETAILS 2
C21	21	CONSTRUCTION DETAILS 3
C22	22	CONSTRUCTION DETAILS 4
C23	23	CONSTRUCTION DETAILS 5
C24	24	CONSTRUCTION DETAILS 6
C25	25	CONSTRUCTION DETAILS 7



**LOCUS MAP** 

1" = 1000'

ISSUED FOR PLANNING BOARD REVIEW NOT FOR CONSTRUCTION

### **UTILITY CONTACTS:**

**WATER SERVICE:** 

# KITTERY WATER DISTRICT

17 STATE ROAD KITTERY, ME 03904 CONTACT: MICHAEL ROGERS (207) 439-1128

# FIRE DEPARTMENT:

KITTERY FIRE DEPARTMENT KITTERY SEWER DEPTARTMENT 3 GORGES ROAD 18 DENNETT ROAD ROAD KITTERY, ME 03904 KITTERY, ME 03904 CONTACT: DAVID O'BRIEN CONTACT: TIM BABKIRK (207) 439-2262

# **SEWER SERVICE:**

(207) 439-4646

### STORMWATER / ROW:

KITTERY PUBLIC WORKS 200 ROGERS ROAD KITTERY, ME 03904 CONTACT: JESSA KELLOGG (207) 475-1321

### **ELECTRIC SERVICE:**

CENTRAL MAINE POWER COMPANY 83 EDISON DRIVE AUGUSTA, ME 04330 CONTACT: VAN HOBGOOD (800) 750-4000

FAIRPOINT COMMUNICATIONS 1575 GREENLAND ROAD GREENLAND, NH 03840 **CONTACT: JOE CONSIDINE** 

(603) 427-5525

### **TELECOMMUNICATIONS:**

**OWNER:** 

SAIL AWAY, LLC

**APPLICANT:** 

13.29± ACRES

**76 DENNETT ROAD** 

KITTERY, ME 03904

12 ROSEBERRY LANE

**PROJECT TEAM:** 

PORTSMOUTH, NH 03801

ATTN: SHAWN TOBEY

LAWRENCE, MA 01843

ATTN: NICK GRIFFIN

(603) 431-2520

**ARCHITECT** 

(978) 989-9900

**SURVEYOR** 

206 ELM STREET

(603) 672-5456

(603) 926-6049

MILFORD, NH 03055

VISUAL LIGHT, INC.

HAMPTON, NH 03842

ATTN: SCOTT DROUIN

ATTN: MICHAEL PLOOF

**LIGHTING DESIGN** 

24 STICKNEY TERRACE, SUITE 6

**HOYLE, TANNER & ASSOCIATES** 

100 INTERNATIONAL DRIVE, SUITE 360

370 MERRIMACK STREET, SUITE 337

FIELDSTONE LAND CONSULTANTS, PLLC

**CIVIL ENGINEER** 

SAIL AWAY, LLC

PISCATAQUA REALTY, LLC

62 PORTLAND ROAD, SUITE 25

**PARCEL INFORMATION:** 

TAX MAP LOT 6-15B TAX MAP LOT 6-16A

4.99± ACRES

70 DENNETT ROAD

WILLIAM J CULLEN

12 ROSEBERRY LANE

KITTERY, ME 03904

PISCATAQUA REALTY, LLC

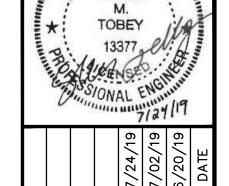
**TRAFFIC** 

(603) 431-2520

**UNITIL ME GAS OPERATIONS** PORTLAND, ME 04103 CONTACT: SCOTT CARPENTER

# **GAS SERVICE:**

376 RIVERSIDE INDUSTRIAL PARKWAY (207) 541-2543



3 ISSUED FOR KITTERY PLANNING BOARD — PRELIMINARY PLAN APPROVAL 07/24/19 1 ISSUED FOR MAINEDOT TRAFFIC MOVEMENT PERMIT (TMP) 07/02/19 1 ISSUED FOR KITTERY PLANNING BOARD — PRELIMINARY PLAN 06/20/19 REV. DATE			7	100	* *	
ISSUED FOR KITTERY PLANNING BOARD — PRELIMINARY PLAN APPROVAL ISSUED FOR MAINEDOT TRAFFIC MOVEMENT PERMIT (TMP) ISSUED FOR KITTERY PLANNING BOARD — PRELIMINARY PLAN REVISION DESCRIPTION			07/24/19	07/02/19	06/20/19	DATE
2 1 1 REV.				ISSUED FOR MAINEDOT TRAFFIC MOVEMENT PERMIT (TMP)	ISSUED FOR KITTERY PLANNING BOARD — PRELIMINARY PLAN	REVISION DESCRIPTION
			3	2	1	REV.

# Fanner lates, Inc.

# (603) © Cop

TITLE SHEET

PROJECT NO. 569200 SHEET 1 OF 25

CONTACT DIG SAFE 72 HOURS PRIOR TO CONSTRUCTION DIGSAFE.COM

5.06± ACRES

HOYLE, TANNER & ASSOCIATES

PORTSMOUTH, NH 03801

TRAFFIC COUNTS

FRAMINGHAM, MA 01702

**46 MORTON STREET** 

ATTN: SCOTT PETTY

(508) 875-0100

135 RIVER ROAD

(207) 837-2199

**JOSEPH NOEL** 

(207) 384-5587

P.O. BOX 174

WOOLWICH, ME 04579

**CONTACT: LISA VICKERS** 

SOUTH BERWICK, ME 03908

**CONTACT: JOSEPH NOEL** 

**DIAL** 811

ATTN: JACOB SPARKOWICH

100 INTERNATIONAL DRIVE, SUITE 360

PRECISION DATA INDUSTRIES, LLC

WETLAND PERMITTING

ATLANTIC ENVIRONMENTAL, LLC

WETLANDS/SOIL MAPPING

DENNETT ROAD

WILLIAM J CULLEN

KITTERY, ME 03904

12 ROSEBERRY LANE

### **GENERAL NOTES:**

- 1. THE BOUNDARY, SURFACE FEATURES AND TOPOGRAPHY ARE THE RESULT OF AN ON THE GROUND SURVEY CONDUCTED DURING THE MONTH OF APRIL 2019 BY FIELDSTONE LAND CONSULTANTS, PLLC. SEE DWG C3 FOR ADDITIONAL EXISTING CONDITIONS INFORMATION REGARDING THE WETLANDS, VERNAL POOL AND STREAM.
- THIS PROJECT IS TO BE CONSTRUCTED TO THE TYPICAL SECTIONS AND DETAILS SHOWN ON THE PLANS, AND SHALL MEET THE STANDARDS OF THE TOWN OF KITTERY, MAINE DEP AND MAINE DOT.
- THIS PROJECT SHALL CONFORM TO ALL REQUIREMENTS SET FORTH IN THE MAINE DEP SITE LOCATION OF DEVELOPMENT LAW PERMIT.
- 4. ALL WORK WITHIN THE STATE RIGHT-OF-WAY SHALL CONFORM TO ALL REQUIREMENTS SET FORTH IN THE MAINE DOT TRAFFIC MOVEMENT PERMIT FOR THE PROJECT.
- THE UNDERGROUND UTILITIES SHOWN HAVE BEEN COMPILED IN PART FROM PLANS OF RECORD AND FIELD LOCATION. THE LOCATION OF UNDERGROUND UTILITIES SHOULD BE CONSIDERED APPROXIMATE.
- THE CONTRACTOR SHALL VERIFY AND DETERMINE THE LOCATION, SIZE, AND ELEVATION OF ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN ON THESE PLANS PRIOR TO THE START OF ANY CONSTRUCTION. THE CONTRACTOR SHALL LOCATE THE UTILITIES SHOWN AND THE POSSIBLE EXISTENCE OF OTHER UNDERGROUND UTILITIES BY PROVIDING OBSERVATION TEST PITS. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY UTILITIES FOUND INTERFERING WITH THE PROPOSED CONSTRUCTION AND APPROPRIATE REMEDIAL ACTION SHALL BE AGREED TO BY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT "DIGSAFE" (DIAL 811) AND THE TOWN OF KITTERY AT LEAST 72 HOURS BEFORE DIGGING.
- WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. THE CONTRACTOR SHALL USE CAUTION WHEN SCALING REPRODUCED PLANS. IN CASE OF CONFLICT BETWEEN THIS PLAN SET AND ANY OTHER DRAWING AND/OR SPECIFICATION, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR CLARIFICATIONS.
- WHEN PREPARING THE EXISTING SITE FOR THE PROPOSED DEVELOPMENT, ALL MATERIALS REMOVED SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL GOVERNING AGENCIES.
- 9. THE CONTRACTOR SHALL PERFORM ALL THE CLEARING AND GRUBBING NECESSARY WITHIN THE CONSTRUCTION AREA, LIMITING THE AMOUNT OF CLEARING AND GRUBBING TO THE GREATEST EXTENT POSSIBLE.
- 10. CONTRACTOR SHALL MAKE EVERY ATTEMPT POSSIBLE TO SAVE EXISTING TREES AND MINIMIZE DAMAGE TO TREES ADJACENT TO CONSTRUCTION LIMITS DURING CONSTRUCTION.
- 11. DURING CONSTRUCTION THERE SHALL BE NO DISTURBANCES TO THE EXISTING WETLANDS, VERNAL POOL, CRITICAL TERRESTRIAL HABITAT OR THE 25' STREAM BUFFER EXCEPT FOR APPROVED PERMITTING DISTURBANCES OR AREAS OF HABITAT RESTORATION.
- 12. THE CONSTRACTOR SHALL PROTECT AND MAINTAIN EXISTING BENCHMARKS AND BOUNDS. ALL BENCHMARKS AND BOUNDS DISTURBED BY THE CONTRACTOR SHALL BE RE-ESTABLISHED BY A MAINE REGISTERED LAND SURVEYOR AT NO EXPENSE TO THE OWNER.
- 13. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ANY EXCAVATION SAFEGUARDS, NECESSARY BARRICADES, POLICE DETAILS, ETC., FOR TRAFFIC CONTROL AND SITE SAFETY. ALL EXCAVATIONS SHALL BE THOROUGHLY SECURED ON A DAILY BASIS BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION OPERATIONS.
- 14. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION AND FOR THE CONDITIONS OF THE SITE.
- 15. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL WORK IS DONE IN ACCORDANCE WITH OSHA REQUIREMENTS.
- 16. ALL DEWATERING MUST BE EXECUTED IN ACCORDANCE WITH MAINE DOT STANDARD SPECIFICATIONS. REGULATIONS PROHIBIT DISCHARGING GROUNDWATER TO A SANITARY OR COMBINED SEWER WITHOUT PERMISSION.
- 17. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL PRODUCTS (PIPE, CASTINGS, STRUCTURES, ETC.) TO THE INSPECTING ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND INSTALLATION.
- 18. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, TEMPORARY UTILITIES AND COORDINATION WITH ALL AGENCIES IN OBTAINING ACCESS TO THE SITE AND PERFORMING ALL WORK REQUIRED FOR THIS PROJECT.
- 19. THE CONTRACTOR SHALL FILE AND OBTAIN A NPDES CONSTRUCTION GENERAL PERMIT PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR THE PREPARATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO CONSTRUCTION.
- 20. COORDINATE ALL WORK ADJACENT TO THE PROPOSED BUILDINGS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
- 21. ALL PAVEMENT MARKINGS AND SIGNS SHALL CONFORM TO THE LATEST EDITIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AMERICANS WITH DISABILITIES (ADA) ACT, AND STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS.
- 22. ALL CURB SHALL BE VERTICAL GRANITE UNLESS OTHERWISE NOTED. 23. THE PROPOSED DRIVEWAY AND ACCESS ROAD TO THE REAR OF THE

SITE WILL BE A PRIVATE ROAD AND SHALL BE MAINTAINED BY THE

24. THERE SHALL BE NO ONSITE SALT STORAGE.

PROPERTY OWNER.

- 25. THE PROPOSED NATURE TRAIL SHALL BE FOR ONSITE RESIDENTS ONLY.
- 26. ALL PROPOSED SITE FEATURES SHALL BE LAID OUT IN THE FIELD USING SURVEY EQUIPMENT. AN AUTOCAD FILE OF THE EXISTING AND PROPOSED FEATURES WITH CONTROL POINTS WILL BE PROVIDED TO THE CONTRACTOR FOR CONSTRUCTION LAYOUT. THE LIMIT OF WORK SHALL BE CLEARLY MARKED IN THE FIELD BEFORE ANY WORK IS TO BEGIN ONSITE.
- 27. SYMBOLS AND LINETYPES MAY BE EXAGGERATED FOR CLARITY ON THESE DRAWINGS DUE TO THE SCALE. THE CONTRACTOR SHALL ADJUST ACCORDINGLY DURING CONSTRUCTION LAYOUT.

### **DRAINAGE NOTES:**

- THE STORM DRAINAGE SYSTEM SHALL BE CONSTRUCTED TO LINE AND GRADE AS SHOWN ON THE PLANS. ALL PIPE MATERIALS SHALL BE AS SPECIFIED ON THE PLANS. CONSTRUCTION METHODS SHALL CONFORM TO MAINE DOT STANDARD SPECIFICATIONS. CATCH BASINS AND DRAIN MANHOLES SHALL CONFORM TO SECTION 604.
- ALL CATCH BASIN FRAMES AND GRATES SHALL NEENAH R-3472 OR APPROVED EQUAL.
- PROPOSED RIM ELEVATIONS OF DRAINAGE MANHOLES AND CATCH BASINS ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH WITH FINISH GRADES.
- THE CONTRACTOR SHALL CONFIRM THE EXISTING GRADES AT THE OUTLET ELEVATIONS FOR ALL THREE WET PONDS PRIOR TO ANY POND CONSTRUCTION.
- THE CONTRACTOR SHALL CONFIRM THE ELEVATIONS FOR ALL DRAIN PIPE RUNS PRIOR TO ANY INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE FOR THE HANDLING OF EXISTING FLOWS FROM SERVICE CONNECTIONS AND MAINLINE PIPES. THE EXISTING DRAINS MAY HAVE ACTIVE FLOW AND THE CONTRACTOR SHALL MAINTAIN CONTINUOUS FLOW WITHOUT RESTRICTIONS.
- THE CONTRACTOR SHALL STABILIZE ANY AND ALL DITCHES, SWALES AND PONDS PRIOR TO DIRECTING STORMWATER RUN-OFF TO THEM.
- WHEN CONNECTING NEW PIPES TO EXISTING STRUCTURES SUCH AS MANHOLES AND CATCH BASINS, THE STRUCTURE SHALL BE COMPLETELY CLEANED OUT. THE HOLE MADE IN THE STRUCTURE SHALL BE AS SMALL AS NECESSARY. THE STRUCTURE SHALL BE REPAIRED TO MATCH ITS ORIGINAL TYPE OF CONSTRUCTION. THE JOINT BETWEEN THE STRUCTURE AND THE PIPE SHALL BE MADE WATERTIGHT BY FILLING THE JOINT WITH MORTAR.
- THE CONTRACTOR SHALL CLEAN THE ENTIRE STORMWATER SYSTEM OF ALL SEDIMENT AND DEBRIS, WITHIN THE LIMIT OF WORK UPON COMPLETION OF CONSTRUCTION.
- 10. ALL DRAIN PIPES SHALL HAVE A MINIMUM GROUND COVER OF 3'. IF THE REQUIRED COVER CANNOT BE OBTAINED, THE PROPOSED PIPE SHALL BE ADS N-12 DOUBLE WALLED HDPE OR APPROVED EQUAL. INSTALL 4" OF RIGID INSULATION ABOVE THE DRAIN LINE IF 3' COVER CANNOT BE OBTAINED.
- 11. ALL PROPOSED CATCH BASINS SHALL BE DEEP SUMP CATCH BASINS WITH 4' SUMPS.
- 12. THE PROPOSED STORMWATER SYSTEM AND WET PONDS SHALL BE MAINTAINED ACCORDING TO THE STORMWATER INSPECTION AND MAINTENANCE MANUAL PREPARED UNDER THE MAINE DEP SITE LOCATION OF DEVELOPMENT PERMIT. THE SYSTEM SHALL BE INSPECTED AT A MINIMUM IN THE SPRING AND FALL.
- 13. THE CONTRACTOR SHALL INSTALL PERIMETER FOOTING DRAINS AROUND ALL PROPOSED BUILDINGS. THE FOOTING DRAINS SHALL DRAIN TO DAYLIGHT OUTSIDE THE LIMITS OF PAVEMENT. SEE STRUCTURAL PLANS AND GEOTECHNICAL REPORT FOR PIPE SIZE AND INSTALLATION LOCATIONS.

### **EARTHWORK & GRADING NOTES:**

- 1. GRADE AWAY FROM BUILDING WALLS AT 2% MINIMUM (TYPICAL).
- 2. PROVIDE UNIFORM SLOPE BETWEEN CONTOURS AND/OR SPOT
- SPOT GRADES SHOWN ARE PAVEMENT ELEVATIONS AT THE CURBLINE UNLESS OTHERWISE NOTED.
- 4. ALL GRASSED AND LANDSCAPED AREAS INSIDE THE SIDEWALKS SHALL
- EARTH SLOPES SHALL BE NO STEEPER THAN 2:1

BE GRADED TO DRAIN TO THE PROPOSED CATCH BASINS.

- (HORIZONTAL: VERTICAL) AND SHALL BE FLATTER WHERE SHOWN.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ROOTS AND STUMPS FOR TREES THAT ARE REMOVED.
- GENERAL FILL BEYOND PAVED AREAS SHALL BE FREE OF BRUSH RUBBISH, STUMPS, AND STONES LARGER THAN 8". FILL SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 8" IN THICKNESS. THE DRY DENSITY AFTER COMPACTION SHALL NOT BE LESS THAN 95% OF THE STANDARD PROCTOR TEST AND DONE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D698.
- AFTER THE AREAS TO BE TOPSOILED HAVE BEEN BROUGHT TO GRADE. THE SUBGRADE SHALL BE LOOSENED BY SCARIFYING TO A DEPTH OF AT LEAST 2" TO ENSURE BONDING OF THE TOPSOIL AND SUBSOIL.
- FILL OR TOPSOIL SHALL NEITHER BE PLACED NOR COMPACTED WHILE IN A FROZEN OR MUDDY CONDITION OR WHILE SUBGRADE IS FROZEN.
- 10. FINISH PAVEMENT SURFACES AND LAWN AREAS SHALL BE FREE OF LOW SPOTS AND PONDING AREAS.
- 11. ALL AREAS DISTURBED BY THE CONTRACTOR'S OPERATIONS THAT DO NOT HAVE A SURFACE TREATMENT SPECIFICALLY SPECIFIED SHALL BE RESTORED TO A MINIMUM OF 4" OF SEEDED TOPSOIL, FERTILIZER, AND
- 12. THE CONTRACTOR SHALL COORDINATE ALL LEDGE REMOVAL WITH THE REQUIREMENTS SET FORTH IN THE MAINE DEP SITE LOCATION OF DEVELOPMENT PERMIT FOR THIS PROJECT.
- 13. THE CONTRACTOR SHALL SUBMIT STAMPED RETAINING WALL DESIGN PLANS FROM THE WALL MANUFACTURER TO THE INSPECTING ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.

### **EXTERIOR LIGHTS:**

- THE UNDERGROUND CONDUIT RUNS FOR THE PROPOSED LIGHT POLES IS NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL COORDINATE WITH THE ELECTRICAL DESIGNER FOR THE INSTALLATION LOCATIONS OF THE CONDUIT RUNS AND PULLBOXES.
- OUTSIDE LIGHTS MUST BE MADE UP OF A LIGHT SOURCE AND REFLECTOR SO THAT, ACTING TOGETHER, THE LIGHT BEAM IS CONTROLLED AND NOT DIRECTED ACROSS A PROPERTY LINE SO AS TO CONSTITUTE A NUISANCE.
- 3. ALL PROPOSED LIGHTING SHALL BE DARK SKY FRIENDLY.
- 4. COORDINATE LIGHT POLE BASE LOCATIONS WITH, CONDUIT ROUTING. CONDUIT SIZE AND POWER SUPPLY FOR SITE LIGHTING WITH ARCHITECTURAL AND ELECTRICAL DRAWINGS.

### **UTILITY NOTES:**

THE CONTRACTOR SHALL CONTACT ALL UTILITY COMPANIES OWNING UTILITIES, EITHER OVERHEAD OR UNDERGROUND, WITHIN THE CONSTRUCTION AREA AND SHALL COORDINATE WITH THE UTILITY COMPANIES FOR RELOCATING AND/OR SUPPORTING THEIR UTILITIES IN ACCORDANCE WITH THE SPECIFICATIONS.

- THE CONTRACTOR SHALL MAINTAIN UTILITY SERVICES TO EXISTING FACILITIES AT ALL TIMES. IF ANY DISRUPTION MUST OCCUR. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH FACILITY AT LEAST 72 HOURS IN ADVANCE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORATION OF EXISTING UTILITIES AND STRUCTURES DAMAGED OR REMOVED BY THE CONTRACTOR DURING THEIR OPERATIONS.
- THE CONTRACTOR SHALL COORDINATE MATERIALS AND INSTALLATION SPECIFICATIONS WITH THE INDIVIDUAL UTILITY AGENCIES/COMPANIES, AND ARRANGE FOR ALL INSPECTIONS.
- FINAL ELEVATIONS OF UTILITY STRUCTURES ARE TO BE SET FLUSH WITH FINISH GRADES. ADJUST ALL OTHER RIM ELEVATIONS OF MANHOLES, WATER GATES, GAS GATES, AND OTHER UTILITIES TO FINISHED GRADE WITHIN LIMITS OF WORK.
- DURING EXCAVATION. IT IS ANTICIPATED THAT EXISTING UTILITIES AND SEWERS WILL BE EXPOSED. THE CONTRACTOR SHALL PROVIDE PROTECTION AND SUPPORT OF THESE FACILITIES AND REPAIR ANY DAMAGE CAUSED BY THE WORK IN A MANNER SATISFACTORY TO THE OWNER.
- THE SEWER SYSTEM SHALL HAVE A MINIMUM GROUND COVER OF 4' WHEN CROSS COUNTRY AND A MINIMUM GROUND COVER OF 6' WHEN BENEATH PAVEMENT. IF THE REQUIRED MINIMUM AMOUNT OF COVER CANNOT BE OBTAINED, INSTALL 4" OF RIGID INSULATION ABOVE THE SEWER LINE.
- THE PROPOSED SEWER LINE FROM THE EXISTING SMH TO BUILDING WAS SIZED AND DESIGNED FOR A POSSIBLE FUTURE CONNECTION WITH MAP LOT 12-03-1. IF A FUTURE CONNECTION IS NOT ANTICIPATED. THE OWNER MAY REDUCE THE SIZE OF THE PIPE AND RAISE THE PROPOSED SEWER RUN WITH APPROVAL OF THE DESIGN ENGINEER.
- THE CONTRACTOR SHALL CONFIRM THE EXISTING SEWER MANHOLE TIE-IN INVERT AND THE ELEVATIONS FOR ALL SEWER PIPE RUNS PRIOR TO ANY INSTALLATION.
- 10. REFER TO PLANS TITLED "WATER MAIN DESIGN" BY KLEINFELDER DATED APRIL 2016, FOR WATER LINE INSTALLATION FROM RANGER DRIVE UP DENNETT ROAD TO THE ENTRANCE OF THE PROJECT SITE.
- 11. THE PROPOSED WATER LINE CONFIGURATION SHOWN ON THESE PLANS IS BASED ON DUCTILE IRON PIPE WITH 22.5° AND 45° BENDS. THE CONTRACTOR MAY SUBSTITUTE DUCTILE IRON PIPE FOR HDPE.
- 12. ALL ELECTRIC MATERIAL WORKMANSHIP SHALL CONFORM TO THE NATIONAL ELECTRIC CODE AS WELL AS STATE AND LOCAL CODES.
- 13. INSTALL NYLON PULL ROPES IN UNDERGROUND CONDUITS TO FACILITATE PULLING CABLES.
- 14. THE CONTRACTOR SHALL PROVIDE AND INSTALL ALL HANDHOLES FITTINGS, CONNECTORS, COVER PLATES, AND OTHER MISCELLANEOUS ITEMS NOT NECESSARILY DETAILED ON THESE DRAWINGS TO RENDER INSTALLATION OF UTILITIES COMPLETE AND OPERATIONAL
- 15. THE EXACT LOCATION, NUMBER, TYPE, AND SIZE OF NEW UTILITY SERVICES AND CONDUITS SHALL BE DETERMINED BY THE UTILITY
- 16. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ALL STATE AND LOCAL CODES.
- 20. CONTRACTOR TO COORDINATE UNDERGROUND ELECTRIC, INCLUDING BUT NOT LIMITED TO SIZE, LOCATION, MATERIAL, CONDUIT, AND HAND
- 21. ALL ON-SITE UTILITIES SHALL BE UNDERGROUND.
- 22. BACKFLOW PREVENTORS SHALL BE PROVIDED FOR BOTH FIRE AND DOMESTIC WATER LINES.
- 23. ALL FIRE PROTECTION FOR THE BUILDINGS SHALL BE COORDINATED WITH THE TOWN OF KITTERY FIRE DEPARTMENT AND STATE FIRE MARSHALL. REFER TO UTILITY PLANS FOR ADDITIONAL NOTES.

### **CONSTRUCTION SEQUENCE:**

- INSTALL SILT FENCE, MULCH BERMS AND CONSTRUCTION ENTRANCE AS SHOWN, PRIOR TO THE START OF ANY CONSTRUCTION.
- REMOVE AND DISPOSE OF EXISTING VEGETATION AS SHOWN.
- STRIP THE TOPSOIL AND STOCKPILE ONSITE. CONSTRUCT A SILT FENCE PERIMETER AROUND ALL STOCKPILES.
- 4. BLAST AND REMOVE LEDGE AS REQUIRED FOR BUILDING AND UTILITIES.
- 5. CONSTRUCT THE BUILDING FOOTINGS, FOUNDATION WALLS AND PLACE BACKFILL.
- CONSTRUCT AND STABILIZE CUT AND FILL SLOPES. APPLY TEMPORARY (OR PERMANENT) SEED AND MULCH WITHIN 72 HOURS OF THEIR CONSTRUCTION.
- 7. INSTALL ALL DRAINAGE, WATER, SEWER, ELECTRIC, TELECOM AND GAS UTILITIES.
- INSPECT AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES. MINIMIZE EXTENT AND DURATION OF EXPOSURE OF DISTURBED AREAS.
- CONSTRUCT THE BUILDINGS.
- 10. PLACE ROADWAY SELECTS AND INSTALL BINDER PAVING COURSE.
- 11. INSTALL VERTICAL GRANITE CURBING AND POUR CONCRETE SIDEWALKS.
- 12. INSTALL LANDSCAPE PLANTINGS.
- 13. INSTALL SCREENED LOAM (4" MIN.) ON ALL DISTURBED SURFACES AND APPLY PERMANENT SEEDING.
- 14. INSTALL FINISH PAVEMENT, PAVEMENT MARKINGS AND SIGNAGE.
- 15. REMOVE TRAPPED SEDIMENTS FROM COLLECTOR DEVICES AS APPROPRIATE AND THEN REMOVE TEMPORARY EROSION CONTROL MEASURES. CLEAN THE ENTIRE STORMWATER SYSTEM OF ALL SEDIMENT AND DEBRIS. WITHIN THE LIMIT OF WORK.

ABBREVIA	TIONS:		LEGEI	
ABAN	ABANDONED	EXISTING	PROPOSED	DESCRIPTION
AC ADJ	ASBESTOS CONCRETE ADJUST			PROPERTY LINE
APPROX	APPROXIMATE			RIGHT OF WAY BUILDING SETBACK
B= BC	BOTTOM= BOTTOM OF CURB			PARKING SETBACK
BERM BIT CONC	BITUMINOUS CONCRETE BERM BITUMINOUS CONCRETE		• A o	SURVEY MONUMENT
BLDG	BUILDING			EDGE OF PAVEMENT
BS BWLL	BOTTOM OF SLOPE BROKEN WHITE LANE LINE		CC	EDGE OF CONCRETE
BW CB	BOTTOM OF WALL CATCH BASIN	SGC	SGC	CONCRETE CURB SLOPED GRANITE CURB
CBRND	CATCH BASIN ROUND	<u>VGC</u>	VGC	VERTICAL GRANITE CURB
CBSQ CI	CATCH BASIN SQAURE CAST IRON			VERNAL POOL/STREAM
CICL CIP	CAST IRON CEMENT LINED CAST IN PLACE	<u> </u>		WETLANDS
Q Q	CENTER LINE	··		VERNAL POOL/STREAM BUFFER
CLF CMP	CHAIN LINK FENCE CORRUGATED METAL PIPE	<u> </u>		SAWCUT BUILDING
CO	CLEAN OUT	< EN	≪EN	BUILDING ENTRANCE
COL CONC	COLUMN CONCRETE	0	•	BOLLARD
CP CR	CONCRETE PIPE CONDENSATE RETURN	~~~ ×T~	~~~ ×DV	SIGN
DHW	DESIGN HIGH WATER			TREE
DI DICL	DUCTILE IRON DUCTILE IRON CEMENT LINED	SF	SF	FENCE SILT FENCE
DIA	DIAMETER	<b>→</b>	-√ <b>-&gt;</b>	DRAINAGE FLOW
DMH DWG	DRAIN MANHOLE DRAWING	>>	>>	SWALE
DYCL EL, ELEV	DOUBLE YELLOW CENTER LINE ELEVATION	98	<del></del> 98	MINOR CONTOUR
ELEC	ELECTRIC	— —100— —	100	MAJOR CONTOUR
EMH EXIST	ELECTRIC MANHOLE EXISTING	(10) SWL	① SWL	PARKING COUNT SINGLE WHITE LINE
FES	FLARED END SECTION	DYL	DYL	DOUBLE YELLOW LINE
FFE FM	FINISH FLOOR ELEVATION FORCE MAIN			STOP LINE
GC GG	GRANITE CURB GAS GATE			CROSSWALK
GM	GAS METER			ACCESSIBLE CURB RAMP
GR GW	GUARDRAIL GUY WIRE	<u> </u>	گِ	DETECTABLE WARNING PANEL
HDPE	HIGH DENSITY POLYETHYLENE	E. VAN	رطر کی VAN	ACCESSIBLE PARKING  VAN-ACCESSIBLE PARKING
HH HORIZ	HAND HOLE HORIZONTAL	× <sup>97.5</sup>	× <sup>97.5</sup>	SPOT ELEVATION
HR HVAC	HANDRAIL HEAT VENT AIR CONDITIONING	$\otimes$	•	KSAT TEST LOCATION
HYD	HYDRANT	28		TEST PIT LOCATION
INV I=	INVERT INVERT=			MONITORING WELL
IP	IRON PIPE	= = = = = = = = = = = = = = = = = = =	s	DRAIN
LP LS	LIGHT POLE LANDSCAPED	—— S ——	OHW	SEWER OVERHEAD WIRE
LT MC	LEFT METAL COVER	W	w	WATER
MAX	MAXIMUM	—— FP ———	—— FP ———	FIRE PROTECTION
MHW MIN	MEAN HIGH WATER MINIMUM	——— G ———	—— G ———	GAS
NO, # NTS	NUMBER NOT TO SCALE	—— UE ——— —— ST ———	- <del>-</del>	UNDERGROUND ELECTRIC STEAM
ocs	OUTLET CONTROL STRUCTURE	—— T ———	— T —	TELEPHONE
OH PB	OVERHANG PULL BOX	•	⊕ ⊞	CATCH BASIN
PERF PL	PERFORATED			DOUBLE CATCH BASIN
PROP	PLASTIC PROPOSED		<b>(D)</b>	DRAIN MANHOLE
PSI PVC	POUNDS PER SQUARE INCH POLYVINYL CHLORIDE	□ ○ <sup>CO</sup>	o <sup>co</sup>	PLUG OR CAP CLEANOUT
PVI	POST VALVE INDICATOR			HEADWALL
R= RCP	RIM= REINFORCED CONCRETE PIPE	<u>\$</u>	<b>S</b>	SEWER MANHOLE
RD (roo)	ROOF DRAIN RECORD	o <sup>WSO</sup>	o <sup>wso</sup>	WATER SHUT-OFF
(rec) RET	RETAINING	WV ⋈ TSV	×	WATER VALVE & BOX
RT SGC	RIGHT SLOPED GRANITE CURB	TSV O+> HYD =Q=	TSV ↔ HYD • <b>Ç</b> +	TAPPING SLEEVE, VALVE&BOX
SMH	SEWER MANHOLE	4	<b>-</b> <b>1</b> -1	FIRE HYDRANT THRUST BLOCK
SHWT SS	SEASONAL HIGH WATER TABLE SANITARY SEWER	PIV	oPIV	POST INDICATOR VALVE
ST STA	STEAM STATION	GV ⋈	GV ⋈	GAS GATE
STMH	STEAM MANHOLE	E	©	ELECTRIC MANHOLE
SW SWEL	SIDEWALK SOLID WHITE EDGE LINE	*	<b>•=</b>	LIGHT POLE
SWLL	SOLID WHITE LANE LINE	T ~	⊕ □	TRANSFORMER PAD UTILITY POLE
TC TCB	TOP OF CURB TRAFFIC CONTROL BOX	<u> </u>	<u>o</u>	GUY POLE
TEL TL	TELEPHONE TRAFFIC LIGHT	—(	<b>—</b>	GUY WIRE & ANCHOR
TMH	TELEPHONE MANHOLE	$\bigcirc$	lacktriangle	TELEPHONE MANHOLE
TRANS TS	TRANSFORMER TOP OF SLOPE			INLET PROTECTION
TW TYP	TOP OF WALL TYPICAL			STONE CHECK DAM
UP	UTILITY POLE		$\bowtie$	TREE TO BE REMOVED
VC VERT	VITRIFIED CLAY VERTICAL			STABILIZED CONSTRUCTION ENTRANCE
VGC	VERTICAL GRANITE CURB			STRUCTURE TO BE REMOVED
W WC	WATER WYE CONNECTION		·····	
WF WG	WETLAND FLAG WATER GATE			PAVEMENT TO BE REMOVED
WIP	WROUGHT IRON PIPE			BITUMINOUS CONCRETE PAVING
WM	WATER METER			CONCRETE
				PAVERS

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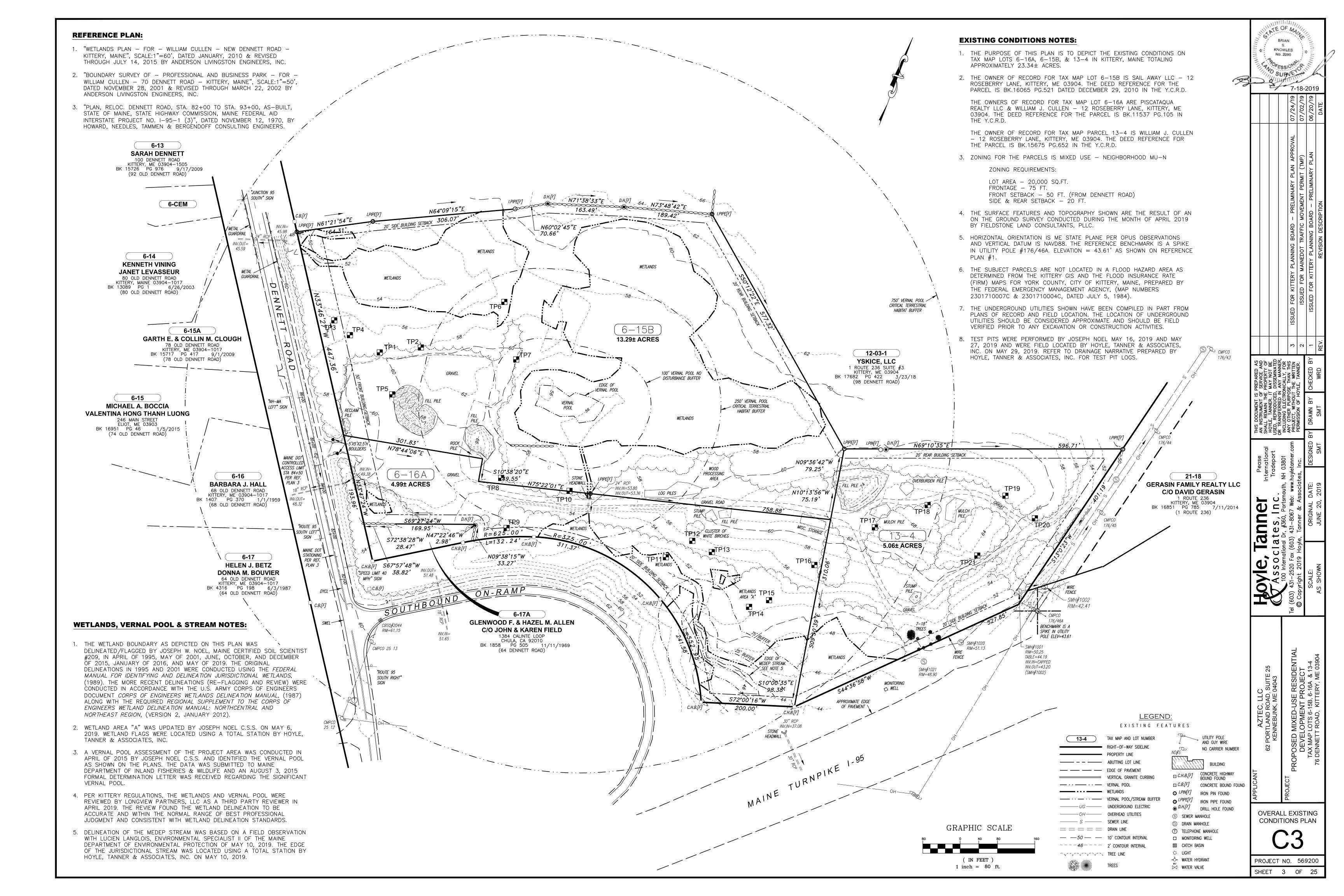
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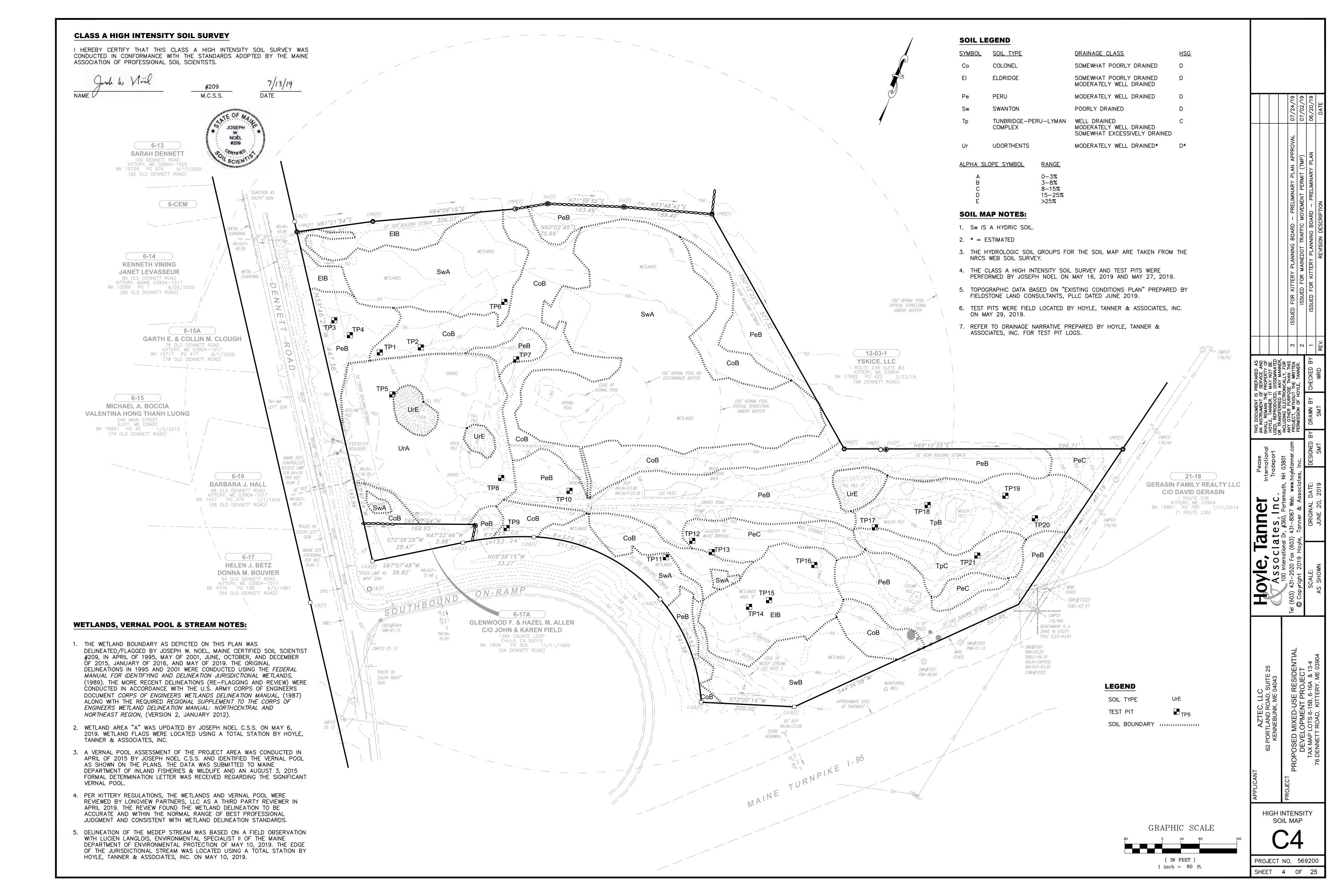
**ABBREVIATIONS** 

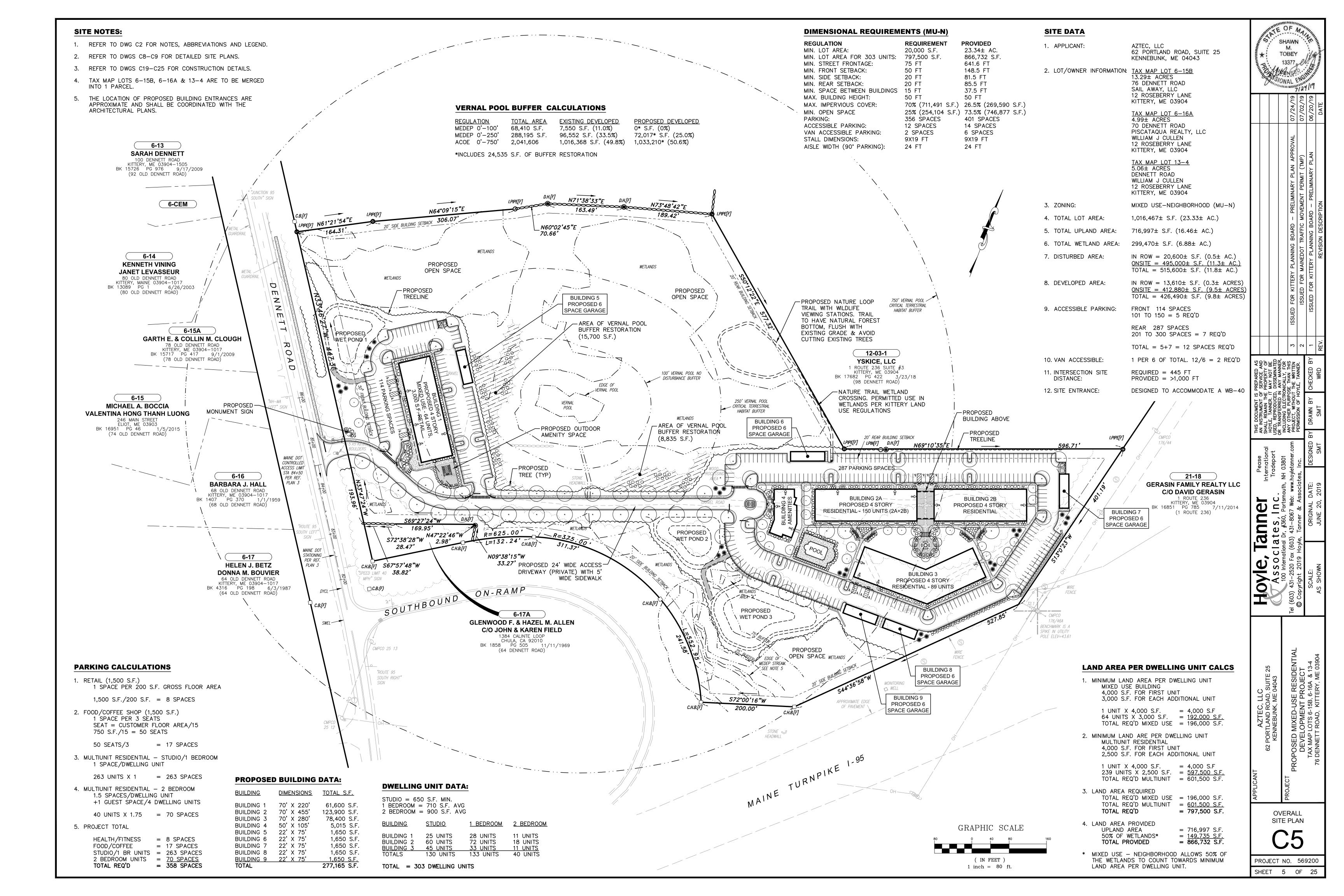
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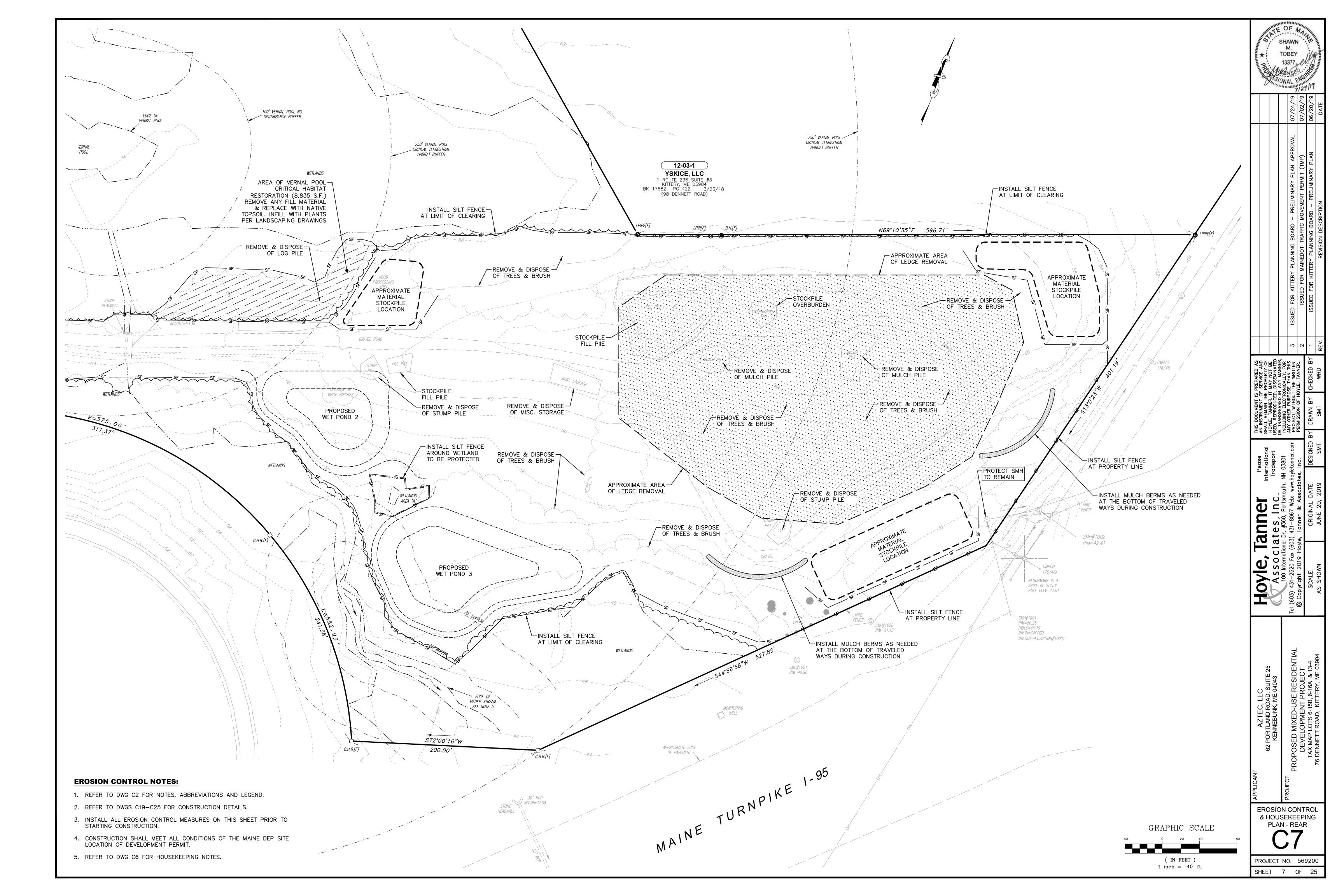
SHEET 2 OF 25

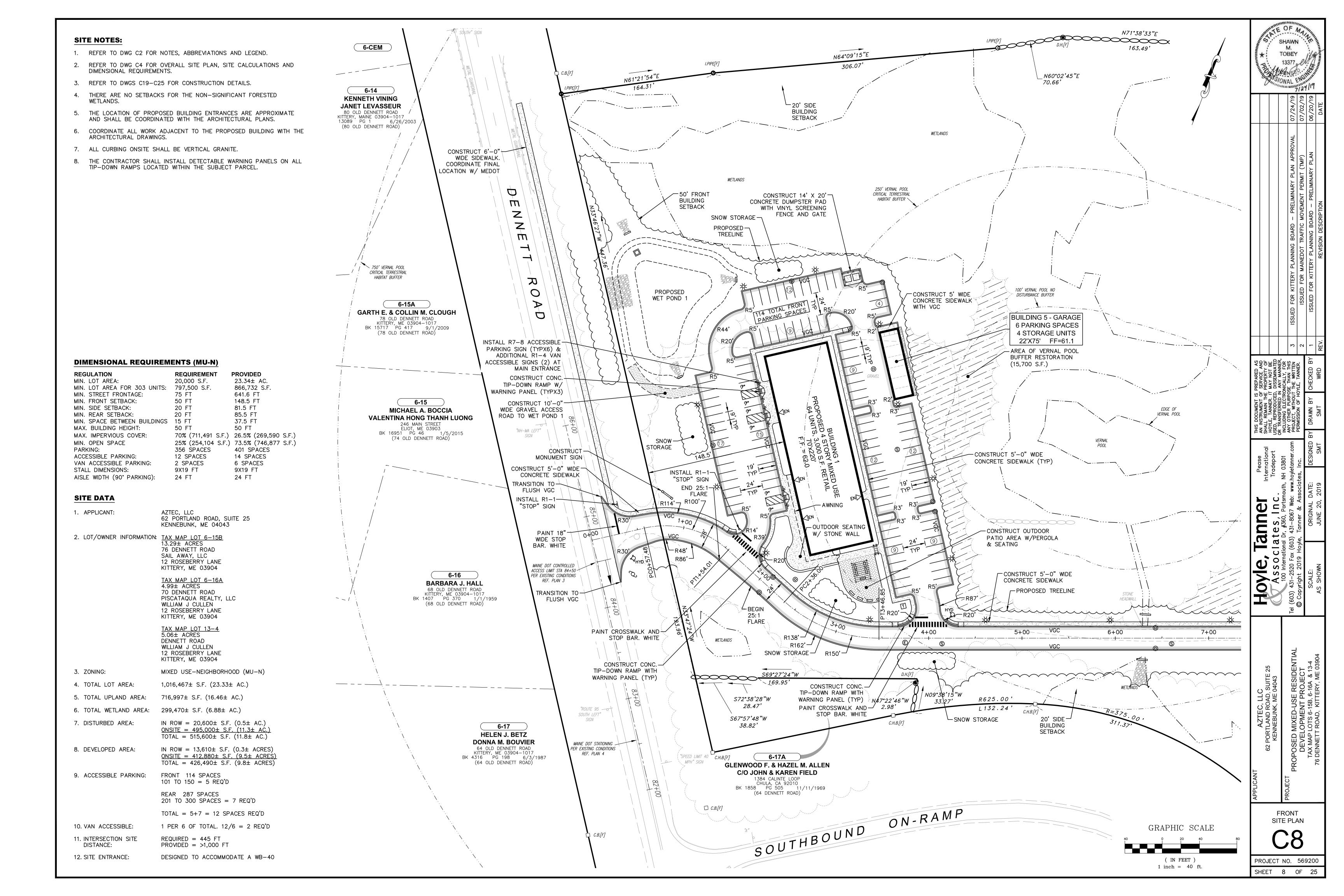


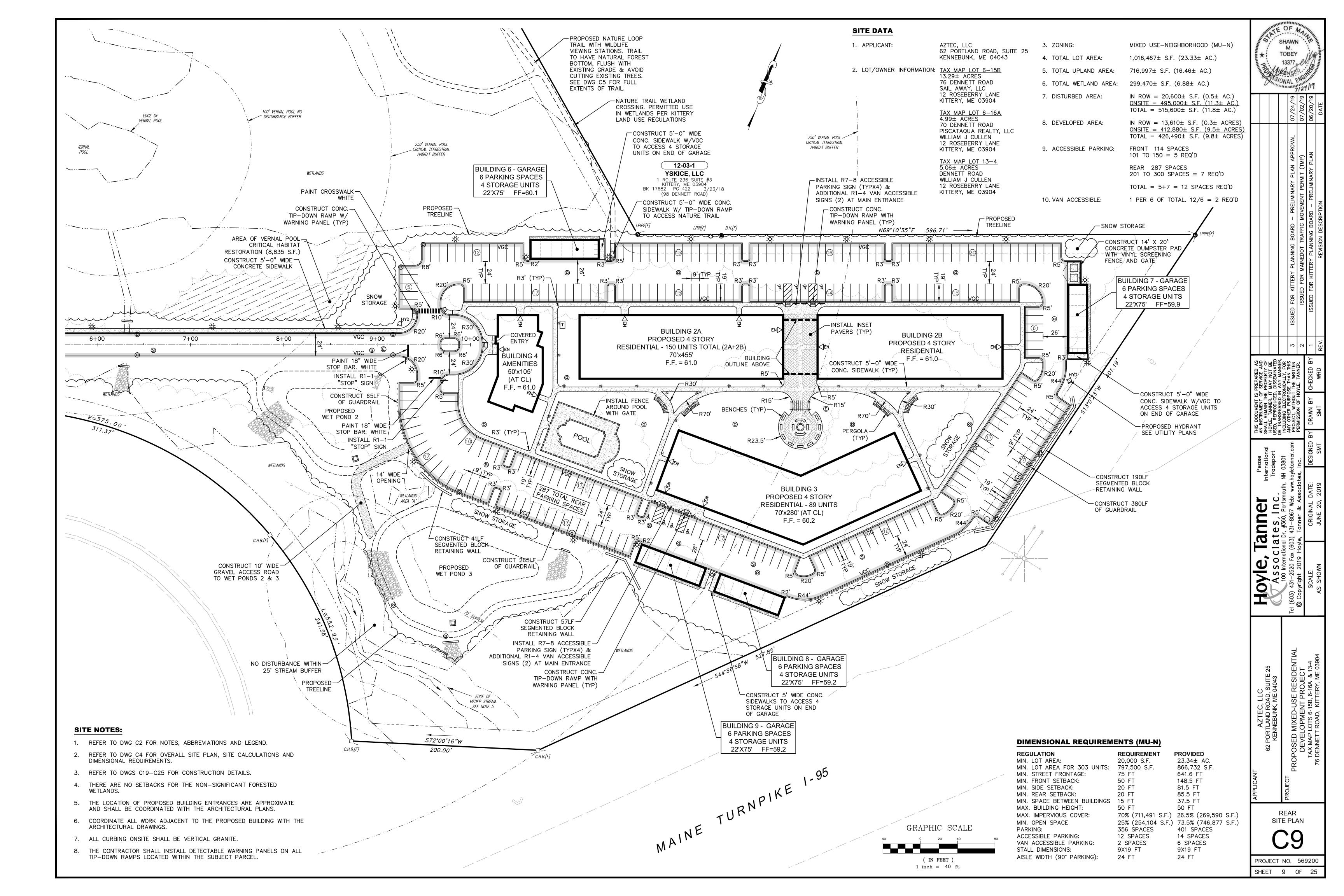




### N71°38'33"E **EROSION CONTROL NOTES:** SHAWN 6-CEM N64°09'15"E 1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND. TOBEY 2. REFER TO DWGS C19-C25 FOR CONSTRUCTION DETAILS. 306.07 N61°21'54"E N60°02'45"E 3. INSTALL ALL EROSION CONTROL MEASURES ON THIS SHEET PRIOR TO 70.66 STARTING CONSTRUCTION. 6-14 4. CONSTRUCTION SHALL MEET ALL CONDITIONS OF THE MAINE DEP SITE **KENNETH VINING** LOCATION OF DEVELOPMENT PERMIT JANET LEVASSEUR //\V.//\= 80 OLD DENNETT ROAD ₹ 45.98 INV.OUT= KITTERY, MAINE 03904-1017 13089 PG 1 6/26/2003 45.59 **HOUSEKEEPING NOTES:** (80 OLD DENNETT ROAD) WETLANDS SPILL PREVENTION. CONTROLS MUST BE USED TO PREVENT POLLUTANTS FROM CONSTRUCTION AND WASTE MATERIALS STORED ON SITE TO ENTER STORMWATER, WHICH INCLUDES STORAGE PRACTICES TO MINIMIZE EXPOSURE OF THE MATERIALS TO STORMWATER. THE SITE CONTRACTOR OR OPERATOR MUST DEVELOP, AND IMPLEMENT AS NECESSARY, APPROPRIATE SPILL PREVENTION, CONTAINMENT, AND RESPONSE PLANNING MEASURES. ANY SPILL OR RELEASE OF TOXIC OR HAZARDOUS SUBSTANCES MUST BE REPORTED TO THE DEPARTMENT. FOR OIL SPILLS, CALL 1-800-482-0777 WETLANDS WHICH IS AVAILABLE 24 HOURS A DAY. FOR SPILLS OF TOXIC OR HAZARDOUS MATERIAL, CALL 1-800-452-4664 WHICH IS AVAILABLE 24 250' VERNAL POOL $\mathcal{D}$ HOURS A DAY. FOR MORE INFORMATION, VISIT THE DEPARTMENT'S WEBSITE CRITICAL TERRESTRIAL HABITAT BUFFER AT: HTTP://WWW.MAINE.GOV/DEP/SPILLS/EMERGSPILLRESP/ $\Box$ GROUNDWATER PROTECTION. DURING CONSTRUCTION, LIQUID PETROLEUM PRODUCTS AND OTHER HAZARDOUS MATERIALS WITH THE POTENTIAL TO -PROPOSED TREELINE CONTAMINATE GROUNDWATER MAY NOT BE STORED OR HANDLED IN AREAS OF THE SITE DRAINING TO AN INFILTRATION AREA. AN "INFILTRATION AREA" -INSTALL SILT FENCE - AREA OF VERNAL POOL BUFFER IS ANY AREA OF THE SITE THAT BY DESIGN OR AS A RESULT OF SOILS, AT LIMIT OF CLEARING RESTORATION (15,700 S.F.) REMOVE TOPOGRAPHY AND OTHER RELEVANT FACTORS ACCUMULATES RUNOFF THAT ANY FILL MATERIAL & REPLACE WITH INFILTRATES INTO THE SOIL. DIKES, BERMS, SUMPS, AND OTHER FORMS OF NATIVE TOPSOIL. INFILL WITH PLANTS SECONDARY CONTAINMENT THAT PREVENT DISCHARGE TO GROUNDWATER PER LANDSCAPING DRAWINGS MAY BE USED TO ISOLATE PORTIONS OF THE SITE FOR THE PURPOSES OF STORAGE AND HANDLING OF THESE MATERIALS. ANY PROJECT PROPOSING 750' VERNAL POOL INFILTRATION OF STORMWATER MUST PROVIDE ADEQUATE PRE-TREATMENT CRITICAL TERRESTRIAL OF STORMWATER PRIOR TO DISCHARGE OF STORMWATER TO THE HABITAT BUFFER ス INFILTRATION AREA, OR PROVIDE FOR TREATMENT WITHIN THE INFILTRATION AREA, IN ORDER TO PREVENT THE ACCUMULATION OF FINES, REDUCTION IN 00' VERNAL POOL NO 0 **PROPOSED** -REMOVE & DISPOSE -INFILTRATION RATE, AND CONSEQUENT FLOODING AND DESTABILIZATION. DISTURBANCE BUFFER WET POND OF TREES & BRUSH 6-15A FUGITIVE SEDIMENT AND DUST. ACTIONS MUST BE TAKEN TO ENSURE THAT ACTIVITIES DO NOT RESULT IN NOTICEABLE EROSION OF SOILS OR FUGITIVE GARTH E. & COLLIN M. CLOUGH DUST EMISSIONS DURING OR AFTER CONSTRUCTION. OIL MAY NOT BE USED 78 OLD DENNETT ROAD KITTERY, ME 03904-1017 BK 15717 PG 417 9/1/2009 FOR DUST CONTROL, BUT OTHER WATER ADDITIVES MAY BE CONSIDERED AS NEEDED. A STABILIZED CONSTRUCTION ENTRANCE (SCE) SHOULD BE (78 OLD DENNETT ROÁD) INCLUDED TO MINIMIZE TRACKING OF MUD AND SEDIMENT. IF OFF-SITE TRACKING OCCURS, PUBLIC ROADS SHOULD BE SWEPT IMMEDIATELY, NO LESS THAN ONCE A WEEK AND PRIOR TO SIGNIFICANT STORM EVENTS. OPERATIONS DURING DRY MONTHS THAT EXPERIENCE FUGITIVE DUST PROBLEMS SHOULD WET DOWN UNPAVED ACCESS ROADS ONCE A WEEK OR MORE FREQUENTLY AS NEEDED WITH A WATER ADDITIVE TO SUPPRESS FUGITIVE SEDIMENT AND DUST. DEBRIS AND OTHER MATERIALS. MINIMIZE THE EXPOSURE OF CONSTRUCTION -INSTALL SILT EBRIS. BUILDING AND LANDSCAPING MATERIALS. TRASH. FERTILIZERS. FENCE AROUND PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE AND OTHER ALL STOCKPILES MATERIALS TO PRECIPITATION AND STORMWATER RUNOFF. THESE MATERIALS 6-15 MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE. **MICHAEL A. BOCCIA** EXCAVATION DE-WATERING. EXCAVATION DE-WATERING IS THE REMOVAL OF **VALENTINA HONG THANH LUONG** THIS DO AN INS' SHALL HOYLE, USED, R, OR TRAR INCLUD ANY OT PROJECT WATER FROM TRENCHES, FOUNDATIONS, COFFER DAMS, PONDS, AND OTHER 246 MAIN STREET ELIOT, ME 03903 BK 16951 PG 46 1 AREAS WITHIN THE CONSTRUCTION AREA THAT RETAIN WATER AFTER "NH-MA LEFT" 1/5/2015 EXCAVATION. IN MOST CASES THE COLLECTED WATER IS HEAVILY SILTED (74 OLD DENNETT ROAD) AND HINDERS CORRECT AND SAFE CONSTRUCTION PRACTICES. THE COLLECTED WATER REMOVED FROM THE PONDED AREA, EITHER THROUGH GRAVITY OR PUMPING, MUST BE SPREAD THROUGH NATURAL WOODED BUFFERS OR REMOVED TO AREAS THAT ARE SPECIFICALLY DESIGNED TO COLLECT THE MAXIMUM AMOUNT OF SEDIMENT POSSIBLE. LIKE A ─INSTALL SILT FENCE AROUND COFFERDAM SEDIMENTATION BASIN. AVOID ALLOWING THE WATER TO FLOW BUFFER RESTORATION UNTIL OVER DISTURBED AREAS OF THE SITE. EQUIVALENT MEASURES MAY BE STABILIZED TAKEN IF APPROVED BY THE DEPARTMENT. REMOVE BOULDERS <u>AUTHORIZED NON-STORMWATER DISCHARGES.</u> IDENTIFY AND PREVENT CONTAMINATION BY NON-STORMWATER DISCHARGES. WHERE ALLOWED STOCKPILE -FILL PILE NON-STORMWATER DISCHARGES EXIST, THEY MUST BE IDENTIFIED AND STOCKPILE -STEPS SHOULD BE TAKEN TO ENSURE THE IMPLEMENTATION OF FILL PILE APPROPRIATE POLLUTION PREVENTION MEASURES FOR THE NON-STORMWATER COMPONENT(S) OF THE DISCHARGE. AUTHORIZED **ates** NON-STORMWATER DISCHARGES ÁRE: A. DISCHARGES FROM FIREFIGHTING ACTIVITY; CONSTRUCT STABILIZED CONSTRUCTION ENTRY B. FIRE HYDRANT FLUSHINGS; C. VEHICLE WASHWATER IF DETERGENTS ARE NOT USED AND WASHING **APPROXIMATE** IS LIMITED TO THE EXTERIOR OF VEHICLES (ENGINE, UNDERCARRIAGE MATERIAL ON 6-16 AND TRANSMISSION WASHING IS PROHIBITED); STOCKPILE SILT FENCE -REMOVE & DISPOSE BARBARA J. HALL LOCATION OF TREES & BRUSH D. DUST CONTROL RUNOFF IN ACCORDANCE WITH PERMIT CONDITIONS 68 OLD DENNETT ROAD KITTERY, ME 03904-1017 BK 1407 PG 370 1/1/1959 AND APPENDIX (C)(3); (68 OLD DENNETT ROAD) E. ROUTINE EXTERNAL BUILDING WASHDOWN, NOT INCLUDING SURFACE PAINT REMOVAL, THAT DOES NOT INVOLVE DETERGENTS; INSTALL SILT F. PAVEMENT WASHWATER (WHERE SPILLS/LEAKS OF TOXIC OR FENCE AROUND HAZARDOUS MATERIALS HAVE NOT OCCURRED, UNLESS ALL SPILLED ALL STOCKPILES MATERIAL HAD BEEN REMOVED) IF DETERGENTS ARE NOT USED; WETLANDS MAINTAIN GRAVEL ROAD-FOR ACCESS TO REAR OF G. UNCONTAMINATED AIR CONDITIONING OR COMPRESSOR CONDENSATE; SITE DURING CONSTRUCTION H. UNCONTAMINATED GROUNDWATER OR SPRING WATER; I. FOUNDATION OR FOOTER DRAIN-WATER WHERE FLOWS ARE NOT S69°27'24"W CONTAMINATED; ~ *169.95*° J. UNCONTAMINATED EXCAVATION DEWATERING (SEE REQUIREMENTS IN N09°38'15"W APPENDIX C(5); *S72°38'28"W* R625.00' ₹N47°22'46"W 💭 33.27' 28.47' ´2.98' "ROUTE 95 -K. POTABLE WATER SOURCES INCLUDING WATERLINE FLUSHINGS; AND SOUTH LEFT" S67°57'48"W L. LANDSCAPE IRRIGATION. 38.82' 6-17 <u>UNAUTHORIZED NON-STORMWATER DISCHARGES.</u> THE DEPARTMENT'S APPROVAL UNDER THIS CHAPTER DOES NOT AUTHORIZE A DISCHARGE HELEN J. BETZ **DONNA M. BOUVIER** THAT IS MIXED WITH A SOURCE OF NON-STORMWATER, OTHER THAN THOSE 64 OLD DENNETT ROAD DISCHARGES IN COMPLIANCE WITH APPENDIX C (6). SPECIFICALLY, THE KITTERY, ME 03904-1017 BK 4316 PG 198 6/3/1987 "SPEED LIMIT 40 C.H.B.[F] 6-17A DEPARTMENT'S APPROVAL DOES NOT AUTHORIZE DISCHARGES OF THE (64 OLD DENNETT ROAD) FOLLOWING: **GLENWOOD F. & HAZEL M. ALLEN** C/O JOHN & KAREN FIELD A. WASTEWATER FROM THE WASHOUT OR CLEANOUT OF CONCRETE, 1384 CALINTE LOOP STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS OR OTHER CHULA, CA 92010 BK 1858 PG 505 1 CONSTRUCTION MATERIALS; (64 DENNETT ROAD) B. FUELS, OILS OR OTHER POLLUTANTS USED IN VEHICLE AND SOUTHBOUND ON-RAMP EQUIPMENT OPERATION AND MAINTENANCE; $\square$ C.B.[F] **EROSION CONTROL** C. SOAPS, SOLVENTS, OR DETERGENTS USED IN VEHICLE AND & HOUSEKEEPING EQUIPMENT WASHING; AND PLAN - FRONT GRAPHIC SCALE D. TOXIC OR HAZARDOUS SUBSTANCES FROM A SPILL OR OTHER ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS. ( IN FEET ) PROJECT NO. 569200 1 inch = 40 ft.SHEET 6 OF 25







### **GRADING & DRAINAGE NOTES:**

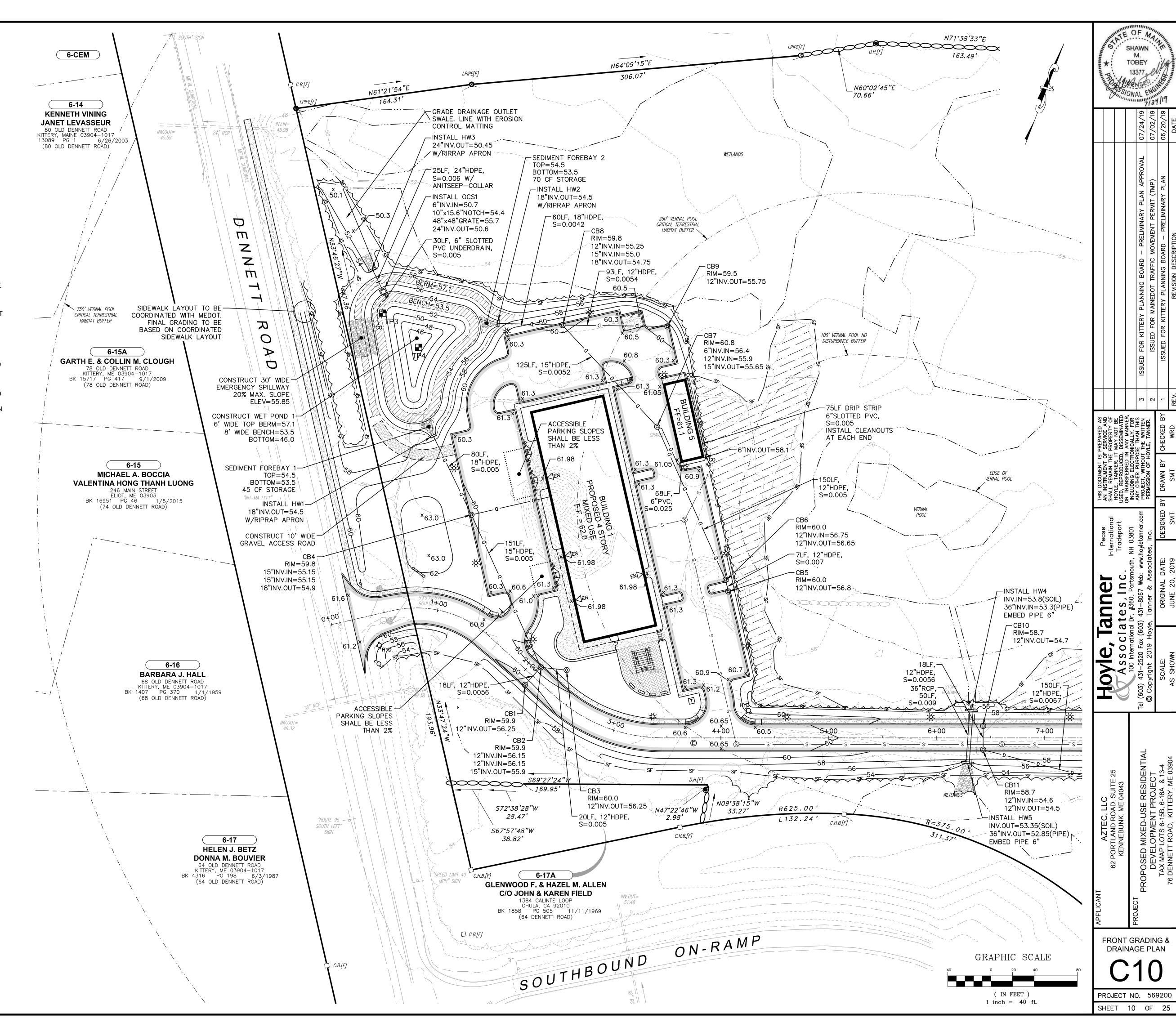
- 1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND.
- 2. REFER TO DWG C6-C7 FOR ADDITIONAL EROSION CONTROL MEASURES.
- 3. REFER TO DWGS C19-C25 FOR CONSTRUCTION DETAILS.
- 4. CONSTRUCTION SHALL MEET ALL CONDITIONS OF THE MAINE DEP SITE LOCATION OF DEVELOPMENT PERMIT.
- 5. ALL DRAINAGE STRUCTURES HAVE AN INTERNAL DIAMETER OF 4'-0" UNLESS OTHERWISE SPECIFIED ON THE PLANS.
- 6. INSTALL INLET PROTECTION ON ALL PROPOSED CATCH BASINS AFTER INSTALLATION. REMOVE WHEN CONSTRUCTION IS COMPLETED.
- 7. THE LOCATION OF PROPOSED BUILDING ENTRANCES ARE APPROXIMATE AND SHALL BE COORDINATED WITH THE ARCHITECTURAL PLANS.
- 8. ACCESSIBLE PARKING STALLS HAVE SLOPES LESS THAN 2% IN ALL DIRECTIONS.
- 9. TEST PIT DATA IS BASED ON FIELD OBSERVATIONS FOR LEDGE AND APPROXIMATE SEASONAL HIGH WATER FROM PITS DUG ON MAY 16, 2019 AND MAY 27, 2019.
- 10. REFER TO DRAINAGE NARRATIVE FOR TEST PIT LOGS AND DETAILED WET POND CALCULATIONS.

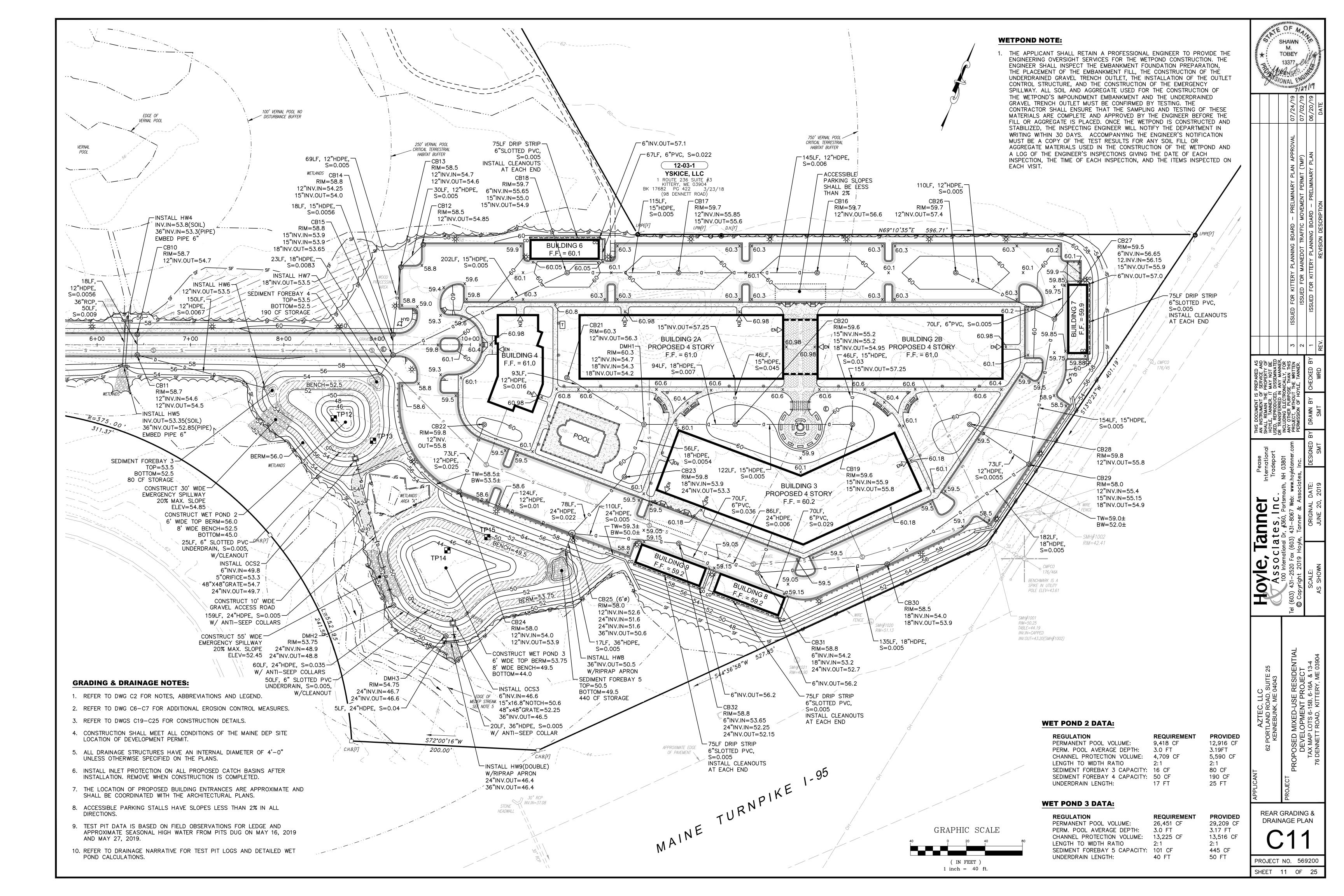
### **WETPOND NOTE:**

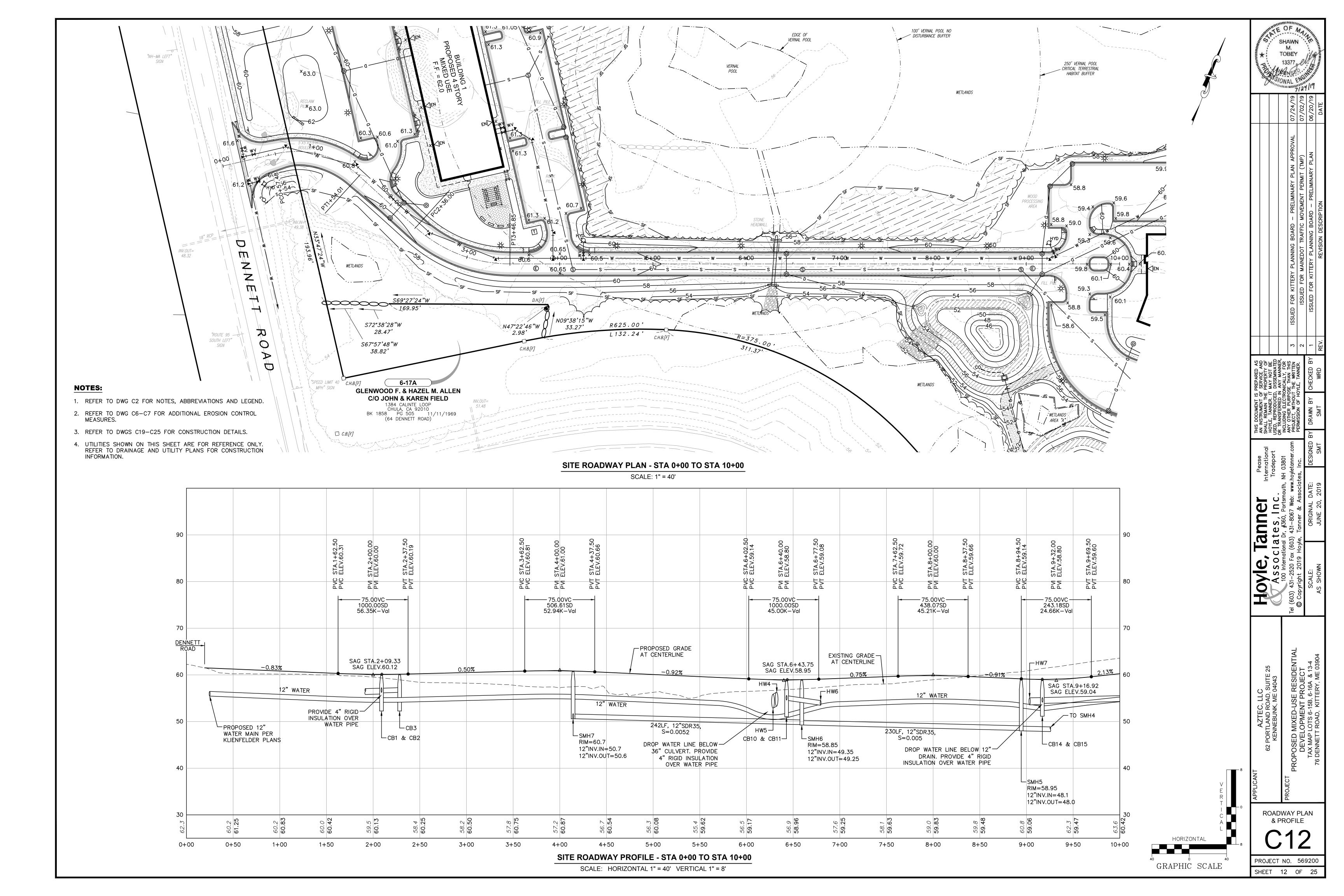
1. THE APPLICANT SHALL RETAIN A PROFESSIONAL ENGINEER TO PROVIDE THE ENGINEERING OVERSIGHT SERVICES FOR THE WETPOND CONSTRUCTION. THE ENGINEER SHALL INSPECT THE EMBANKMENT FOUNDATION PREPARATION, THE PLACEMENT OF THE EMBANKMENT FILL, THE CONSTRUCTION OF THE UNDERDRAINED GRAVEL TRENCH OUTLET, THE INSTALLATION OF THE OUTLET CONTROL STRUCTURE, AND THE CONSTRUCTION OF THE EMERGENCY SPILLWAY. ALL SOIL AND AGGREGATE USED FOR THE CONSTRUCTION OF THE WETPOND'S IMPOUNDMENT EMBANKMENT AND THE UNDERDRAINED GRAVEL TRENCH OUTLET MUST BE CONFIRMED BY TESTING. THE CONTRACTOR SHALL ENSURE THAT THE SAMPLING AND TESTING OF THESE MATERIALS ARE COMPLETE AND APPROVED BY THE ENGINEER BEFORE THE FILL OR AGGREGATE IS PLACED. ONCE THE WETPOND IS CONSTRUCTED AND STABILIZED, THE INSPECTING ENGINEER WILL NOTIFY THE DEPARTMENT IN WRITING WITHIN 30 DAYS. ACCOMPANYING THE ENGINEER'S NOTIFICATION MUST BE A COPY OF THE TEST RESULTS FOR ANY SOIL FILL OR AGGREGATE MATERIALS USED IN THE CONSTRUCTION OF THE WETPOND AND A LOG OF THE ENGINEER'S INSPECTIONS GIVING THE DATE OF EACH INSPECTION, THE TIME OF EACH INSPECTION, AND THE ITEMS INSPECTED ON EACH VISIT.

### **WET POND 1 DATA:**

REGULATION	REQUIREMENT	PROVIDED
PERMANENT POOL VOLUME:	13,379 CF	18,313 CF
PERM. POOL AVERAGE DEPTH:	3.0 FT	3.09 FT
CHANNEL PROTECTION VOLUME:	6,689 CF	7,507 CF
LENGTH TO WIDTH RATIO	2:1	2:1
SEDIMENT FOREBAY 1 CAPACITY:	16 CF	45 CF
SEDIMENT FOREBAY 2 CAPACITY:	38 CF	70 CF
UNDERDRAIN LENGTH:	23 FT	30 FT



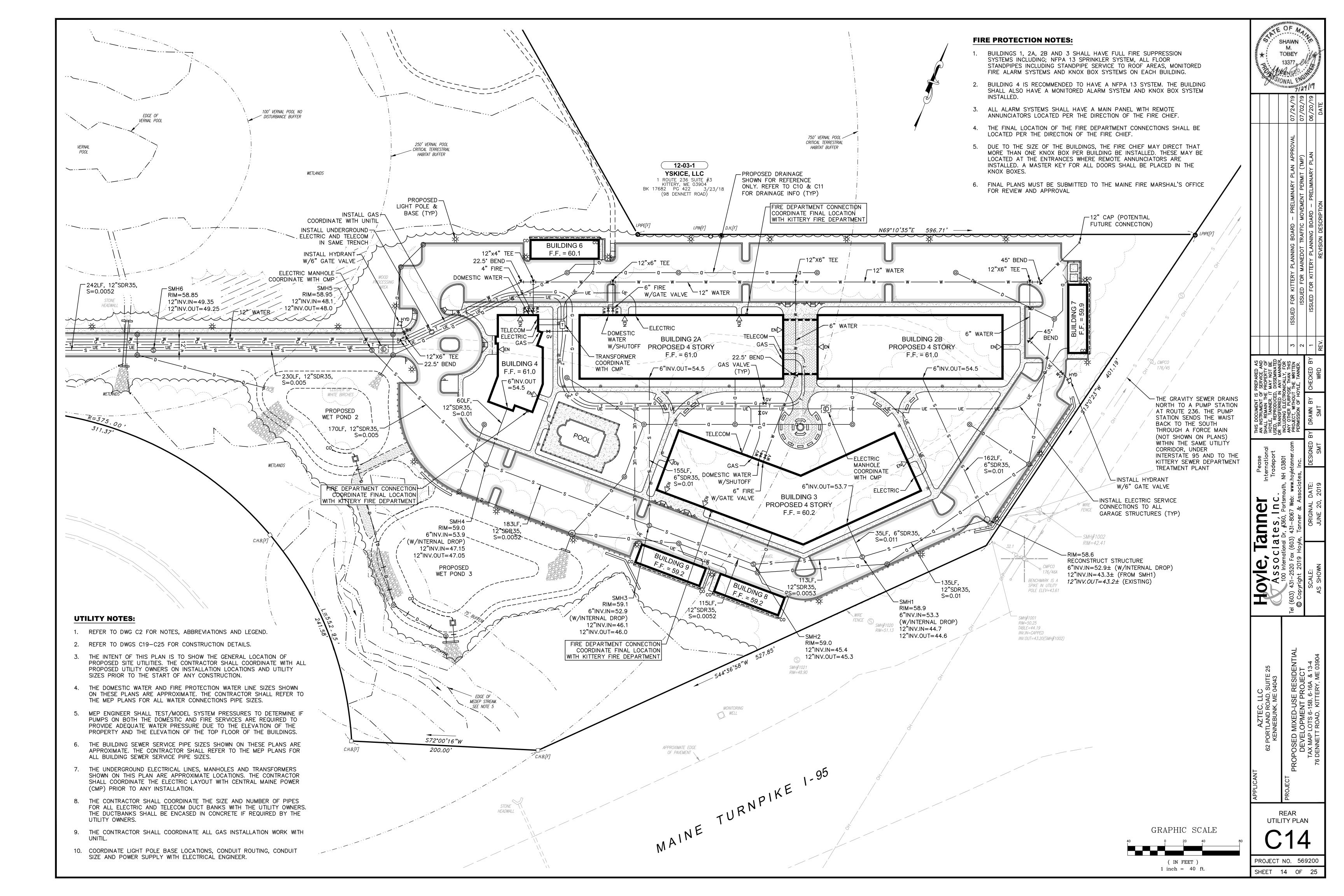


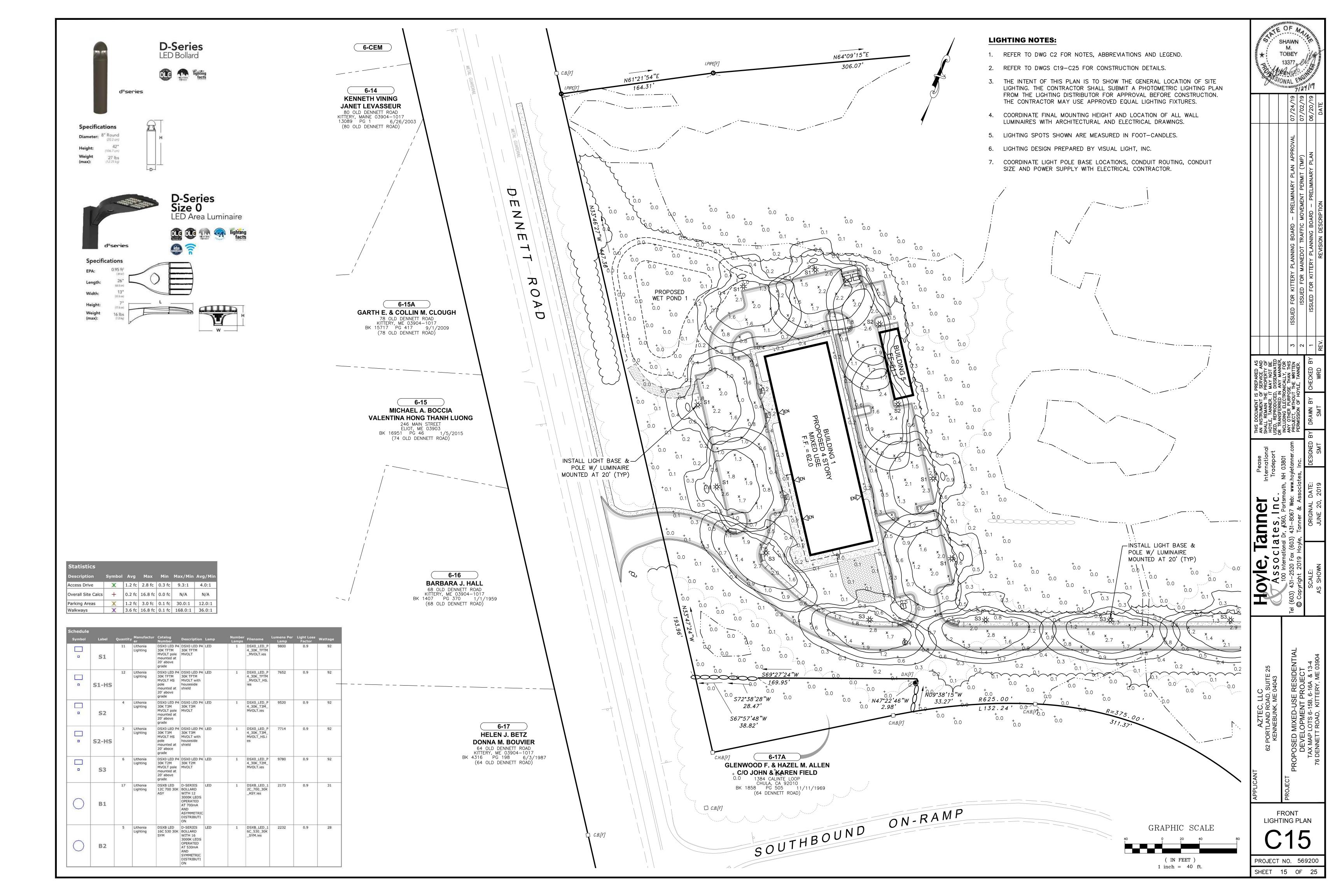


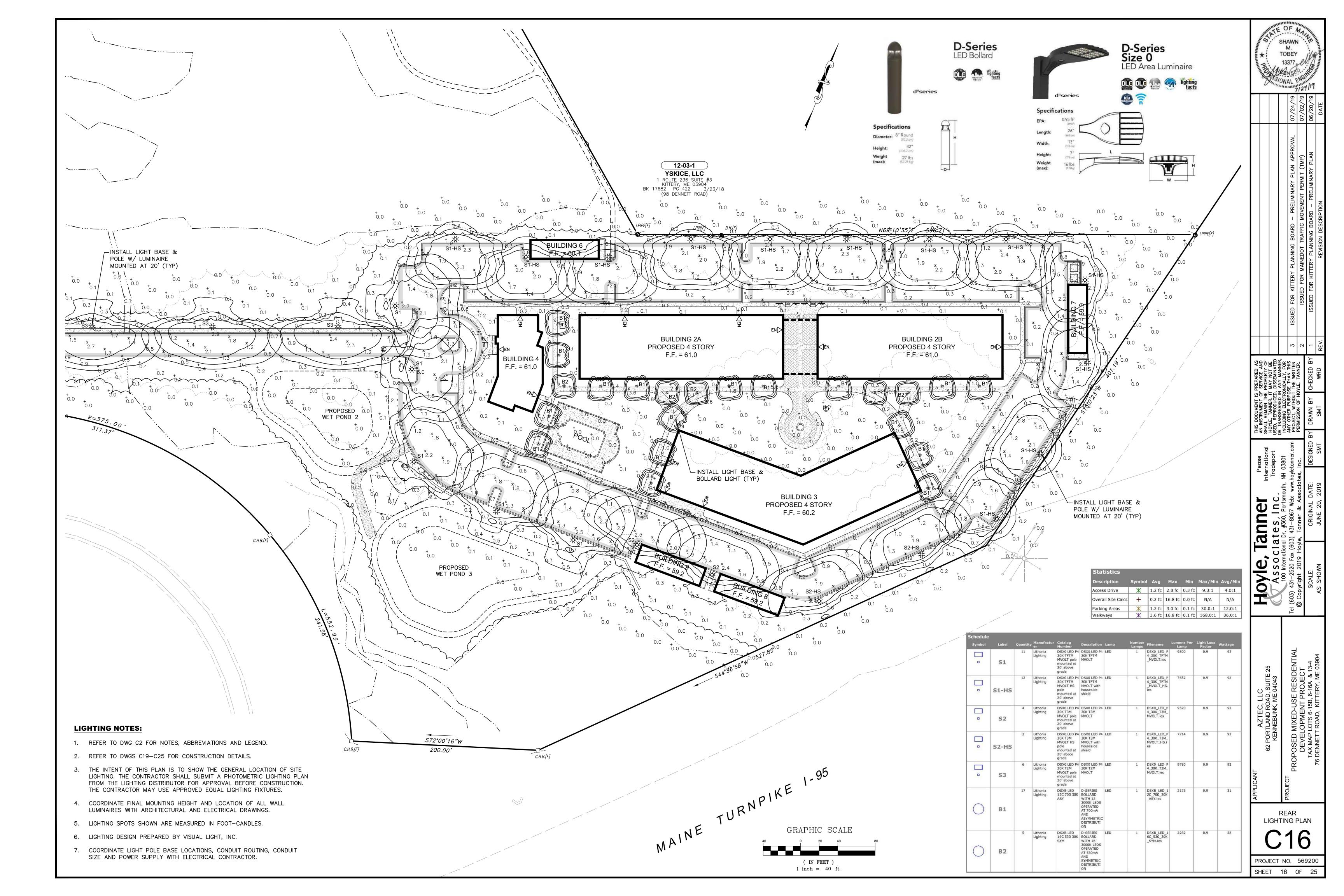
### N71°38'33"E **UTILITY NOTES:** SHAWN 6-CEM 163.49' 1. REFER TO DWG C2 FOR NOTES, ABBREVIATIONS AND LEGEND. N64°09'15"E TOBEY 2. REFER TO DWGS C19-C25 FOR CONSTRUCTION DETAILS. 306.07 N60°02'45"E 3. THE INTENT OF THIS PLAN IS TO SHOW THE GENERAL LOCATION OF 70.66 PROPOSED SITE UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH ALL PROPOSED UTILITY OWNERS ON INSTALLATION LOCATIONS AND UTILITY 6-14 SIZES PRIOR TO THE START OF ANY CONSTRUCTION. **KENNETH VINING JANET LEVASSEUR** 4. THE DOMESTIC WATER AND FIRE PROTECTION WATER LINE SIZES SHOWN 80 OLD DENNETT ROAD = 45.98 INV.OUT= ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL REFER TO KITTERY, MAINE 03904-1017 13089 PG 1 6/26/2003 45.59 THE MEP PLANS FOR ALL WATER CONNECTIONS PIPE SIZES. (80 OLD DENNETT ROAD) MEP ENGINEER SHALL TEST/MODEL SYSTEM PRESSURES TO DETERMINE IF WETLANDS PUMPS ON BOTH THE DOMESTIC AND FIRE SERVICES ARE REQUIRED TO PROVIDE ADEQUATE WATER PRESSURE DUE TO THE ELEVATION OF THE PROPERTY AND THE ELEVATION OF THE TOP FLOOR OF THE BUILDINGS. THE BUILDING SEWER SERVICE PIPE SIZES SHOWN ON THESE PLANS ARE APPROXIMATE. THE CONTRACTOR SHALL REFER TO THE MEP PLANS FOR ALL BUILDING SEWER SERVICE PIPE SIZES. WETLANDS 250' VERNAL POOL THE UNDERGROUND ELECTRICAL LINES, MANHOLES AND TRANSFORMERS $\mathcal{D}$ CRITICAL TERRESTRIAL SHOWN ON THIS PLAN ARE APPROXIMATE LOCATIONS. THE CONTRACTOR HABITAT BUFFER \ SHALL COORDINATE THE ELECTRIC LAYOUT WITH CENTRAL MAINE POWER $\Box$ (CMP) PRIOR TO ANY INSTALLATION. -PROPOSED DRAINAGE SHOWN FOR REFERENCE 8. THE CONTRACTOR SHALL COORDINATE THE SIZE AND NUMBER OF PIPES ONLY. REFER TO C10 & C11 FOR ALL ELECTRIC AND TELECOM DUCT BANKS WITH THE UTILITY OWNERS. FOR DRAINAGE INFO (TYP) THE DUCTBANKS SHALL BE ENCASED IN CONCRETE IF REQUIRED BY THE INSTALL ELECTRIC SERVICE UTILITY OWNERS. CONNECTIONS TO ALL GARAGE STRUCTURES (TYP) 9. THE CONTRACTOR SHALL COORDINATE ALL GAS INSTALLATION WORK WITH 750' VERNAL POOL 10. COORDINATE LIGHT POLE BASE LOCATIONS, CONDUIT ROUTING, CONDUIT CRITICAL TERRESTRIAL SIZE AND POWER SUPPLY WITH ELECTRICAL ENGINEER. HABITAT BUFFER ス 100' VERNAL POOL NO 0 PROPOSED **FIRE PROTECTION NOTES:** DISTURBANCE BUFFER WET POND 6-15A BUILDINGS 1, 2A, 2B AND 3 SHALL HAVE FULL FIRE SUPPRESSION GARTH E. & COLLIN M. CLOUGH SYSTEMS INCLUDING; NFPA 13 SPRINKLER SYSTEM, ALL FLOOR STANDPIPES INCLUDING STANDPIPE SERVICE TO ROOF AREAS, MONITORED 78 OLD DENNETT ROAD KITTERY, ME 03904-1017 BK 15717 PG 417 9/1/2009 FIRE ALARM SYSTEMS AND KNOX BOX SYSTEMS ON EACH BUILDING. (78 OLD DENNETT ROAD) BUILDING 4 IS RECOMMENDED TO HAVE A NFPA 13 SYSTEM. THE BUILDING SHALL ALSO HAVE A MONITORED ALARM SYSTEM AND KNOX BOX SYSTEM INSTALLED. 3. ALL ALARM SYSTEMS SHALL HAVE A MAIN PANEL WITH REMOTE ANNUNCIATORS LOCATED PER THE DIRECTION OF THE FIRE CHIEF. 4. THE FINAL LOCATION OF THE FIRE DEPARTMENT CONNECTIONS SHALL BE CAP 12" SEWER LOCATED PER THE DIRECTION OF THE FIRE CHIEF. FOR FUTURE CONNECTION DUE TO THE SIZE OF THE BUILDINGS, THE FIRE CHIEF MAY DIRECT THAT 6-15 /INV=52.1 MORE THAN ONE KNOX BOX PER BUILDING BE INSTALLED. THESE MAY BE **MICHAEL A. BOCCIA** LOCATED AT THE ENTRANCES WHERE REMOTE ANNUNCIATORS ARE **VALENTINA HONG THANH LUONG** 45LF, 12"SDR35, INSTALLED. A MASTER KEY FOR ALL DOORS SHALL BE PLACED IN THE 246 MAIN STREET $\sqrt{S} = 0.0056$ KNOX BOXES. PROPOSED -ELIOT, ME 03903 BK 16951 PG 46 1 "NH-MA LEFT" SMH8 LIGHT POLE & 1/5/2015 FINAL PLANS MUST BE SUBMITTED TO THE MAINE FIRE MARSHAL'S OFFICE (74 OLD DENNETT ROÁD) RIM=60.8 BASE (TYP) FOR REVIEW AND APPROVAL P00L 6"INV.IN=54.3 12"INV.IN=51.85 12"INV.OUT=51.75 CAP GAS-(FUTURE CONNECTION) ₹45LF, 6"SDR35, S=0.027 12" CAP-6"INV.OUT=55.5 (FUTURE CONNECTION) DOMESTIC — Fanner lates, Inc. BEND WATER -45° BENDS W/SHUTOFF 6" FIRE-FIRE DEPARTMENT CONNECTION COORDINATE FINAL LOCATION W/GATE VALVE WITH KITTERY FIRE DEPARTMENT GAS-TELECOM — —210LF, 12"SDR35, **ELECTRIC** S=0.00512" GATE VALVE T - TRANSFORMER 12"X12" TEE Oyle, COORDINATE WITH CMP 12" GATE VALVE ✓ ←GAS VALVE (TYP) 12"X6" TEE 7 22.5° BEND-6-16 -242LF, 12"SDR35. -INSTALL HYDRANT INSTALL HYDRANT -WATER BARBARA J. HALL S=0.0052 W/6" GATE VALVE W/6" GATE VALVE RIM = 58.8568 OLD DENNETT ROAD KITTERY, ME 03904-1017 BK 1407 PG 370 1/1/1959 >12"X6" TEE 12"INV.IN=49.35 HEADWALL 12"INV.OUT=49.25 -(68 OLD DENNETT ROÁD) 12" WATER 6" WATER-✓ INSTALL GAS ← COORDINATE WITH UNITIL PROPOSED UTILITY POLE -WETLANDS & OVERHEAD WIRE INSTALL UNDERGROUND -COORDINATE WITH CMP 22.5° BEND — ELECTRIC AND TELECOM IN SAME TRENCH ELECTRIC MANHOLE -PROPOSED 12" WATER MAIN-RIM=60.7 COORDINATE WITH CMP INSTALLED PER DESIGN PLANS BY \$69°27'24"W 12"IN Y.HN=50.7 ✓ ✓ KLEINFELDER DATED APRIL 2016 12"/MV.OUT=50.6 `~ 169.95' 12"X6" TEE ─ N09°38'15"W PROPOSED GAS MAIN-S72°38'28"W R625.00' N47°22'46"W 💭 33.27' COORDINATE WITH UNITIL 28.47' 2.98' L132.24' "ROUTE 95 -o SOUTH LEFT" S67°57'48"W 38.82' 6-17 HELEN J. BETZ **DONNA M. BOUVIER** 64 OLD DENNETT ROAD KITTERY, ME 03904-1017 BK 4316 PG 198 6/3/1987 "SPEED LIMIT 40 C.H.B.[F] 6-17A (64 OLD DENNETT ROAD) **GLENWOOD F. & HAZEL M. ALLEN** C/O JOHN & KAREN FIELD 1384 CALINTE LOOP CHULA, CA 92010 BK 1858 PG 505 11/11/1969 (64 DENNETT ROAD) SOUTHBOUND ON-RAMP $\square$ C.B.[F] FRONT UTILITY PLAN GRAPHIC SCALE C.B.[F] ( IN FEET ) PROJECT NO. 569200

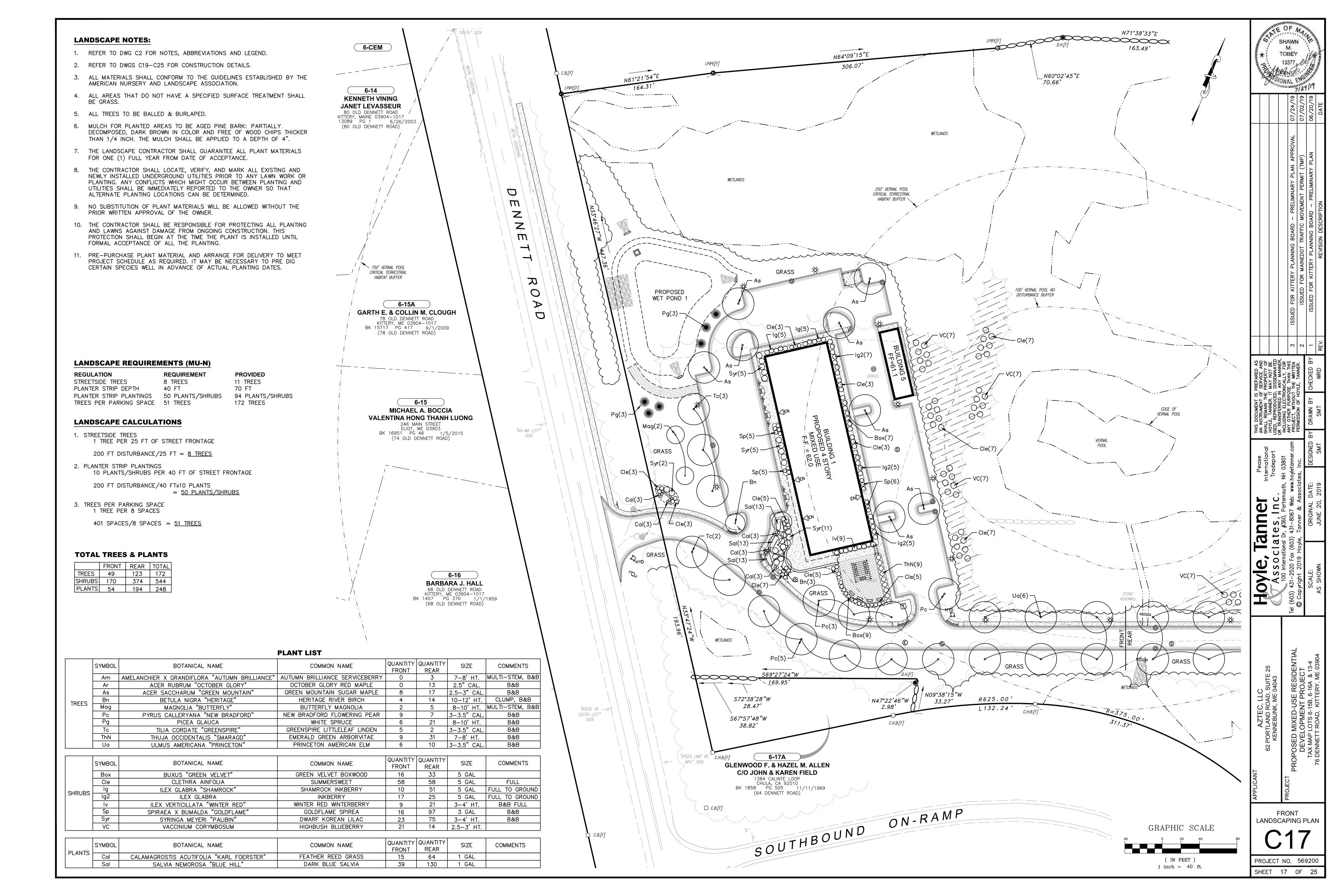
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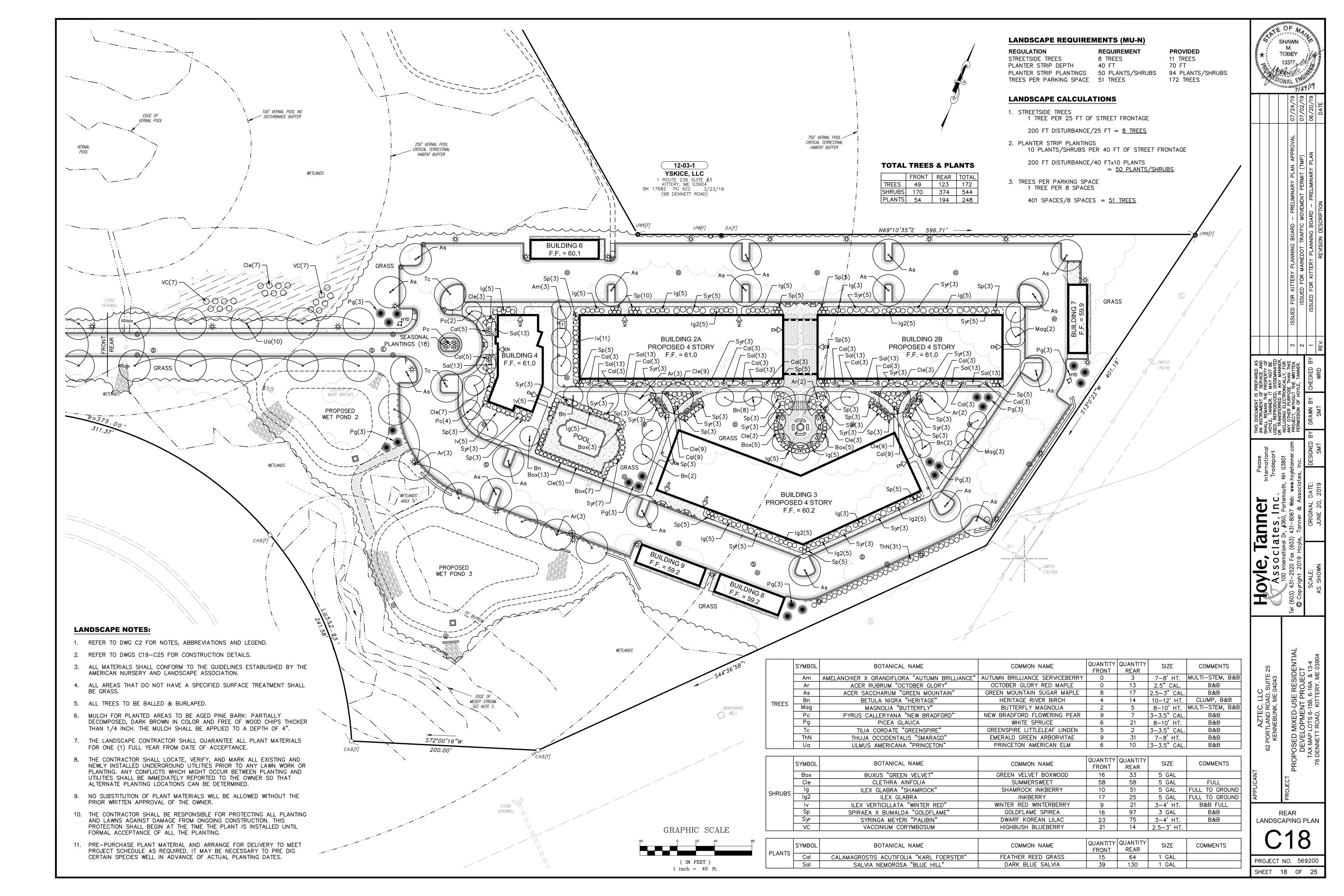
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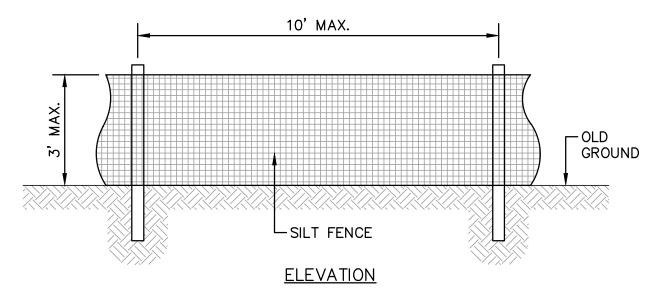


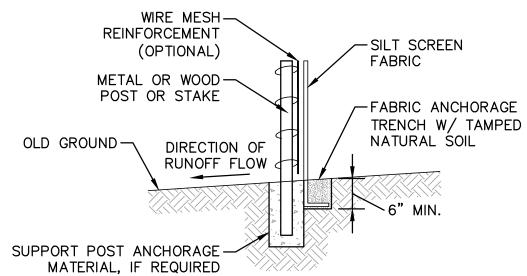


### **EROSION CONTROL NOTES:**

- 1. POLLUTION PREVENTION. MINIMIZE DISTURBED AREAS AND PROTECT NATURAL DOWNGRADIENT BUFFER AREAS TO THE EXTENT PRACTICABLE. CONTROL STORMWATER VOLUME AND VELOCITY WITHIN THE SITE TO MINIMIZE SOIL EROSION. MINIMIZE THE DISTURBANCE OF STEEP SLOPES CONTROL STORMWATER DISCHARGES, INCLUDING BOTH PEAK FLOW RATES AND VOLUME, TO MINIMIZE EROSION AT OUTLETS. THE DISCHARGE MAY NOT RESULT IN EROSION OF ANY OPEN DRAINAGE CHANNELS, SWALES, STREAM CHANNELS OR STREAM BANKS, UPLAND, OR COASTAL OR FRESHWATER WETLANDS OFF THE PROJECT SITE. WHENEVER PRACTICABLE, NO DISTURBANCE ACTIVITIES SHOULD TAKE PLACE WITHIN 50 FEET OF ANY PROTECTED NATURAL RESOURCE. IF DISTURBANCE ACTIVITIES TAKE PLACE BETWEEN 30 FEET AND 50 FEET OF ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED. IF DISTURBANCE ACTIVITIES TAKE PLACE LESS THAN 30 FEET FROM ANY PROTECTED NATURAL RESOURCE, AND STORMWATER DISCHARGES THROUGH THE DISTURBED AREAS TOWARD THE PROTECTED NATURAL RESOURCE, PERIMETER EROSION CONTROLS MUST BE DOUBLED AND DISTURBED AREAS MUST BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 7 DAYS.
- 2. <u>SEDIMENT BARRIERS.</u> PRIOR TO CONSTRUCTION, PROPERLY INSTALL SEDIMENT BARRIERS AT THE DOWNGRADIENT EDGE OF ANY AREA TO BE DISTURBED AND ADJACENT TO ANY DRAINAGE CHANNELS WITHIN THE DISTURBED AREA. SEDIMENT BARRIERS SHOULD BE INSTALLED DOWNGRADIENT OF SOIL OR SEDIMENT STOCKPILES AND STORMWATER PREVENTED FROM RUNNING ONTO THE STOCKPILE. MAINTAIN THE SEDIMENT BARRIERS BY REMOVING ACCUMULATED SEDIMENT, OR REMOVING AND REPLACING THE BARRIER, UNTIL THE DISTURBED AREA IS PERMANENTLY STABILIZED. WHERE A DISCHARGE TO A STORM DRAIN INLET OCCURS, IF THE STORM DRAIN CARRIES WATER DIRECTLY TO A SURFACE WATER AND YOU HAVE AUTHORITY TO ACCESS THE STORM DRAIN INLET, YOU MUST INSTALL AND MAINTAIN PROTECTION MEASURES THAT REMOVE SEDIMENT FROM THE DISCHARGE.
- 3. STABILIZED CONSTRUCTION ENTRANCE. PRIOR TO CONSTRUCTION, PROPERLY INSTALL A STABILIZED CONSTRUCTION ENTRANCE (SCE) AT ALL POINTS OF EGRESS FROM THE SITE. THE SCE IS A STABILIZED PAD OF AGGREGATE, UNDERLAIN BY A GEOTEXTILE FILTER FABRIC, USED TO PREVENT TRAFFIC FROM TRACKING MATERIAL AWAY FROM THE SITE ONTO PUBLIC ROWS. MAINTAIN THE SCE UNTIL ALL DISTURBED AREAS ARE STABILIZED.
- 4. TEMPORARY STABILIZATION. WITHIN 7 DAYS OF THE CESSATION OF CONSTRUCTION ACTIVITIES IN AN AREA THAT WILL NOT BE WORKED FOR MORE THAN 7 DAYS, STABILIZE ANY EXPOSED SOIL WITH MULCH, OR OTHER NON-ERODIBLE COVER. STABILIZE AREAS WITHIN 75 FEET OF A WETLAND OR WATERBODY WITHIN 48 HOURS OF THE INITIAL DISTURBANCE OF THE SOIL OR PRIOR TO ANY STORM EVENT, WHICHEVER COMES FIRST.
- 5. REMOVAL OF TEMPORARY MEASURES. REMOVE ANY TEMPORARY CONTROL MEASURES, SUCH AS SILT FENCE, WITHIN 30 DAYS AFTER PERMANENT STABILIZATION IS ATTAINED. REMOVE ANY ACCUMULATED SEDIMENTS AND STABILIZE.
- 6. PERMANENT STABILIZATION. IF THE AREA WILL NOT BE WORKED FOR MORE THAN ONE YEAR OR HAS BEEN BROUGHT TO FINAL GRADE, THEN PERMANENTLY STABILIZE THE AREA WITHIN 7 DAYS BY PLANTING VEGETATION, SEEDING, SOD, OR THROUGH THE USE OF PERMANENT MULCH, OR RIP-RAP, OR ROAD SUB-BASE. IF USING VEGETATION FOR STABILIZATION, SELECT THE PROPER VEGETATION FOR THE LIGHT, MOISTURE, AND SOIL CONDITIONS; AMEND AREAS OF DISTURBED SUBSOILS WITH TOPSOIL, COMPOST, OR FERTILIZERS; PROTECT SEEDED AREAS WITH MULCH OR, IF NECESSARY, EROSION CONTROL BLANKETS: AND SCHEDULE SODDING, PLANTING, AND SEEDING SO TO AVOID DIE-OFF FROM SUMMER DROUGHT AND FALL FROSTS. NEWLY SEEDED OR SODDED AREAS MUST BE PROTECTED FROM VEHICLE TRAFFIC, EXCESSIVE PEDESTRIAN TRAFFIC, AND CONCENTRATED RUNOFF UNTIL THE VEGETATION IS WELL-ESTABLISHED WITH 90% COVER BY HEALTHY VEGETATION. IF NECESSARY, AREAS MUST BE REWORKED AND RESTABILIZED IF GERMINATION IS SPARSE, PLANT COVERAGE IS SPOTTY, OR TOPSOIL EROSION IS EVIDENT. ONE OR MORE OF THE FOLLOWING MAY APPLY TO A PARTICULAR SITE.
- 7. SEEDED AREAS, FOR SEEDED AREAS, PERMANENT STABILIZATION MEANS A 90% COVER OF THE DISTURBED AREA WITH MATURE, HEALTHY PLANTS WITH NO EVIDENCE OF WASHING OR RILLING OF THE TOPSOIL.
  - A. SODDED AREAS. FOR SODDED AREAS, PERMANENT STABILIZATION MEANS THE COMPLETE BINDING OF THE SOD ROOTS INTO THE UNDERLYING SOIL WITH NO SLUMPING OF THE SOD OR DIE-OFF.
  - B. PERMANENT MULCH. FOR MULCHED AREAS, PERMANENT MULCHING MEANS TOTAL COVERAGE OF THE EXPOSED AREA WITH AN APPROVED MULCH MATERIAL. EROSION CONTROL MIX MAY BE USED AS MULCH FOR PERMANENT STABILIZATION ACCORDING TO THE APPROVED APPLICATION RATES AND LIMITATIONS.
  - C. RIP-RAP. FOR AREAS STABILIZED WITH RIP-RAP, PERMANENT STABILIZATION MEANS THAT SLOPES STABILIZED WITH RIP-RAP HAVE AN APPROPRIATE BACKING OF A WELL-GRADED GRAVEL OR APPROVED GEOTEXTILE TO PREVENT SOIL MOVEMENT FROM BEHIND THE RIP-RAP. STONE MUST BE SIZED APPROPRIATELY. IT IS RECOMMENDED THAT ANGULAR STONE BE USED.
  - D. AGRICULTURAL USE. FOR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL PURPOSES (E.G., PIPELINES ACROSS CROP LAND), PERMANENT STABILIZATION MAY BE ACCOMPLISHED BY RETURNING THE DISTURBED LAND TO AGRICULTURAL USE.
  - E. PAVED AREAS. FOR PAVED AREAS, PERMANENT STABILIZATION MEANS THE PLACEMENT OF THE COMPACTED GRAVEL SUB-BASE IS COMPLETED, PROVIDED IT IS FREE OF FINE MATERIALS THAT MAY RUNOFF WITH A RAIN EVENT
  - F. DITCHES, CHANNELS, AND SWALES. FOR OPEN CHANNELS, PERMANENT STABILIZATION MEANS THE CHANNEL IS STABILIZED WITH A 90% COVER OF HEALTHY VEGETATION, WITH A WELL-GRADED RIP-RAP LINING, TURF REINFORCEMENT MAT, OR WITH ANOTHER NON-EROSIVE LINING SUCH AS CONCRETE OR ASPHALT PAVEMENT. THERE MUST BE NO EVIDENCE OF SLUMPING OF THE CHANNEL LINING, UNDERCUTTING OF THE CHANNEL BANKS, OR DOWN-CUTTING OF THE CHANNEL.

- 8. WINTER CONSTRUCTION. "WINTER CONSTRUCTION" IS CONSTRUCTION ACTIVITY PERFORMED DURING THE PERIOD FROM NOVEMBER 1 THROUGH APRIL 15. IF DISTURBED AREAS ARE NOT STABILIZED WITH PERMANENT MEASURES BY NOVEMBER 1 OR NEW SOIL DISTURBANCE OCCURS AFTER NOVEMBER 1, BUT BEFORE APRIL 15, THEN THESE AREAS MUST BE PROTECTED AND RUNOFF FROM THEM MUST BE CONTROLLED BY ADDITIONAL MEASURES AND RESTRICTIONS.
  - A. SITE STABILIZATION. FOR WINTER STABILIZATION, HAY MULCH IS APPLIED AT TWICE THE STANDARD TEMPORARY STABILIZATION RATE. AT THE END OF EACH CONSTRUCTION DAY. AREAS THAT HAVE BEEN BROUGHT TO FINAL GRADE MUST BE STABILIZED. MULCH MAY NOT BE SPREAD ON TOP OF SNOW.
  - B. SEDIMENT BARRIERS. ALL AREAS WITHIN 75 FEET OF A PROTECTED NATURAL RESOURCE MUST BE PROTECTED WITH A DOUBLE ROW OF SEDIMENT BARRIERS.
  - C. DITCH. ALL VEGETATED DITCH LINES THAT HAVE NOT BEEN STABILIZED BY NOVEMBER 1. OR WILL BE WORKED DURING THE WINTER CONSTRUCTION PERIOD, MUST BE STABILIZED WITH AN APPROPRIATE STONE LINING BACKED BY AN APPROPRIATE GRAVEL BED OR GEOTEXTILE UNLESS SPECIFICALLY RELEASED FROM THIS STANDARD BY THE DEPARTMENT.
  - D. SLOPES. MULCH NETTING MUST BE USED TO ANCHOR MULCH ON ALL SLOPES GREATER THAN 8% UNLESS EROSION CONTROL BLANKETS OR EROSION CONTROL MIX IS BEING USED ON THESE
- 9. STORMWATER CHANNELS. DITCHES, SWALES, AND OTHER OPEN STORMWATER CHANNELS MUST BE DESIGNED, CONSTRUCTED, AND STABILIZED USING MEASURES THAT ACHIEVE LONG-TERM EROSION CONTROL. DITCHES, SWALES AND OTHER OPEN STORMWATER CHANNELS MUST BE SIZED TO HANDLE, AT A MINIMUM, THE EXPECTED VOLUME RUN-OFF. EACH CHANNEL SHOULD BE CONSTRUCTED IN SECTIONS SO THAT THE SECTION'S GRADING, SHAPING, AND INSTALLATION OF THE PERMANENT LINING CAN BE COMPLETED THE SAME DAY. IF A CHANNEL'S FINAL GRADING OR LINING INSTALLATION MUST BE DELAYED, THEN DIVERSION BERMS MUST BE USED TO DIVERT STORMWATER AWAY FROM THE CHANNEL, PROPERLY-SPACED CHECK DAMS MUST BE INSTALLED IN THE CHANNEL TO SLOW THE WATER VELOCITY, AND A TEMPORARY LINING INSTALLED ALONG THE CHANNEL TO PREVENT SCOURING. PERMANENT STABILIZATION FOR CHANNELS IS ADDRESSED UNDER APPENDIX A(5)(G) ABOVE.
  - A. THE CHANNEL SHOULD RECEIVE ADEQUATE ROUTINE MAINTENANCE TO MAINTAIN CAPACITY AND PREVENT OR CORRECT ANY EROSION OF THE CHANNEL'S BOTTOM OR SIDE SLOPES.
  - B. WHEN THE WATERSHED DRAINING TO A DITCH OR SWALE IS LESS THAN 1 ACRE OF TOTAL DRAINAGE AND LESS THAN 1/4 ACRE OF IMPERVIOUS AREA. DIVERSION OF RUNOFF TO ADJACENT WOODED OR OTHERWISE VEGETATED BUFFER AREAS IS ENCOURAGED WHERE THE OPPORTUNITY EXISTS.
- 10. <u>SEDIMENT BASINS.</u> SEDIMENT BASINS MUST BE DESIGNED TO PROVIDE STORAGE FOR EITHER THE CALCULATED RUNOFF FROM A 2-YEAR, 24-HOUR STORM OR PROVIDE FOR 3,600 CUBIC FEET OF CAPACITY PER ACRE DRAINING TO THE BASIN. OUTLET STRUCTURES MUST DISCHARGE WATER FROM THE SURFACE OF THE BASIN WHENEVER POSSIBLE. EROSION CONTROLS AND VELOCITY DISSIPATION DEVICES MUST BE USED IF THE DISCHARGING WATERS ARE LIKELY TO CREATE EROSION. ACCUMULATED SEDIMENT MUST BE REMOVED AS NEEDED FROM THE BASIN TO MAINTAIN AT LEAST 1/2 OF THE DESIGN CAPACITY OF THE BASIN. THE USE OF CATIONIC TREATMENT CHEMICALS, SUCH AS POLYMERS, FLOCCULANTS, OR OTHER CHEMICALS THAT CONTAIN AN OVERALL POSITIVE CHARGE DESIGNED TO REDUCE TURBIDITY IN STORMWATER MUST RECEIVE PRIOR APPROVAL FROM THE DEPARTMENT. WHEN REQUESTING APPROVAL TO USE CATIONIC TREATMENT CHEMICALS, YOU MUST DESCRIBE APPROPRIATE CONTROLS AND IMPLEMENTATION PROCEDURES TO ENSURE THE USE WILL NOT LEAD TO A VIOLATION OF WATER QUALITY STANDARDS. IN ADDITION. YOU MUST SPECIFY THE TYPE(S) OF SOIL LIKELY TO BE TREATED ON THE SITE, CHEMICALS TO BE USED AND HOW THEY ARE TO BE APPLIED AND IN WHAT QUANTITY, ANY MANUFACTURER'S RECOMMENDATIONS, AND ANY TRAINING HAD BY PERSONNEL WHO WILL HANDLE AND APPLY THE CHEMICALS.
- 11. ROADS. GRAVEL AND PAVED ROADS MUST BE DESIGNED AND CONSTRUCTED WITH CROWNS OR OTHER MEASURES, SUCH AS WATER BARS, TO ENSURE THAT STORMWATER IS DELIVERED IMMEDIATELY TO ADJACENT STABLE DITCHES, VEGETATED BUFFER AREAS, CATCH BASIN INLETS, OR STREET GUTTERS.
- 12. CULVERTS. CULVERTS MUST BE SIZED TO AVOID UNINTENDED FLOODING OF UPSTREAM AREAS OR FREQUENT OVERTOPPING OF ROADWAYS. CULVERT INLETS MUST BE PROTECTED WITH APPROPRIATE MATERIALS FOR THE EXPECTED ENTRANCE VELOCITY, AND PROTECTION MUST EXTEND AT LEAST AS HIGH AS THE EXPECTED MAXIMUM ELEVATION OF STORAGE BEHIND THE CULVERT. CULVERT OUTLET DESIGN MUST INCORPORATE MEASURES, SUCH AS APRONS, TO PREVENT SCOUR OF THE STREAM CHANNEL. OUTLET PROTECTION MEASURES MUST BE DESIGNED TO STAY WITHIN THE CHANNEL LIMITS. THE DESIGN MUST TAKE ACCOUNT OF TAILWATER DEPTH.
- 13. PARKING AREAS. PARKING AREAS MUST BE CONSTRUCTED TO ENSURE RUNOFF IS DELIVERED TO ADJACENT SWALES, CATCH BASINS, CURB GUTTERS, OR BUFFER AREAS WITHOUT ERODING AREAS DOWNSLOPE. THE PARKING AREA'S SUB-BASE COMPACTION AND GRADING MUST BE DONE TO ENSURE RUNOFF IS EVENLY DISTRIBUTED TO ADJACENT BUFFERS OR SIDE SLOPES. CATCH BASINS MUST BE LOCATED AND SET TO PROVIDE ENOUGH STORAGE DEPTH AT THE INLET TO ALLOW INFLOW OF PEAK RUNOFF RATES WITHOUT BY-PASS OF RUNOFF TO OTHER AREAS.
- 14. ADDITIONAL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY BE APPLIED ON A SITE-SPECIFIC BASIS.





### END VIEW

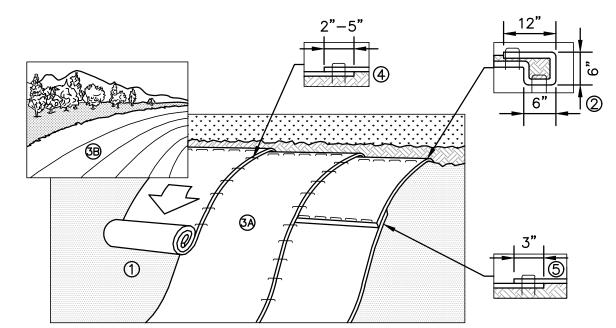
### <u>SILT FENCE NOTES:</u>

- 1. SPACING OF FENCE POSTS NOT TO EXCEED 10-0".
- 2. SILT FENCE SHALL BE INSTALLED BEFORE ANY EARTH REMOVAL OR EXCAVATION TAKES PLACE.
- 3. FILTER FABRIC TO BE FASTENED SECURELY TO POSTS WITH WIRE TIES OR STAPLES AT TOP, MIDPOINT AND BOTTOM.
- 4. OVERLAP BY 6". FOLD AND STAPLE ADJOINING SECTIONS OF FILTER FABRIC.
- 5. MAINTENANCE SHALL BE PERFORMED AS NEEDED, AND THE MATERIAL REMOVED WHEN "BULGES" DEVELOP. DO NOT DEPOSIT THE MATERIAL NEAR WETLANDS OR WATERCOURSES.
- 6. FILTER FABRIC SHALL BE ENTRENCHED 6" MINIMUM BELOW EXISTING OR FINISHED GRADE.



### SILT FENCE EROSION CONTROL DETAIL

SCALE: NONE



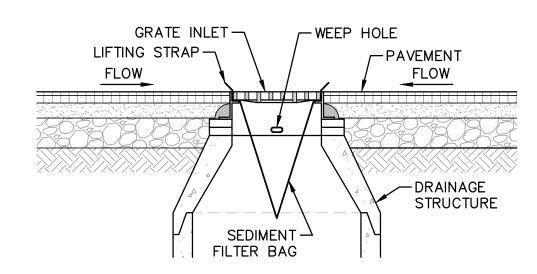
### SLOPE PROTECTION INSTALLATION NOTES:

- PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
- 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" OVERLAP DEPENDING ON BLANKET TYPE. TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.
- 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" OVERLAP. STAPLE THROUGH OVERLAPPED AREA. APPROXIMATELY 12"APART ACROSS ENTIRE BLANKET WIDTH.
- 6. IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
- 7. INSTALL PRODUCT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.



### **SLOPE PROTECTION EROSION CONTROL MATTING DETAIL**

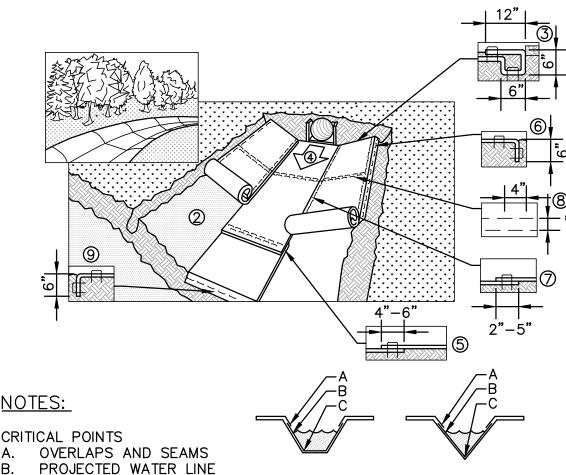
SCALE: NONE



### **INLET PROTECTION NOTES:**

- 1. THE SEDIMENT FILTER BAG SHALL BE DESIGNED FOR CATCH BASIN INLET PROTECTION. FILTER FABRIC IS NOT AN ACCEPTABLE SEDIMENT FILTER BAG.
- 2. REMOVE DRAINAGE INLET GRATE AND PLACE SEDIMENT FILTER BAG AROUND THE FRAME, REPLACE GRATE AND SEDIMENT FILTER BAG IN POSITION OR FOLLOW MANUFACTURER'S RECOMMENDATIONS. LIFTING STRAPS SHALL BE EXPOSED AND READY FOR MAINTENANCE PROCEDURES.
- 3. INSPECT SEDIMENT FILTER BAG WEEKLY AND AFTER EVERY RAINFALL EVENT.
- 4. REPLACE, CLEAN OR REMOVE SEDIMENT FILTER BAG AS DIRECTED.





- CRITICAL POINTS
- C. CHANNEL BOTTOM/SIDE SLOPE VERTICES
- \*\* HORIZONTAL STAPLE SPACING SHOULD BE ALTERED IF NECESSARY TO ALLOW STAPLES TO SECURE THE CRITICAL POINTS ALONG THE CHANNEL SURFACE.
- \*\* IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY ANCHOR THE BLANKETS

### CHANNEL INSTALLATION NOTES:

- 1. INSTALL PRODUCT IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- 2. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED, DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH THE PAPER SIDE DOWN.
- 3. BEGIN AT THE TOP OF THE CHANNEL BY ANCHORING THE BLANKET IN A 6" DEEP X 6" WIDE TRENCH WITH APPROXIMATELY 12" OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" PORTION OF BLANKET OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" APART ACROSS THE WIDTH OF THE BLANKET.
- 4. ROLL CENTER BLANKET IN DIRECTION OF WATER FLOW IN BOTTOM OF CHANNEL BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING OPTIONAL DOT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
- 5. PLACE CONSECUTIVE BLANKETS END OVER END (SHINGLE STYLE) WITH A 4"-6" OVERLAP. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4"(10") ON CENTER TO SECURE BLANKETS.
- 6. FULL-LENGTH EDGE OF BLANKETS AT TOP OF SIDE SLOPES MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6"DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
- 7. ADJACENT BLANKETS MUST BE OVERLAPPED APPROXIMATELY 2"-5" (DEPENDING ON BLANKET TYPE) AND STAPLED TO ENSURE PROPER SEAM ALIGNMENT, PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) EVEN WITH THE COLORED SEAM STITCH ON THE BLANKET BEING OVERLAPPED.
- 8. IN HIGH FLOW CHANNEL APPLICATIONS, A STAPLE CHECK SLOT IS RECOMMENDED AT 30' TO 40' INTERVALS. USE A DOUBLE ROW OF STAPLES STAGGERED 4" APART AND 4" ON CENTER OVER ENTIRE WIDTH OF CHANNEL.
- 9. THE TERMINAL END OF THE BLANKETS MUST BE ANCHORED WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" APART IN A 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.



### CHANNEL EROSION CONTROL MATTING DETAIL

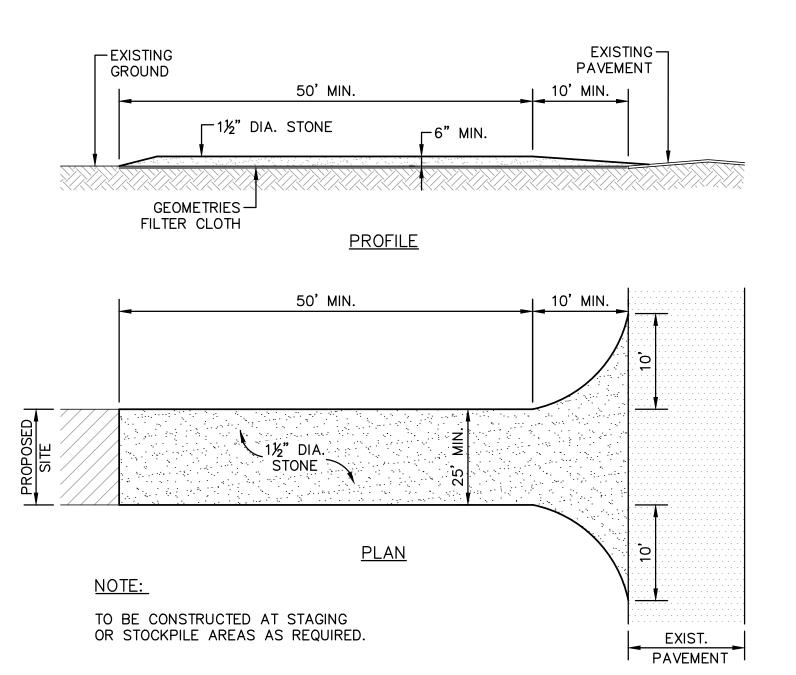
SCALE: NONE

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> CONSTRUCTION **DETAILS 1**

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### STABILIZED CONSTRUCTION ENTRY DETAIL

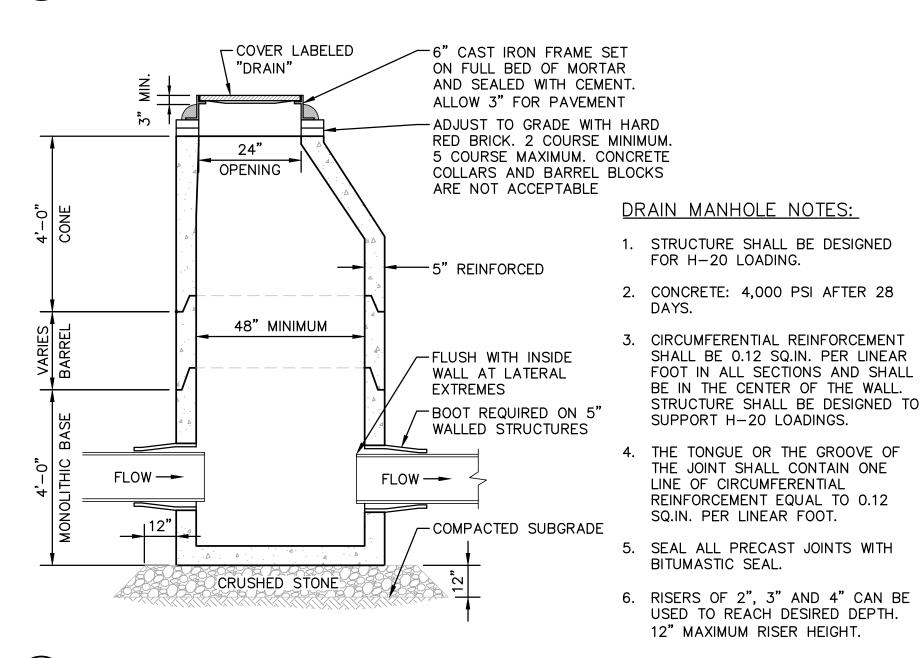
SCALE: NONE

### 1. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4". 2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARDS A PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER. INSPECTION SHALL BE FREQUENT AND REPAIR STAKED STRAW OR REPLACEMENT SHALL BE MADE PROMPTLY BALES AS NEEDED. 4. BALES SHALL BE REMOVED WHEN THEY HAVE FLOW SERVED THEIR USEFUL-NESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. -EXISTING GROUND -OVERLAP BALES <u>PLAN</u> **ELEVATION**

STRAW BALE CHECK DAM NOTES:

### STRAW BALE CHECK DAM DETAIL (AS NEEDED)

SCALE: NONE



**DRAIN MANHOLE DETAIL** 

SCALE: NONE

CENTER OF STONE CHECK DAMS SHALL BE 2"-3"ø CLEAN MIN. 6" BELOW SIDES WASHED STONE DRAINAGE WAY SECTION

-GEOMETRIES ENVELOPE MIRAFI 140N OR EQUAL

# DRAINAGE WAY PROFILE 1. THE CONTRACTOR SHALL USE STONE CHECK DAMS AS NEEDED FOR TEMPORARY EROSION CONTROL L = THE DISTANCE SUCH THAT THE

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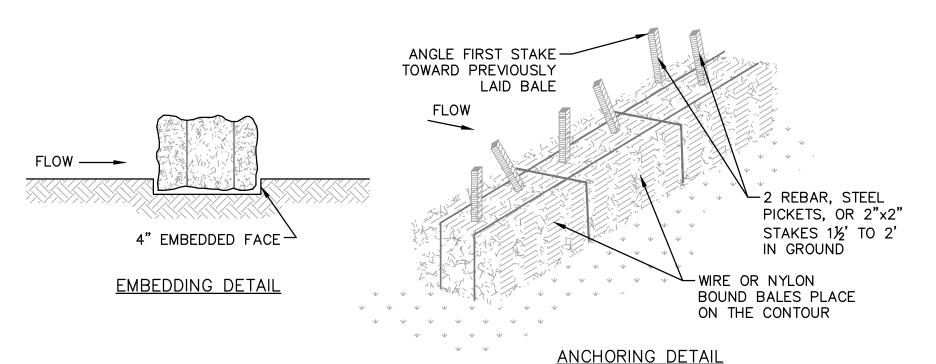
DURING CONSTRUCTION. 2. REMOVE CHECK DAMS AFTER SITE

NOTES:

IS STABILIZED.

CHECK DAM SPACING

### STONE CHECK DAM DETAIL (AS NEEDED) SCALE: NONE

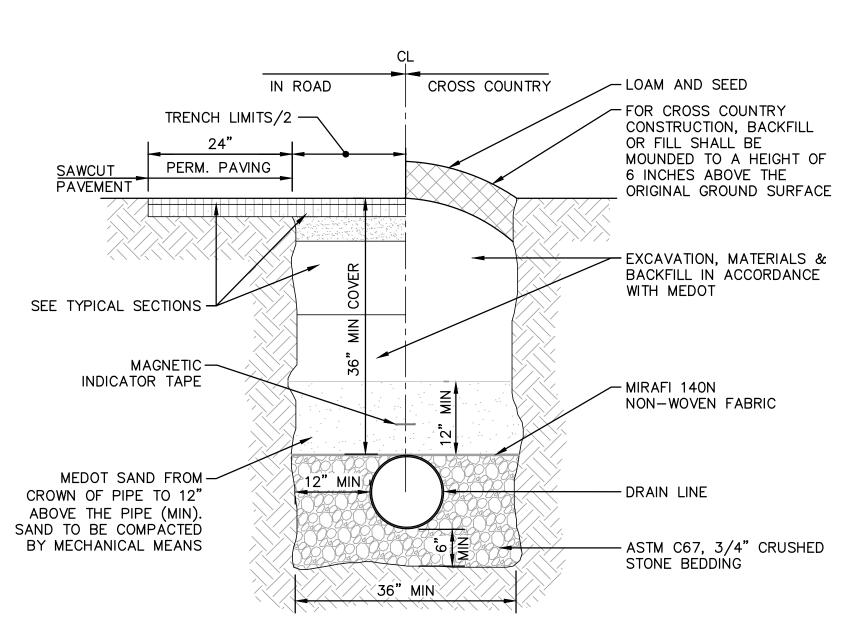


### STRAW BALE NOTES:

- 1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
- 2. BALES SHALL BE SECURELY ANCHORED IN PLACE BY STAKES OR REBARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARDS A PREVIOUSLY LAID BALE TO FORCE BALES TOGETHER.
- 3. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- 4. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL-NESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

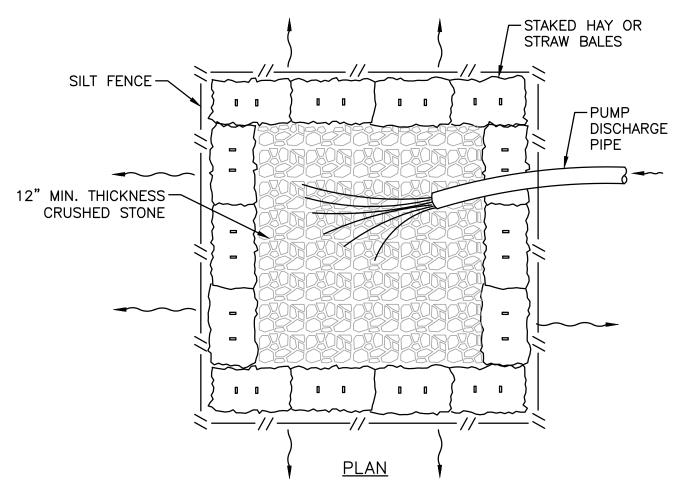
### STRAW BALE DETAIL (AS NEEDED)

SCALE: NONE



### **DRAIN TRENCH DETAIL**

SCALE: NONE

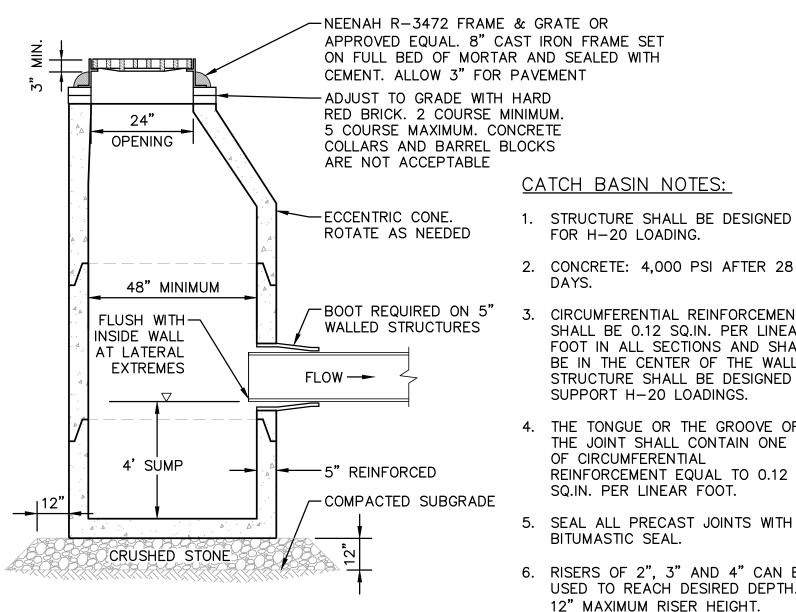


### **DEWATERING PIT NOTES:**

- 1. ADJUST SIZE OF PIT TO MAINTAIN CLEAN NON-EROSIVE WATER DISCHARGE FROM PIT.
- 2. TO BE CONSTRUCTED AT APPROVED UPLAND LOCATIONS.
- 3. TO BE USED FOR PUMPING OPERATIONS DURING DEWATERING,

### **DEWATERING PIT DETAIL**

SCALE: NONE



**CATCH BASIN NOTES:** 

2. CONCRETE: 4,000 PSI AFTER 28 DAYS.

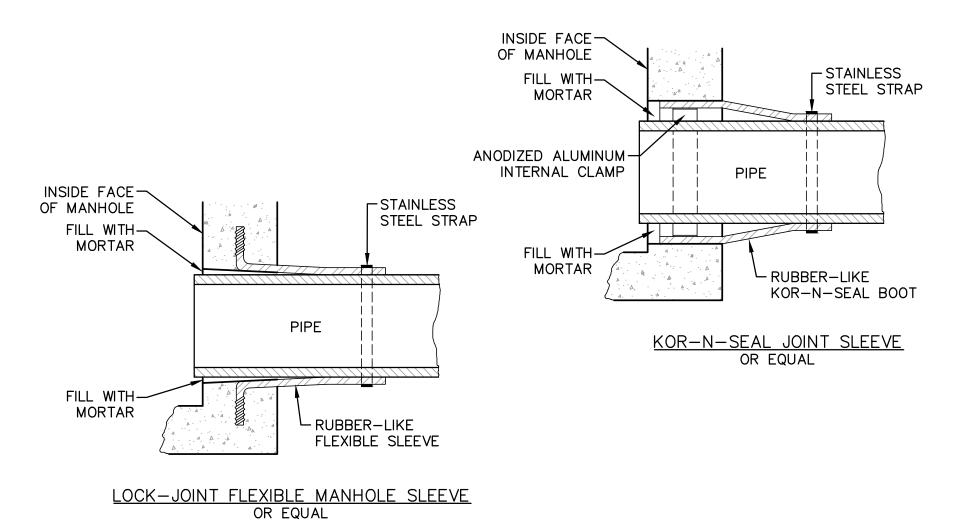
FOR H-20 LOADING.

- 3. CIRCUMFERENTIAL REINFORCEMENT SHALL BE 0.12 SQ.IN. PER LINEAR FOOT IN ALL SECTIONS AND SHALL BE IN THE CENTER OF THE WALL. STRUCTURE SHALL BE DESIGNED TO SUPPORT H-20 LOADINGS.
- 4. THE TONGUE OR THE GROOVE OF THE JOINT SHALL CONTAIN ONE LINE OF CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.12 SQ.IN. PER LINEAR FOOT.
- 5. SEAL ALL PRECAST JOINTS WITH BITUMASTIC SEAL.
- 6. RISERS OF 2", 3" AND 4" CAN BE USED TO REACH DESIRED DEPTH. 12" MAXIMUM RISER HEIGHT.



### **TYPICAL CATCH BASIN DETAIL**

SCALE: NONE





SCALE: NONE

AZTEC, TLAND RO, OSED DEVEL AX MAP CONSTRUCTION **DETAILS 2** 

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### WET POND MAINTENANCE NOTES:

- 1. EMBANKMENTS SHOULD BE INSPECTED AT LEAST ANNUALLY BY A QUALIFIED PROFESSIONAL FOR SETTLEMENT, EROSION, SEEPAGE, ANIMAL BURROWS, WOODY VEGETATION, AND OTHER CONDITIONS THAT COULD DEGRADE THE EMBANKMENT AND REDUCE ITS STABILITY FOR IMPOUNDING WATER. IMMEDIATE CORRECTIVE ACTION SHOULD BE IMPLEMENTED IF ANY SUCH CONDITIONS ARE FOUND.
- 2. INLET AND OUTLET PIPES, INLET AND OUTLET STRUCTURES, ENERGY DISSIPATION STRUCTURES OR PRACTICES, AND OTHER STRUCTURAL APPURTENANCES SHOULD BE INSPECTED AT LEAST ANNUALLY BY A QUALIFIED PROFESSIONAL, AND CORRECTIVE ACTION IMPLEMENTED AS INDICATED BY SUCH INSPECTION.
- 3. TRASH AND DEBRIS SHOULD BE REMOVED FROM THE BASIN AND ANY INLET OR OUTLET STRUCTURE WHENEVER OBSERVED BY INSPECTION.
- 4. ACCUMULATED SEDIMENT SHOULD BE REMOVED WHEN IT SIGNIFICANTLY AFFECTS BASIN CAPACITY.
- 5. A MINIMUM SEPARATION OF ONE (1) FOOT IS RECOMMENDED FROM THE BOTTOM OF THE BASIN TO THE TOP OF BEDROCK, OR AN IMPERMEABLE BARRIER (CLAY LAYER OR SYNTHETIC LINER) SHOULD BE PROVIDED.

### 12" COMPACTED GROUNDWATER. DRAIN TO IMPERMEABLE SILTY DAYLIGHT ON EACH SIDE CLAY LAYER FROM OF PONDS. **EXISTING MATERIAL** LOCATED ONSITE TYPICAL SECTION PERMANENT CHANNEL CHANNEL 25-YR SPILLWAY BENCH ELEV. POOL PROTECTION PROTECTION STORM PEAK ELEV. ELEV. ELEV. POND VOLUME VOLUME ELEV. C ELEV. D 7,507 C.F 57.1 46.0 53.3 18,313 C.F. 54.4 55.82

53.3

50.6

5,590 C.F

13,516 C.F.

54.84

52.43

PERMANENT

POOL

BOTTOM=A

OUTLET CONTROL -

6' WIDE BERM-

55.85

54.85

52.43

ELEV=B

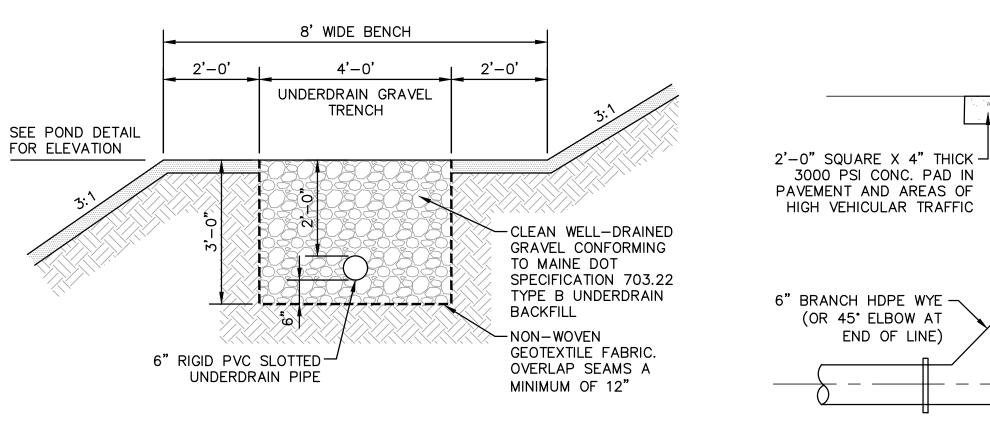
ELEV=A

STRUCTURE. SEE DETAIL

8' WIDE BENCH-

UNDERDRAIN GRAVEL

TRENCH. SEE DETAIL



**DRAIN CLEANOUT DETAIL** 

SCALE: NONE

-6"x6" W1.4xW1.4

- BRASS PLUG

USE INVERTED

- FINISHED

GRADE

6" CLEANOUT

**ASSEMBLY** 

HDPE

45° ELBOW

SHAWN

TOBEY

PREPARED AS
SERVICE AND
PROPERTY OF
MAY NOT BE
DISSEMINATED
ANY MANNER,
DNICALLY, FOR
SE THAN THIS
THE WRITTEN

THIS DOCUMENT IS PAN INSTRUMENT OF SHALL REMAIN THE PHOYLE, TANNER. IT NUSED, REPRODUCED, INCLUDING ELECTRON ANY OTHER PURPOSE PROJECT, WITHOUT PERMISSION OF HOYL

Fannel

W.W.M.

# **UNDERDRAIN GRAVEL TRENCH DETAIL**

- SPILLWAY

SIDE SLOPE

SCALE: NONE

SPILLWAY OPENING

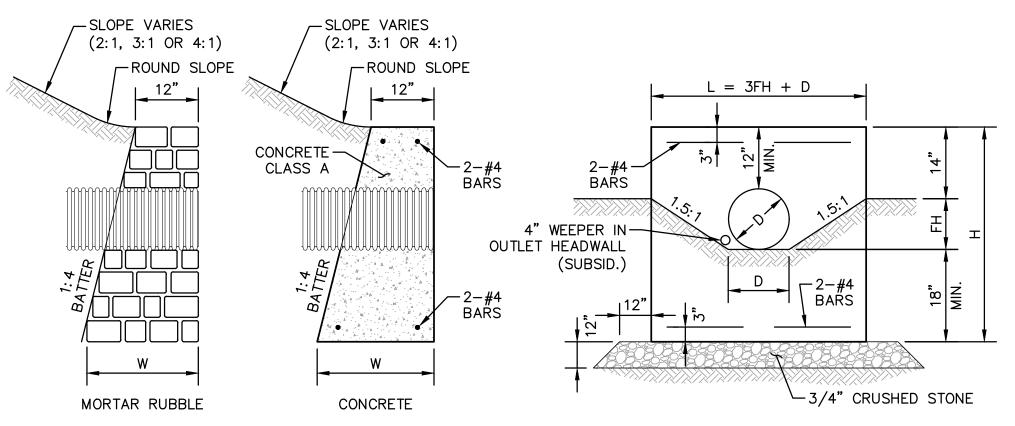
WIDTH=C

— TOP OF EMERGENCY

SPILLWAY

# **WET POND CROSS SECTION**

SCALE: NONE



-4" LOAM

\_

AND SEED

-HEADWALL

-INSTALL UNDERDRAIN ON

THE UPHILL SIDE OF OF

45.0

44.0

PONDS TO INTERCEPT

— SEDIMENT

FOREBAY

52.5

49.5

12,916 C.F.

29,209 C.F.

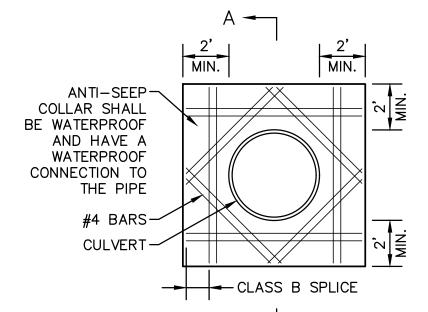
### SECTION ON CENTERLINE

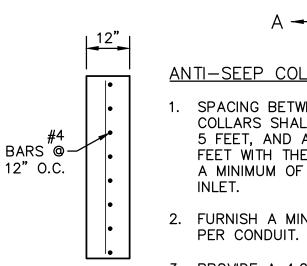
ELEVATION	VIF

DIAMETER D INCHES	MASONRY PER FOOT OF WALL CU. YD	MASONRY PER STANDARD HEADER CU. YD	STEEL PER STANDARD HEADER LB.	LENGTH OF BARS	EXC. FOR 1' DEPTH CU. YD.	HEADER LENGTH L	HEADER HEIGHT H	FILL HEGHT <b>FH</b>	WIDTH AT BOTTOM OF HEADER W
12	0.186	0.61	9	3'-2"	0.789	3'-6"	3'-6"	0'-10"	0'-10½"
15	0.202	0.85	11	3–10	0.947	4-6	3–9	1-1	1-111/4
18	0.222	1.13	14	5-2	1.111	5-6	4-0	1-4	2-0
24	0.260	1.78	20	7–2	1.451	7–6	4-6	1–10	2-1½
30	0.301	2.58	25	9-2	1.810	9-6	5-0	2-4	2-3
36	0.344	3.53	31	11-2	2.187	11-6	5-6	2-10	2-41/2

## **CONCRETE OR MORTAR RUBBLE HEADWALL DETAILS**

SCALE: NONE





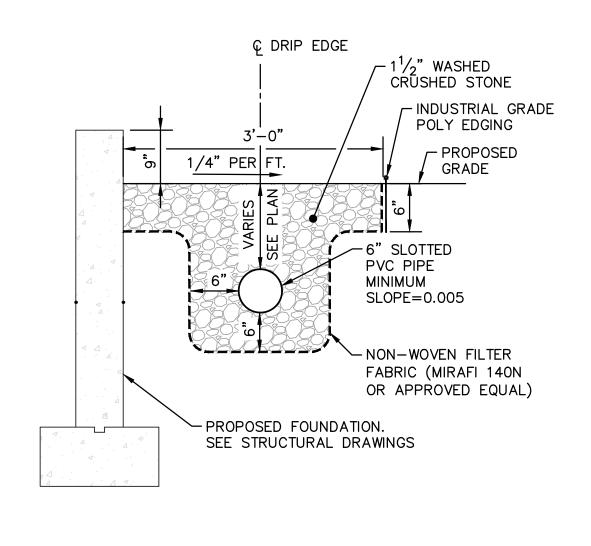
ANTI-SEEP COLLAR NOTES: SPACING BETWEEN ADJACENT COLLARS SHALL BE A MINIMUM OF 5 FEET, AND A MAXIMUM OF 28 FEET WITH THE FIRST COLLAR BEING A MINIMUM OF 5 FEET FROM THE

FURNISH A MINIMUM OF 2 COLLARS

3. PROVIDE A 4,000 PSI (MIN.) CONCRETE MIX.

ANTI-SEEP DRAIN COLLAR DETAIL

SCALE: NONE



# TYPICAL DRIP EDGE INFILTRATION DETAIL

SCALE: NONE

### FILTER FABRIC --6" GRAVEL BASE -RIP-RAP COMPACTED SUBGRADE -SECTION VIEW 6' WIDE BERM TOP OF EMERGENCY -SPILLWAY -TOP OF **⊕**ELEV=B POND BERM -20% MAX. SLOPE APPROX. ELEV=A **EXISTING** GRADE POND — BENCH

BERM=F

SPILLWAY=E

-EMERGENCY SPILLWAY

56.0

53.75

POND BERM

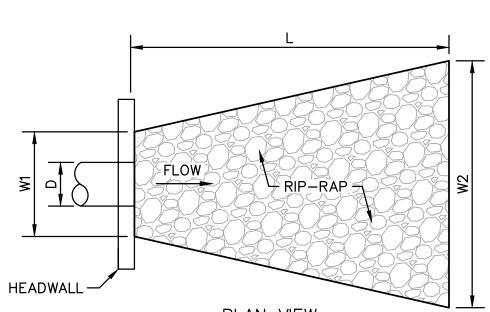
SEE DETAIL

−4" LOAM

AND SEED

	FILTER F COMPACTED →		RIP-RAP RIR-RAP	D50=D THICKNESS=E	<u> </u>
		PROF	FILE VIEW		
WET POND	SPILLWAY ELEV. <b>A</b>	BERM ELEV. <b>B</b>	SPILLWAY WIDTH FT C	RIP-RAP D50 <b>D</b>	RIP-RAP THICKNESS E
1	55.85	57.1	30	6"	12"
2	54.85	56.0	30	6"	12"
3	52.45	53.75	55	8"	16"

POND	ELEV. <b>A</b>	ELEV. B	WIDTH FT C	D50 <b>D</b>	THIC
1	55.85	57.1	30	6"	
2	54.85	56.0	30	6"	
3	52.45	53.75	55	8"	

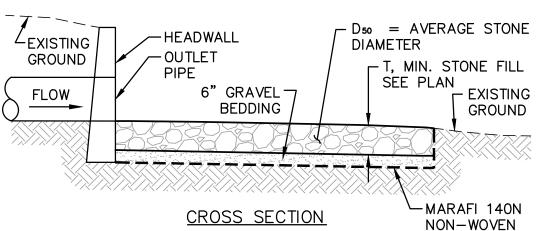


**EMERGENCY SPILLWAY DETAIL** 

SCALE: NONE

D   W1   L   W2   T   D50   RIP-RAI   VOLUME   (IN) (FT) (FT) (IN) (IN) (IN) (C.Y.)   HW1   18   4.5   17   11   12   6   4.8   HW2   18   4.5   14   10   12   6   3.8   HW3   24   6   16   12   12   6   5.6   HW5   36   9   27   20   12   6   14.7   HW6   12   3   10   7   12   6   1.7   HW7   18   4.5   16   11   12   6   4.5   4.5     HW7   18   4.5   16   11   12   6   4.5   4.5     HW7   18   4.5   16   11   12   6   4.5     HW7   18   4.5   16   11   12   12   12   12   12   12									
(IN) (FT) (FT) (IN) (IN) (C.Y.)   HW1   18   4.5   17   11   12   6   4.8   HW2   18   4.5   14   10   12   6   3.8   HW3   24   6   16   12   12   6   5.6   HW5   36   9   27   20   12   6   14.7   HW6   12   3   10   7   12   6   1.7   HW7   18   4.5   16   11   12   6   4.5   4.5   16   11   12   6   4.5   4.5   16   11   12   6   4.5   16   11   12   16   16   16   16   16			D	W1	L	W2	Т	D 50	
HW2 18 4.5 14 10 12 6 3.8  HW3 24 6 16 12 12 6 5.6  HW5 36 9 27 20 12 6 14.7  HW6 12 3 10 7 12 6 1.7  HW7 18 4.5 16 11 12 6 4.5			(IN)	(FT)	(FT)	(FT)	(IN)	(IN)	
HW2   18   4.5   14   10   12   6   3.8   HW3   24   6   16   12   12   6   5.6   HW5   36   9   27   20   12   6   14.7   HW6   12   3   10   7   12   6   1.7   HW7   18   4.5   16   11   12   6   4.5   4.5		HW1	18	4.5	17	11	12	6	4.8
HW5 36 9 27 20 12 6 14.7 HW6 12 3 10 7 12 6 1.7 HW7 18 4.5 16 11 12 6 4.5		HW2	18	4.5	14	10	12	6	3.8
HW6 12 3 10 7 12 6 1.7 HW7 18 4.5 16 11 12 6 4.5		HW3	24	6	16	12	12	6	5.6
HW7 18 4.5 16 11 12 6 4.5	RIP-RAP	HW5	36	9	27	20	12	6	14.7
		HW6	12	3	10	7	12	6	1.7
		HW7	18	4.5	16	11	12	6	4.5
HW8 36 9 28 20 12 6 15.2		HW8	36	9	28	20	12	6	15.2
PLAN VIEW HW9 24/36 15 22 24 12 6 16.2	LAN VIEW	HW9	24/36	15	22	24	12	6	16.2

GEOTEXTILE FABRIC



### RIP-RAP NOTE

TABLE OF DIMENSIONS

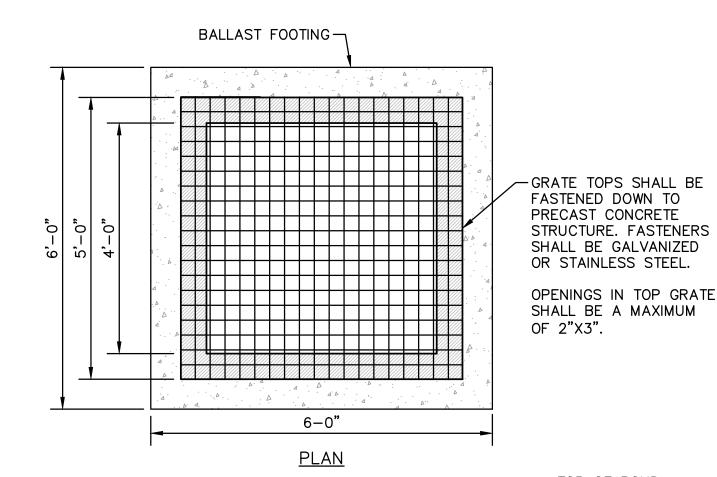
ALL RIP-RAP SHALL BE PROTECTED FROM RECEIVING SEDIMENT RUNOFF DURING THE CONSTRUCTION PROCESS. THE CONTRACTOR SHALL ENSURE THAT ALL RIP-RAP IS CLEAN AND FREE OF SEDIMENT AT THE COMPLETION OF THE PROJECT.

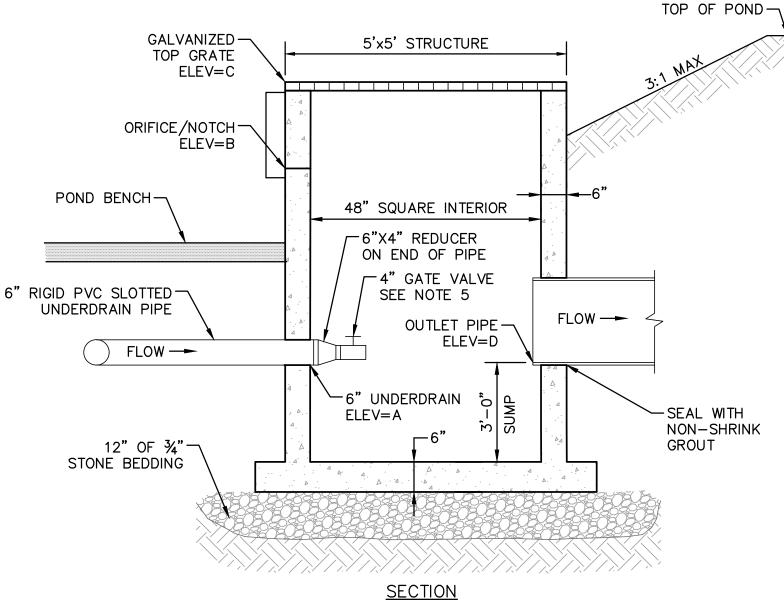
### STONE LINED OUTLET PROTECTION DETAIL SCALE: NONE

WET POND	UNDERDRAIN INV.IN <b>A</b>	GATE VALVE OPENING	ORIFICE/ NOTCH INV.IN <b>B</b>	ORIFICE/ NOTCH SIZE	TOP GRATE <b>C</b>	OUTLET PIPE INV.OUT D	OUTLET PIPE SIZE
1	50.7	1.11 SQ. IN.	54.4	10"X15.6"	55.7	50.6	24"
2	49.8	0.76 SQ. IN.	53.3	5"	54.7	49.7	24"
3	46.6	1.9 SQ. IN.	50.6	15"X16.8"	52.25	46.5	36"

# **OUTLET STRUCTURE AT DETENTION POND**

SCALE: NONE





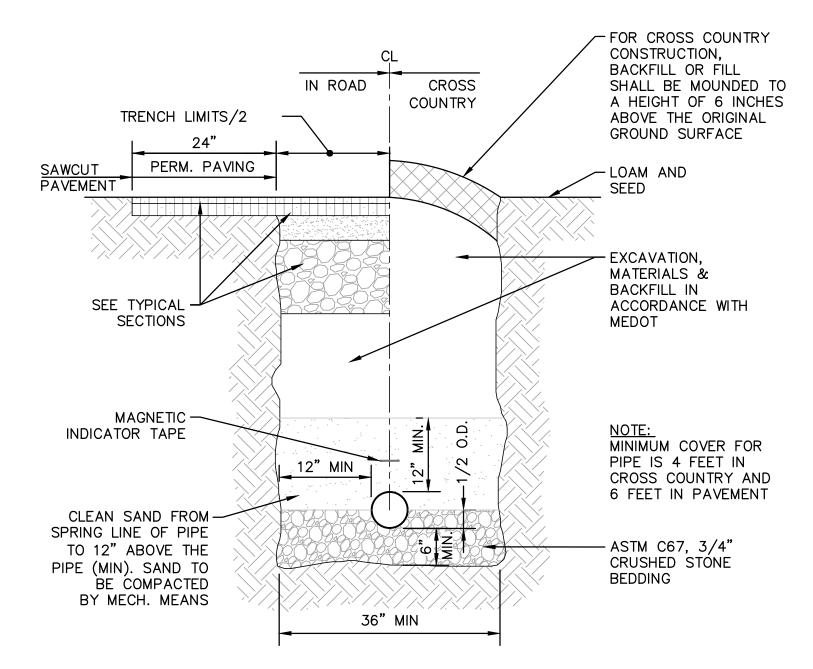
# **OUTLET STRUCTURE NOTES:**

- 1. ALL CEMENT CONCRETE TO BE 4,000 PSI (MIN.).
- 2. GALVANIZED STEEL GRATE SHALL BE BOLTED TO TOP OF STRUCTURE.
- 3. ALL OPENINGS SHALL BE CAST IN AS REQUIRED.
- PRECAST REINFORCED CONCRETE STRUCTURE TO MEET ASTM C-478 DESIGNATION AND H-20 LOADING.
- THE 4" GATE VALVE CONNECTED TO THE UNDERDRAIN SHALL BE ADJUSTED TO THE PROVIDE THE SQ. IN. OPENING SHOWN IN THE TABLE BELOW TO PROVIDE A CHANNEL PROTECTION VOLUME DRAIN DOWN TIME OF GREATER THAN 24 HOURS.

WET POND	UNDERDRAIN INV.IN <b>A</b>	GATE VALVE OPENING	ORIFICE/ NOTCH INV.IN B	ORIFICE/ NOTCH SIZE	TOP GRATE <b>C</b>	OUTLET PIPE INV.OUT <b>D</b>	OUTLET PIPE SIZE
1	50.7	1.11 SQ. IN.	54.4	10"X15.6"	55.7	50.6	24"
2	49.8	0.76 SQ. IN.	53.3	5"	54.7	49.7	24"
3	46.6	1.9 SQ. IN.	50.6	15"X16.8"	52.25	46.5	36"

CONSTRUCTION **DETAILS 3** 

PROJECT NO. 569200 SHEET 21 OF 25



INSIDE FACE-

FILL WITH-

MORTAR

FILL WITH-

MORTAR

INSIDE FACE -

FILL WITH-

ANODIZED-

**ALUMINUM** 

FILL WITH

MORTAR

INTERNAL CLAMP

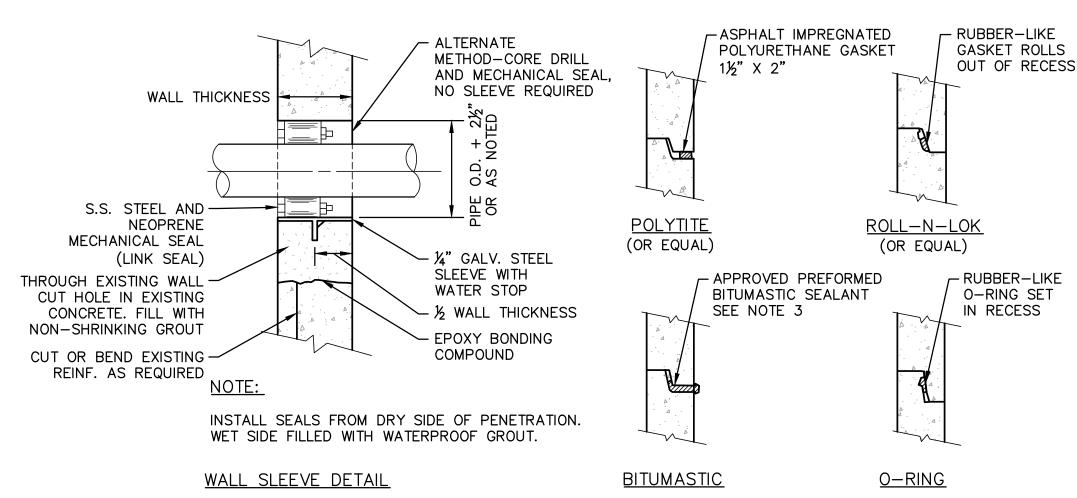
MORTAR

OF MANHOLE

OF MANHOLE

### **SEWER TRENCH DETAIL**

SCALE: NONE



## NOTE:

ALL GASKETS AND SEALANTS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

### DETAIL A POURED OR HAND PACKED -NON-SHRINKING MORTAR HALLEMITE, WATERPLUG EMBECO OR APPROVED EQUAL - POURING SPRUE INSIDE FACE IF REQUIRED OF MANHOLE TEMPORARY FORMS FORMED -IF REQUIRED **OPENING** 3" MAX. SPACE PIPE

### SLEEVE AND GASKET NOTES:

HORIZONTAL JOINTS BETWEEN SECTIONS OF PRECAST CONCRETE BARRELS SHALL BE OF A TYPE APPROVED BY THE ENGINEER, WHICH TYPE SHALL, IN GENERAL, DEPEND FOR WATERTIGHTNESS UPON AN ELASTOMERIC OR MASTIC-LIKE GASKET.

NON-SHRINKING MORTAR

(SEE NOTE 4)

- 2. PIPE TO MANHOLE JOINTS SHALL BE ONLY AS APPROVED BY THE ENGINEER AND IN GENERAL, WILL DEPEND FOR WATERTIGHTNESS UPON ELASTOMERIC SEALANT.
- 3. FOR BITUMASTIC TYPE JOINTS THE AMOUNT OF SEALANT SHALL BE SUFFICIENT TO FILL AT LEAST 75% OF THE JOINT CAVITY.
- 4. NON-SHRINKING MORTAR SHALL ONLY BE USED WHERE SPECIFICALLY APPROVED BY THE ENGINEER.

### **SEWER MANHOLE JOINT AND PIPE CONNECTION DETAILS**

KOR-N-SEAL BOOT

- RUBBER-LIKE

- STAINLESS

STEEL STRAP

- STAINLESS

PIPE

<u>LOCK-JOINT FLEXIBLE MANHOLE SLEEVE</u>

OR EQUAL

KOR-N-SEAL JOINT SLEEVE

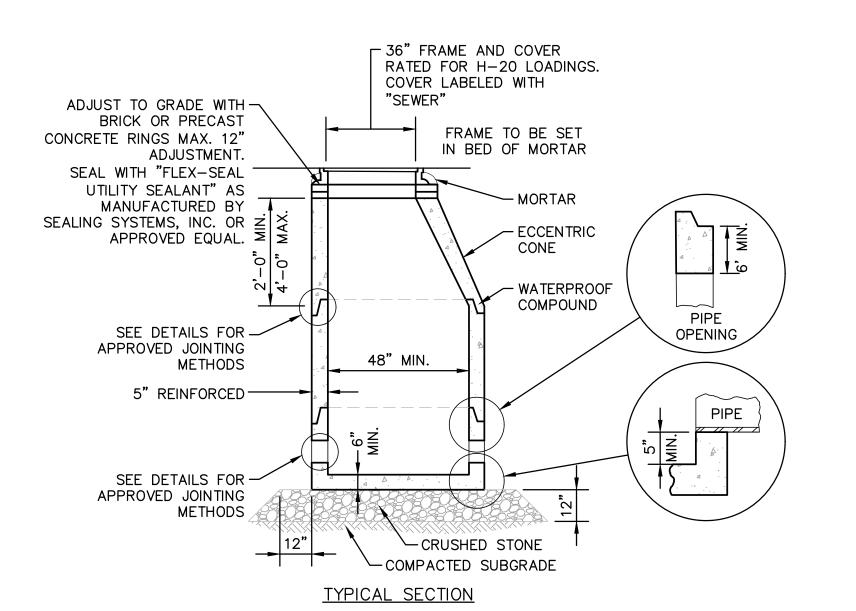
OR EQUAL

- RUBBER-LIKE

FLEXIBLE SLEEVE

STEEL STRAP

SCALE: NONE



### **SEWER NOTES:**

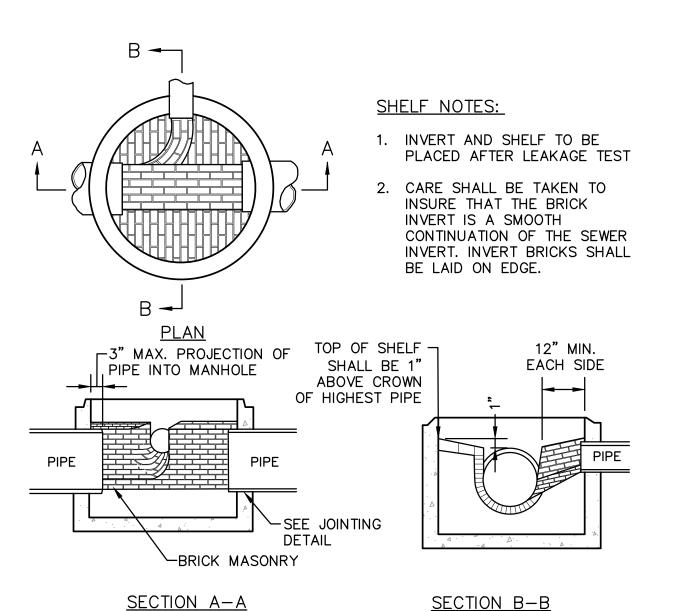
- MANHOLES: THE MANHOLE, INCLUDING ALL COMPONENT PARTS, SHALL HAVE ADEQUATE SPACE, STRENGTH AND LEAKPROOF QUALITIES CONSIDERED NECESSARY FOR THE INTENDED SERVICE SPACE REQUIREMENTS AND CONFIGURATIONS, SHALL BE SHOWN ON THE DRAWING. MANHOLES MAY BE AN ASSEMBLY OF PRECAST SECTIONS WITH STEEL REINFORCEMENT, WITH ADEQUATE JOINTING. IN ANY APPROVED MANHOLE, THE COMPLETE STRUCTURE SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND LOADS OF 8 TONS (H-20 LOADING) WITHOUT FAILURE AND PREVENT LEAKAGE IN EXCESS OF ONE GALLON PER DAY PER VERTICAL FOOT OF MANHOLE, CONTINUOUSLY FOR THE LIFE OF THE STRUCTURE. A PERIOD GENERALLY IN EXCESS OF 25 YEARS IS TO BE UNDERSTOOD IN BOTH CASES.
- 2. INVERTS AND SHELVES: MANHOLES SHALL HAVE A BRICK PAVED SHELF AND INVERT, CONSTRUCTED TO CONFORM TO THE SIZE OF PIPE AND FLOW. AT CHANGES IN DIRECTION, THE INVERTS SHALL BE LAID OUT IN CURVES OF THE LONGEST RADIUS POSSIBLE TANGENT TO THE CENTER LINE OF THE SEWER PIPES. SHELVES SHALL BE CONSTRUCTED TO THE ELEVATION OF THE HIGHEST PIPE CROWN AND SLOPE TO DRAIN TOWARD THE FLOWING THROUGH CHANNEL. UNDERLAYMENT OF INVERT AND SHELF SHALL CONSIST OF BRICK MASONRY.
- 3. SHALLOW MANHOLE: IN LIEU OF A CONE SECTION, WHEN MANHOLE DEPTH IS LESS THAN 6 FEET, A REINFORCED CONCRETE SLAB COVER SHALL BE USED, WHERE INDICATED, HAVING AN ECCENTRIC ENTRANCE OPENING AND CAPABLE OF SUPPORTING H-20 LOADS. SEE DETAILS.
- 4. RISER SECTION: THE RISER SECTION SHALL HAVE THE EXTERIOR WRAPPED WITH WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM AS MANUFACTURED BY CCI PIPE PROTECTION PRODUCTS OR APPROVED EQUAL.

### MANHOLE NOTES:

- 1. BASE SECTION TO BE FULL WALL THICKNESS AND MONOLITHIC TO A POINT 6" ABOVE THE PIPE CROWN.
- 2. THERE SHALL BE NO STEPS IN ANY OF THE SEWER MANHOLES

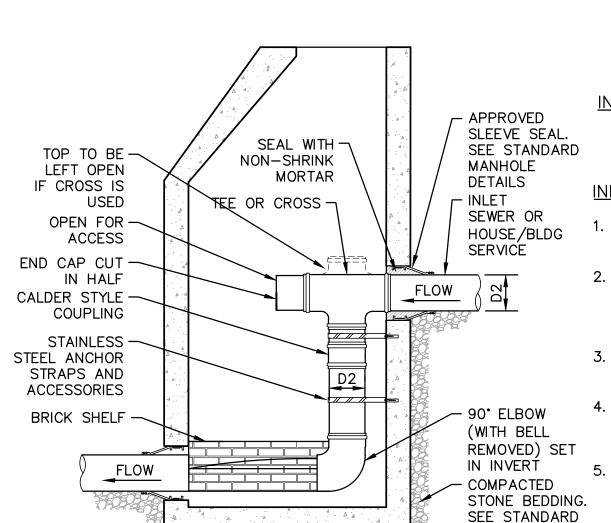
### STANDARD SANITARY SEWER MANHOLE DETAIL

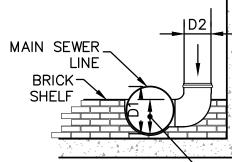
### SCALE: NONE



# STANDARD SANITARY SEWER BRICK INVERT DETAILS

SCALE: NONE





 $0.8 \times PIPE DIA. (D1)^{\Delta}$ INVERT DETAIL AT SIDE DROPS

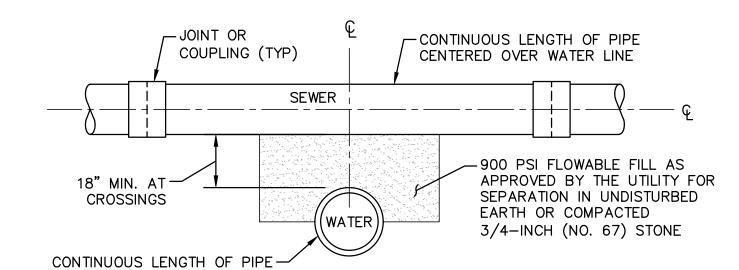
### **INLET DROP MANHOLE NOTES:**

- 1. DROP DIAMETER (D2) TO MATCH INLET DIAMETER (D2)
- 2. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH MEDOT STANDARDS FOR SANITARY MANHOLE CONSTRUCTION.
- 3. INSIDE DROP MANHOLES SHALL HAVE A MINIMUM 5'-0" INSIDE DIAMETER.
- 4. DROP REQUIRED WHEN INVERT DIFFERENTIAL EXCEEDS 2 VERTICAL
- 5. ANCHOR STRAPS AND BOLTS TO BE STAINLESS STEEL AND NOT MORE THAN 2 FEET ON CENTER. STRAPS - 2 IN. WIDE

BOLTS - ½ IN. x 2½ IN. LONG

# **INLET DROP SEWER MANHOLE DETAIL**

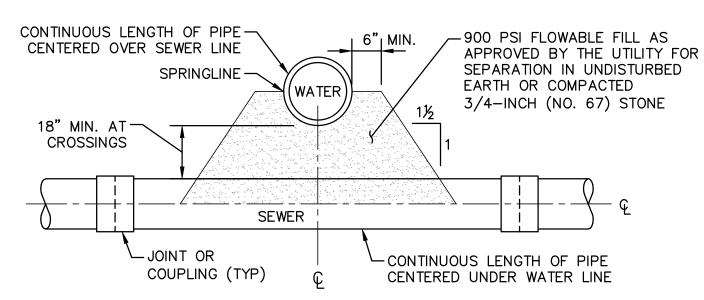
SCALE: NONE



MANHOLE

DETAILS

### WATER CROSSING UNDER SEWER



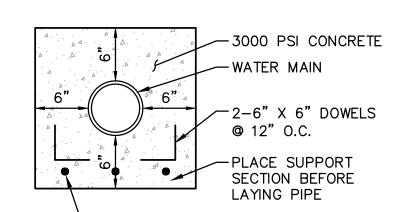
WATER CROSSING OVER SEWER

### **CROSSING NOTES:**

CENTERED UNDER SEWER LINE

- 1. SEE PLAN AND PROFILE FOR CROSSING LOCATIONS,
- 2. IF A CONTINUOUS LENGTH OF PIPE CANNOT BE CENTERED AT THE CROSSING OR IF 18" VERTICAL SEPARATION CANNOT BE ACHIEVED, THE LOWER PIPE SHALL BE INCASED IN CONCRETE 10'-0" IN EACH DIRECTION (SEE DETAIL). THE CONCRETE IS SUBSIDIARY TO THE PIPE INSTALLATION. CONTACT ENGINEER FOR DIRECTION BEFORE PROCEEDING IF THIS SITUATION IS ENCOUNTERED.

### **WATER/SEWER PIPE CROSSING DETAIL** SCALE: NONE



# **ENCASEMENT NOTES:**

- 1. CONCRETE ENCASEMENT OF UTILITY PIPE WILL BE REQUIRED AS SHOWN ON THE PLANS OR WHEN UTILITY CROSSING REQUIREMENTS CANNOT BE MET.
- 2. CONCRETE ENCASEMENT SHALL EXTEND 10'-0" MIN. ON EACH SIDE OF UTILITY CROSSING



### **CONCRETE ENCASEMENT DETAIL**

SCALE: NONE

-3−#4 BAR

PREPARED AS
SERVICE AND
PROPERTY OF
MAY NOT BE
DISSEMINATED
A ANY MANNER,
DNICALLY, FOR
SE THAN THIS
THE WRITTEN
OYLE, TANNER. SHAN SHOW REIGHT ates, Inc - COF

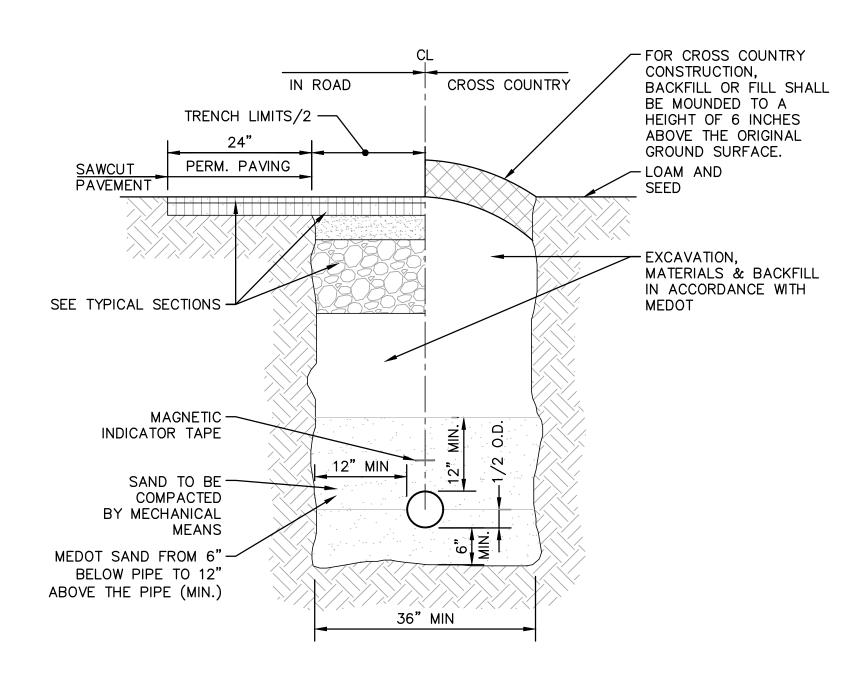
SHAWN

TOBEY

**DETAILS 4** 

PROJECT NO. 569200 SHEET 22 OF 25

CONSTRUCTION

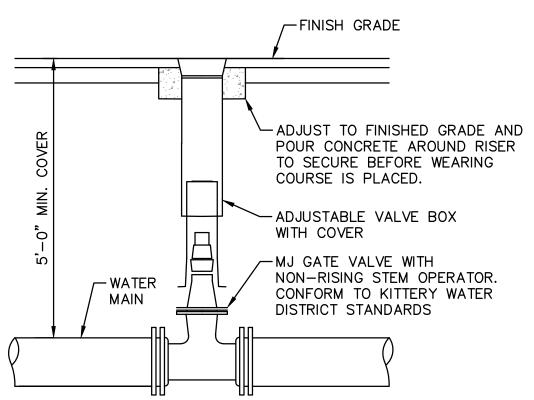


### **WATERLINE TRENCH NOTES:**

- 1. APPROVED MATERIAL: SHALL BE NATURAL MATERIAL EXCAVATED DURING THE COURSE OF CONSTRUCTION, BUT SHALL EXCLUDE DEBRIS, PIECES OF PAVEMENT, ORGANIC MATTER, TOPSOIL, CLUMPS MORE THAN 3" DIA., ALL EXCAVATED LEDGE ROCK, STUMPS OR ANY MATERIAL WHICH, AS DETERMINED BY THE ENGINEER, WILL NOT PROVIDE SUFFICIENT SUPPORT OR MAINTAIN THE COMPLETED CONSTRUCTION IN A STABLE CONDITION.
- 2. SEWER AND WATER PIPING RUNNING APPROXIMATELY PARALLEL MUST BE SEPARATED BY A HORIZONTAL DISTANCE OF TEN FEET MINIMUM.
- 3. WATER MAINS ARE TO HAVE A MINIMUM COVER OF 5'-0" FT.

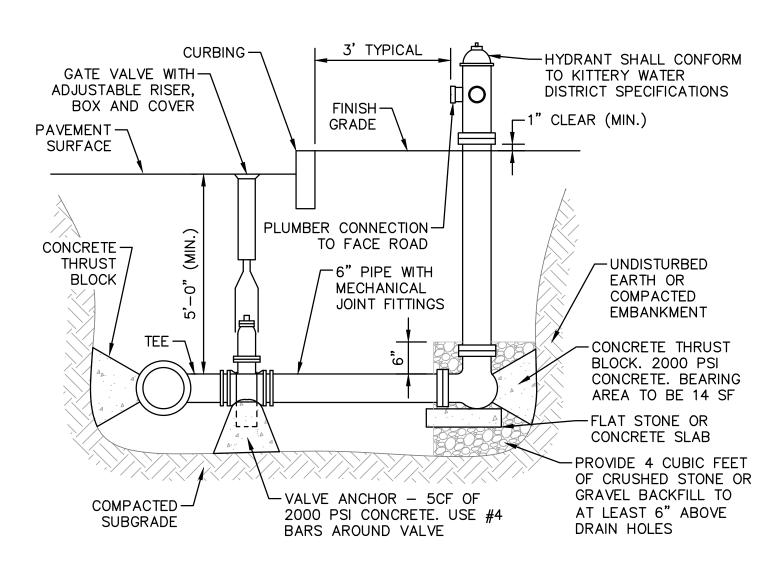
# **WATER LINE TRENCH DETAIL**

SCALE: NONE



### **GATE VALVE DETAIL**

SCALE: NONE



### FIRE HYDRANT ASSEMBLY DETAIL

SCALE: NONE



**SECTION VIEW** 



-CONCRETE PATIO

POLYURETHANE

PIPE & CAP

HORIZONTAL BEND

STANDARD BEND

SCALE: NONE

LUMINAIRE

-4" STEEL

r 2'-0" IN PAVEMENT OR

WITHIN 5' OF PAVEMENT

WHEN LIGHT POLE BASE IS

REINFORCED CONCRETE

LIGHT POLE BASE

-SEE SITE PLAN

FOR PAVEMENT

LOCATIONS

POLE

WATER LINE THRUST BLOCK DETAILS

BLOCK WRAPPED IN

<u>VERTICAL BEND - SECTION</u>

REACTION TYPE

OTHER TEST

PRESSURES

REACTIONS

FOR THE

ABOVE

### ✓ 7 \ TYPICAL LIGHT BASE POLE DETAILS SCALE: NONE

THRUST BOCK NOTES:

-UNDISTURBED

MATERIAL

-#5 REBAR

CONCRETE TO BE

DETERMINED BY

- VOLUME OF

**ENGINEER** 

PIPE SIZE

0.89 | 2.19 | 3.92 | 5.57 | 8.62

0.65 | 1.55 | 2.76 | 4.19 | 6.09

0.13 | 0.30 | 0.54 | 0.77 | 1.19

TEST PRESSURE TO BE 200 PSI

MINIMUM AT LOW END OF THE

SQUARE FEET OF CONCRETE

THRUST BLOCKING FOR OTHER

TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE

0.48 | 1.19 | 2.12 | 3.01

8"

10"

1.08 | 1.54 | 2.37

12"

THRUST BLOCK SCHEDULE

SQUARE FEET OF CONCRETE THRUST

BLOCKING BEARING ON UNDISTURBED MATERIAL

1"-4" | 6"

0.25 | 0.60 |

TEST SECTION.

- 1. POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE
- 2. ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
- 3. PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
- 4. REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
- RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
- 6. ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
- THREADED RODS SHALL BE ANSI A242 FY50 PIPE RESTRAINT NUTS TO MATCH AIWA C111. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
- 8. THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS PLUGS, OR CROSSES.
- 9. INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.
- 10. ALL WATERLINE CONSTRUCTION SHALL BE INSTALLED IN ACCORDANCE WITH THE KITTERY WATER DISTRICT SPECIFICATIONS

### \_2 LAYERS OF 2" THICK BY 4'-0" WIDE RIGID BOARD INSULATION FINISHED WITH STAGGERED JOINTS REQUIRED IF COVER IS LESS THAN 4'-0" 4'-0" VARIES 6'-0" MIN. -MJ BEND FITTING WITH THRUST BLOCKS (TYP) 6" MIN. ─ -SEWER, LAYER DRAIN OR OF SAND DUCT BANK SEE NOTE 2 — PROPOSED WATER MAIN 2 LAYERS OF 2" THICK— -CRUSHED STONE BY 4'-0" WIDE RIGID BEDDING └NO JOINTS BOARD INSULATION WITH UNDER ─6" MIN. LAYER STAGGERED JOINTS CROSSING OF SAND REQUIRED IF CROSSING VARIES UNDER A DRAIN LINE 6'-0" MIN.

TOBEY

PREPARED AS
SERVICE AND
PROPERTY OF
MAY NOT BE
DISSEMINATED
A ANY MANNER,
DNICALLY, FOR
SE THAN THIS
THE WRITTEN
OYLE, TANNER.

ates, Inc

PROJECT NO. 569200

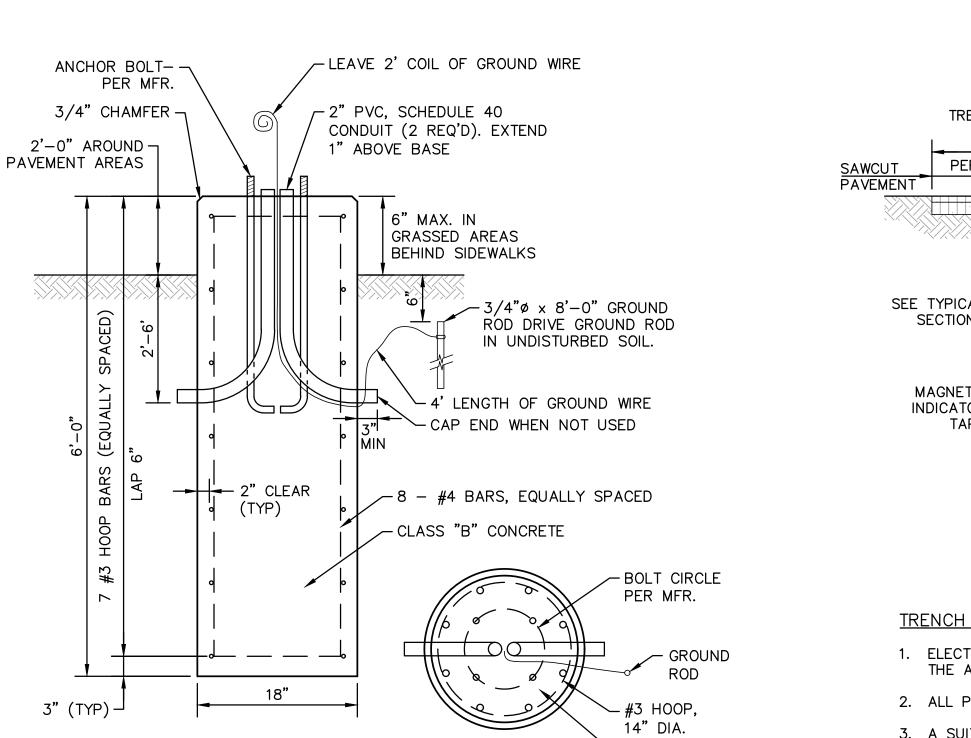
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### **CROSSING NOTES:**

- 1. SEE PLAN AND PROFILE FOR CROSSING LOCATIONS.
- 2. DROP WATER LINE BELOW UTILITY CONFLICT WITH 4 MJ BEND FITTINGS.
- 3. VERTICAL SEPARATION BETWEEN WATER LINES, SEWER LINES AND ALL OTHER UTILITIES SHALL BE A MINIMUM OF 18".

# WATER UTILITY CONFLICT CROSSING DETAIL

SCALE: NONE

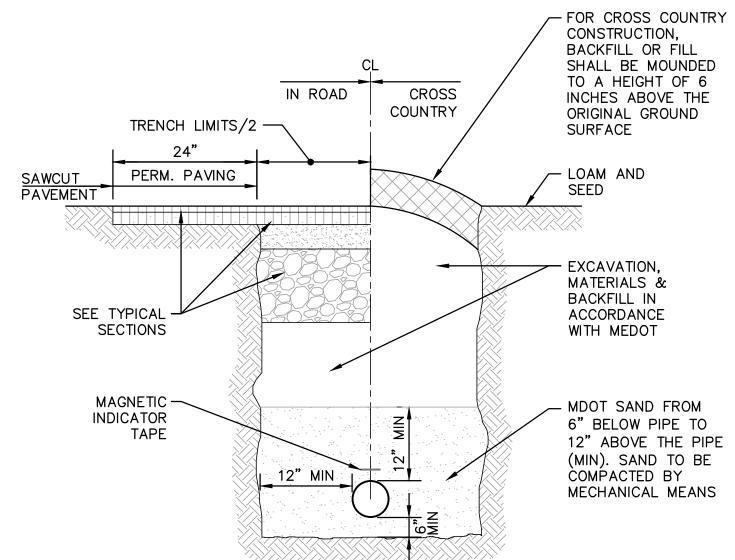


-STEEL FLOAT

FINISH

BASE PLAN VIEW

BASE SECTION VIEW



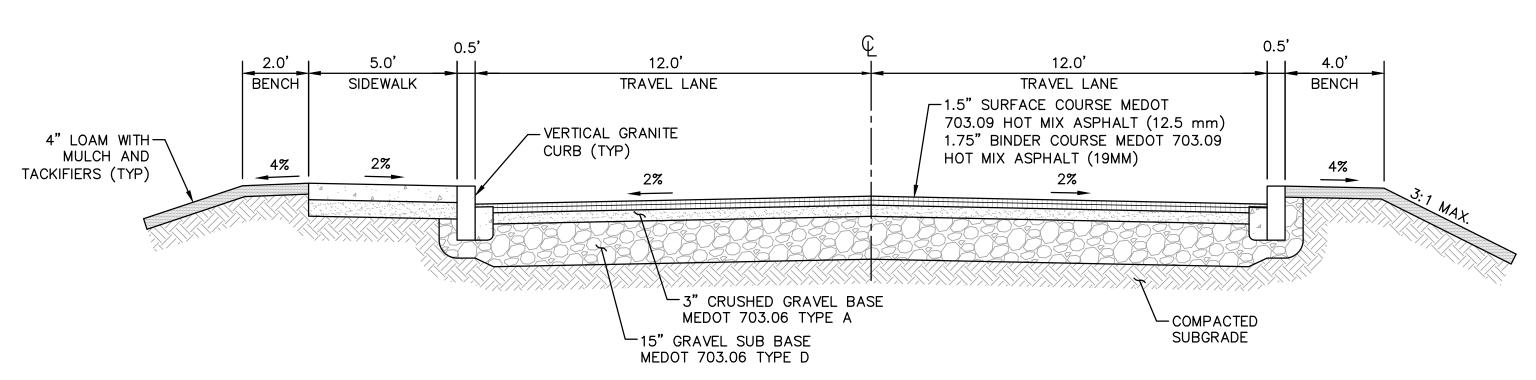
### TRENCH NOTES:

- 1. ELECTRICAL CONDUIT SHALL BE SCHEDULE 40 PVC AND SHALL CONFORM TO THE APPLICABLE SECTIONS OF NEMA TC-2-1990 AND BE UL LISTED.
- 2. ALL PVC CONDUIT JOINTS SHALL BE CEMENTED.
- 3. A SUITABLE PULL CABLE, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE ELECTRICAL CONDUIT.
- 4. COORDINATE SIZE OF CONDUIT WITH OWNER.
- 5. DEPTH OF CONDUIT SHALL BE 36" TO INVERT.



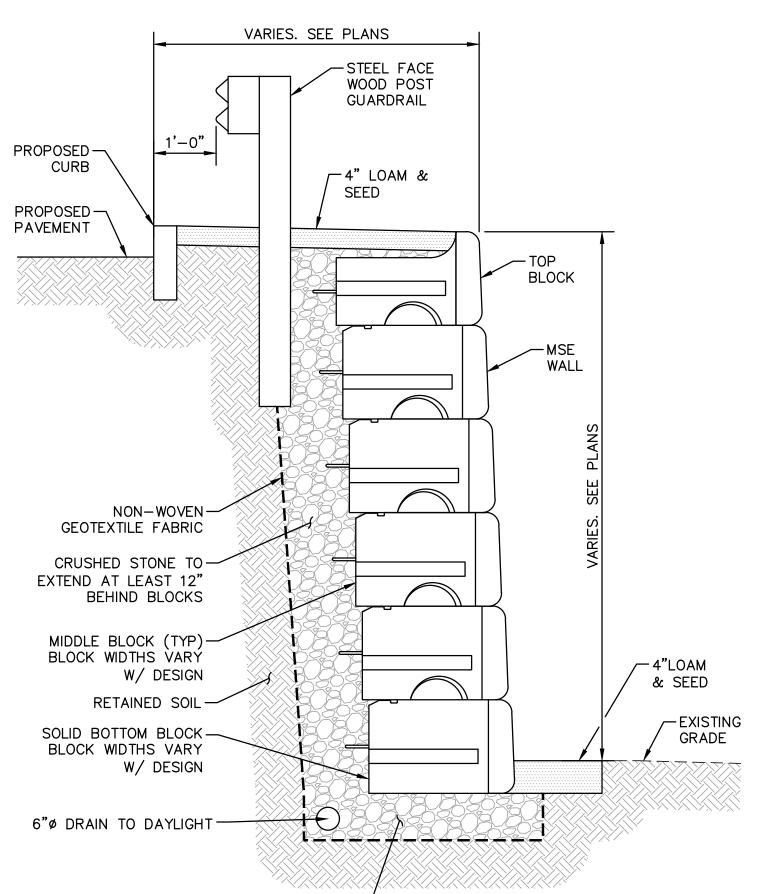
SCALE: NONE

CONSTRUCTION **DETAILS 5** 



TYPICAL ACCESS DRIVE SECTION

SCALE: NONE

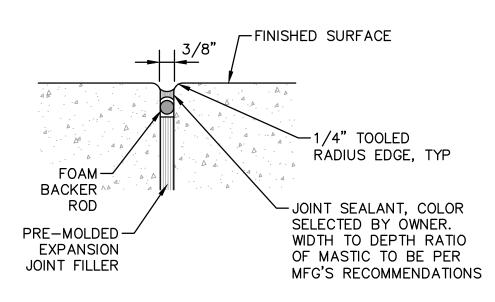


12" LEVELING COURSE — (COMPACTED CRUSHED STONE)

### **WALL NOTES:**

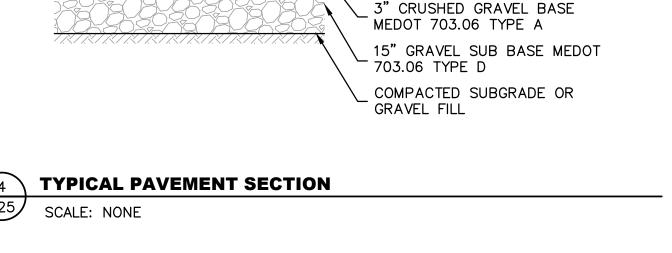
- 1. THIS DETAIL IS FOR REFERENCE ONLY. DETERMINATION OF THE SUITABILITY AND/OR MANNER OF USE OF ANY DETAILS CONTAINED IN THIS DOCUMENT IS THE SOLE RESPONSIBILITY OF THE DESIGN ENGINEER OF RECORD. FINAL WALL DESIGNS, INCLUDING ALL CONSTRUCTION DETAILS, SHALL BE PREPARED BY A LICENSED PROFESSIONAL ENGINEER USING THE ACTUAL CONDITIONS OF THE PROPOSED SITE.
- 2. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
- 3. CONTRACTOR SHALL COORDINATE WITH GUARDRAIL MANUFACTURER FOR MINIMUM DISTANCE BETWEEN GUARDRAIL AND RETAINING WALL.

### TYPICAL MSE GRAVITY BLOCK RETAINING WALL SECTION SCALE: NONE



**EXPANSION JOINT DETAIL** 

SCALE: NONE



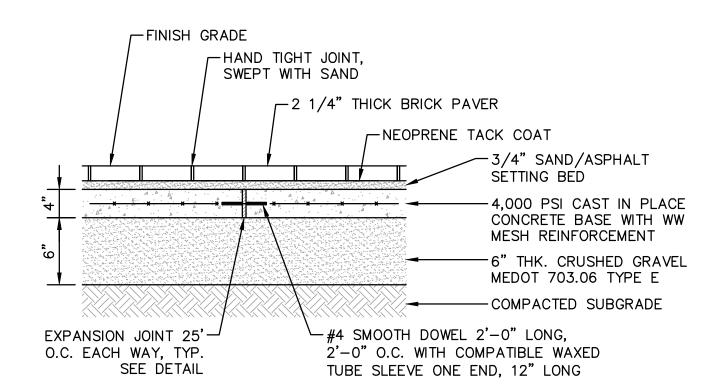
3.25" BIT. CONC. PAVEMENT

HOT MIX ASPHALT (12.5 mm)

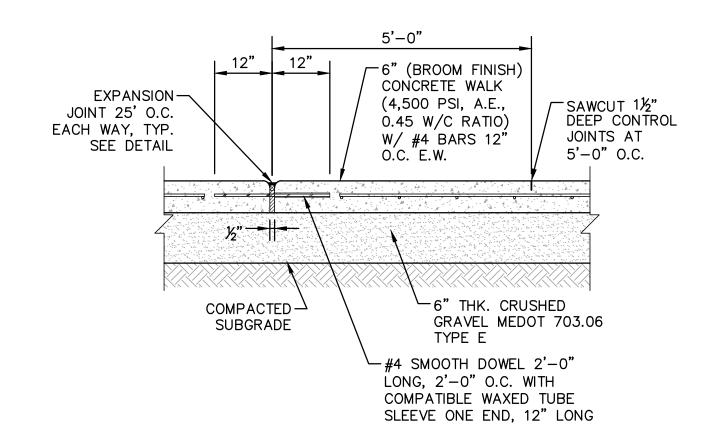
HOT MIX ASPHALT (19MM)

1.5" SURFACE COURSE MEDOT 703.09

1.75" BINDER COURSE MEDOT 703.09

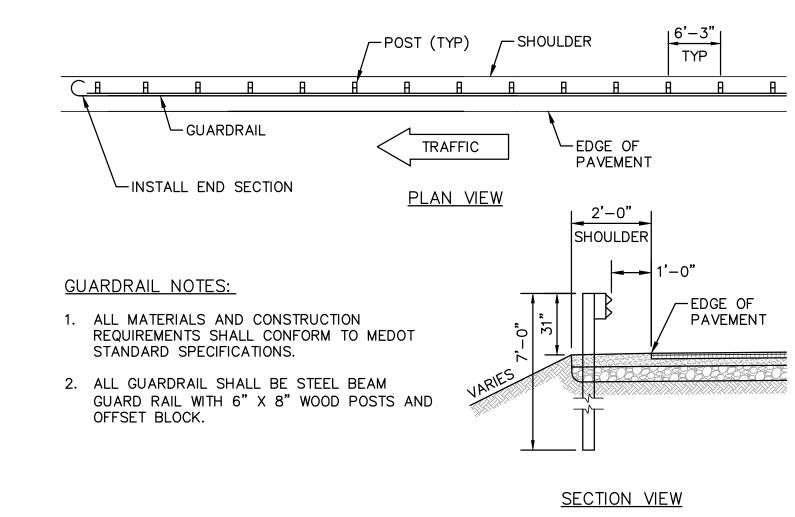






# TYPICAL JOINTS FOR CONCRETE WALKWAY DETAIL

SCALE: NONE



-DO NOT CUT LEADER

-PRUNE 1/5 OF EXISTING

APPROVED TREE PAINT.

-GROUND LINE AT SAME

GROUND LINE AS NURSERY

-FOR TREES WITH CALIPER

GALVANIZED TURNBÚCKLE

AND 12 GA. GALVANIZED

3" OR LARGER: 6 1/2"

-SURVEY FLAG

TWISTED WIRE

UNDER ROOT BALL

LEAF AREA WHILE RETAINING

CUTS OVER 1/2" DIAM. WITH

NATURAL FORM. PAINT ALL

STEEL FACE WOOD POST GUARDRAIL

RUBBER HOSE WITH-

TWISTED WIRE

FOR TREES WITH-

12 GA. GALVANIZED

WATERPROOF TREE WRAP -

CALIPER 3" OR LESS:

(3) 2"X3" HARDWOOD

STAKES ABOVE GROUND

TO LOWEST BRANCHES.

3" BARK MULCH. PROVIDE -

SLIGHT DEPRESSION FOR

STAKES TO CLEAR

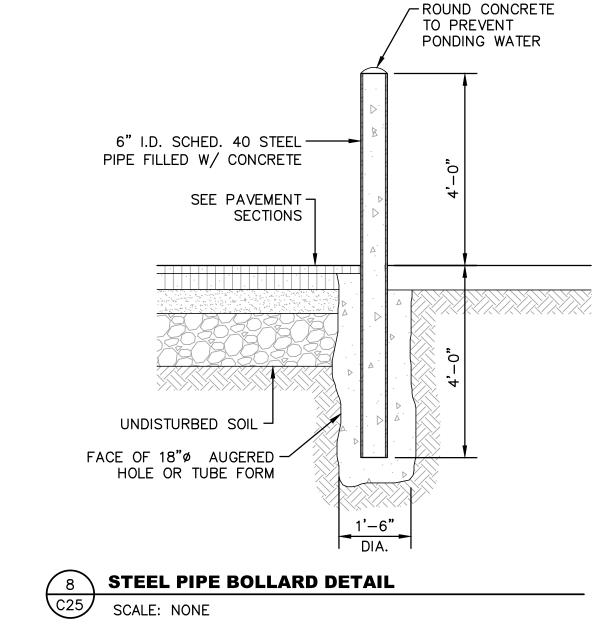
WATER RETENTION

PLANTING SOIL MIX

SCARIFY SUBSOIL-

BACKFILL WITH-

ROOT BALL.



-12 GA. TWISTED WIRE IN RUBBER HOSE AROUND TREE AT 2/3 HEIGHT OF TREE FROM FINISHED GRADE SURVEY FLAG -GROUND LINE AT SAME GROUND LINE AS NURSERY 3" BARK MULCH. PROVIDE SLIGHT DEPRESSION FOR WATER RETENTION -FILTER FABRIC FOR WEED CONTROL. KEEP OUT OF DEPRESSION -REMOVE BURLAP FROM BACKFILL WITH-TOP 1/3 OF ROOT BALL SCARIFY SUBSOIL --6" MIN. PLANTING SOIL UNDER ROOT BALL

FOR TREES 5' IN HEIGHT OR GREATER: 1. PROVIDE (3) 12 GA. GALVANIZED GUY WIRES @ 120 DEGREE SPACING

2. ATTACH TO TREE @ 1/2-2/3 HEIGHT OF TREE ABOVE GRADE.

**DECIDUOUS TREE PLANTING** 

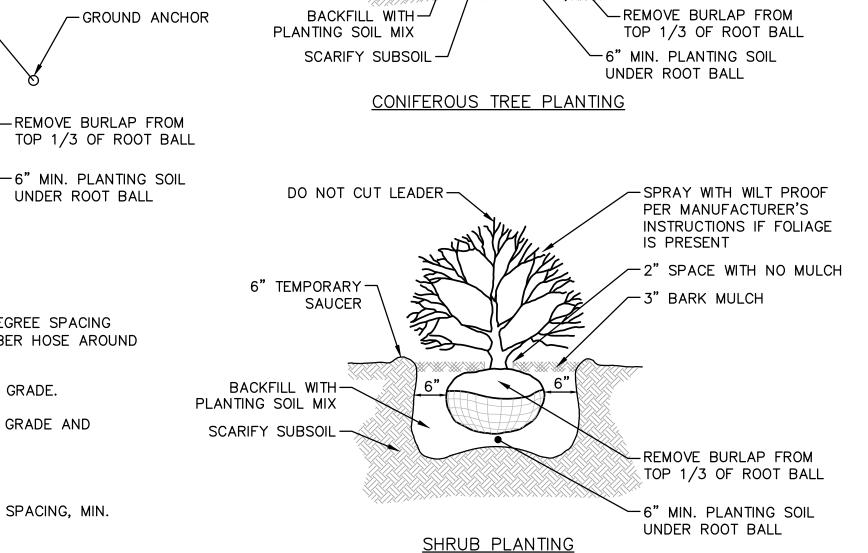
WITH (6) 1/2" GALVANIZED TURNBUCKLE WIRE IN RUBBER HOSE AROUND

3. ANCHOR WITH 2"X3' HARDWOOD STAKE BURIED BELOW GRADE AND CLEAR OF ROOT BALL.

### FOR TREES LESS THAN 5' IN HEIGHT:

1. PROVIDE (3) 2"X3' HARDWOOD STAKES @ 120 DEGREE SPACING, MIN. 36" IN GROUND AND CLEAR OF ROOT BALL.





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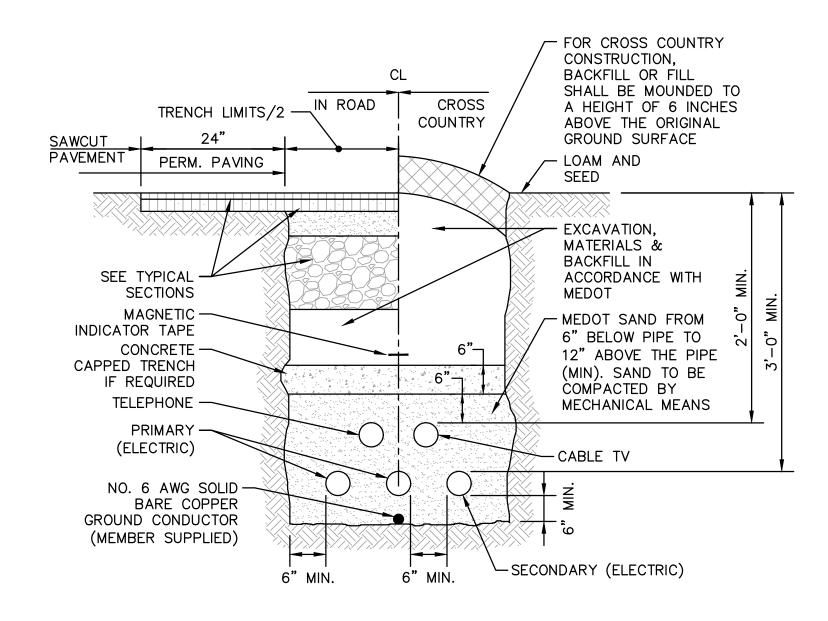
HOY

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**DETAILS 6** PROJECT NO. 569200

CONSTRUCTION

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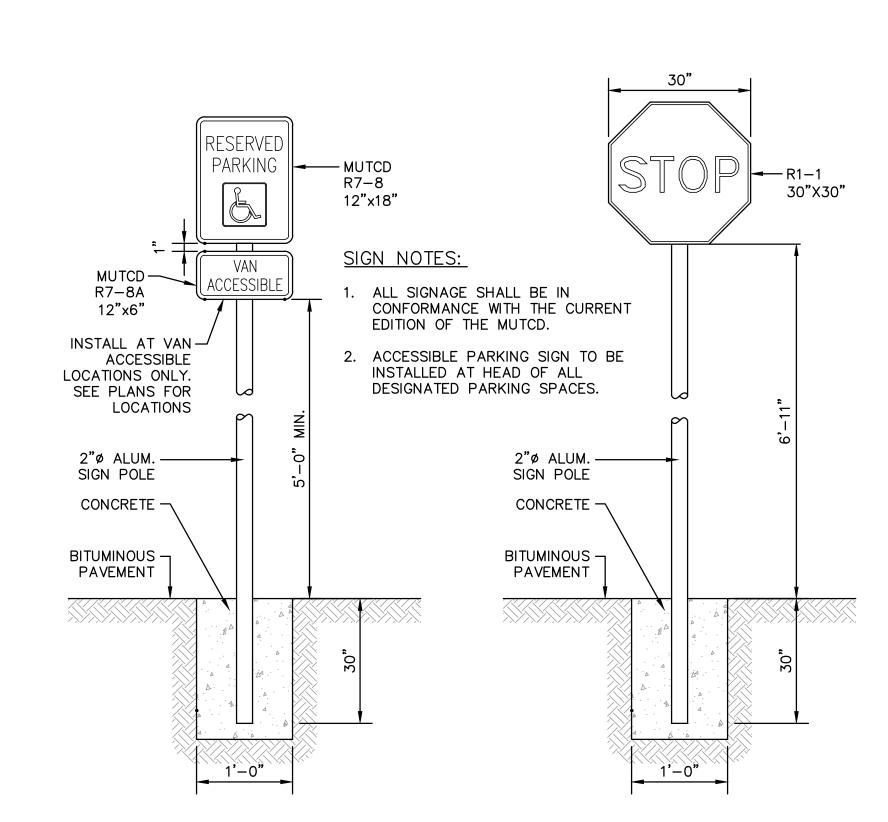


### TRENCH NOTES:

- 1. COORDINATE TRENCH DETAIL WITH ALL UTILITY OWNERS.
- 2. ELECTRICAL CONDUIT SHALL BE SCHEDULE 40 PVC
- 3. ALL PVC CONDUIT JOINTS SHALL BE CEMENTED.
- 4. A SUITABLE PULL CABLE, CAPABLE OF 200 POUNDS OF PULL, MUST BE INSTALLED IN THE ELECTRICAL CONDUIT.
- 5. COORDINATE SIZE AND NUMBER OF CONDUIT WITH UTILITY OWNER.
- 6. DEPTH OF CONDUIT SHALL BE 36" TO INVERT.
- 7. TRENCH WIDTH AS REQUIRED TO MAINTAIN 6" MINIMUM SPACING BETWEEN ALL CONDUITS AND TRENCH SIDEWALLS.

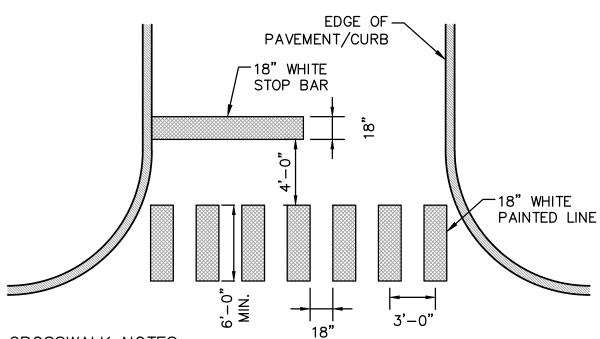
### PRIMARY CIRCUIT W/ TELEPHONE AND/OR CABLE TV ELEC. TRENCH

SCALE: NONE



### TYPICAL SIGN MOUNTING DETAILS

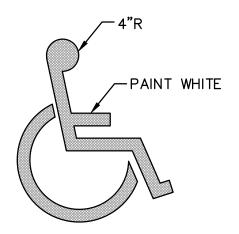
SCALE: NONE



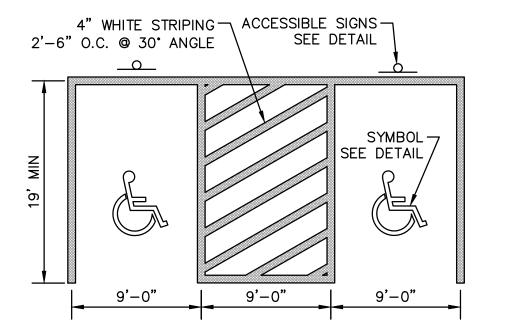
### **CROSSWALK NOTES:**

- 1. CROSSWALK LINES SHALL BE CENTERED TO AVOID WHEEL MARKS.
- 2. ALL CROSSWALK LINES TO BE SAME LENGTH AND PROPERLY ALIGNED.
- 3. SEE PLANS FOR THE CROSSWALK LOCATIONS.

### PAINTED CROSSWALK DETAIL SCALE: NONE



SYMBOL DETAIL

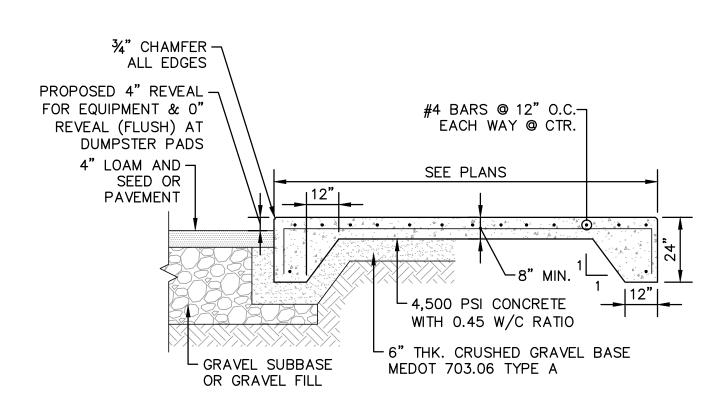


### STALL LAYOUT NOTES:

- 1. ALL PAVEMENT MARKINGS SHALL BE IN CONFORMANCE WITH THESE STANDARDS AND THE CURRENT EDITION OF MUTCD.
- 2. WIDTH OF LINES SHALL VARY NO MORE THAN  $\pm$  1/4 INCH FROM THAT SPECIFIED.
- 3. THE WET FILM THICKNESS OF A PAINTED LINE SHALL BE A MINIMUM OF 20 MILS THROUGHOUT THE ENTIRE WIDTH AND LENGTH OF LINE SPECIFIED. OVERSPRAY SHALL BE KEPT TO AN ABSOLUTE MINIMUM.
- 4. BROKEN LINES SHALL BEGIN AND END WITH THE NEAREST FULL CYCLE OF BROKEN LINE.
- 5. SOLID LONGITUDINAL LINES SHALL BEGIN AND END WITHIN  $\pm$  2 INCHES OFF A LAYOUT SYMBOL INDICATING THE END OF THE LINE, OR WITH A FULL CYCLE OF BROKEN LINE (IF APPROPRIATE).

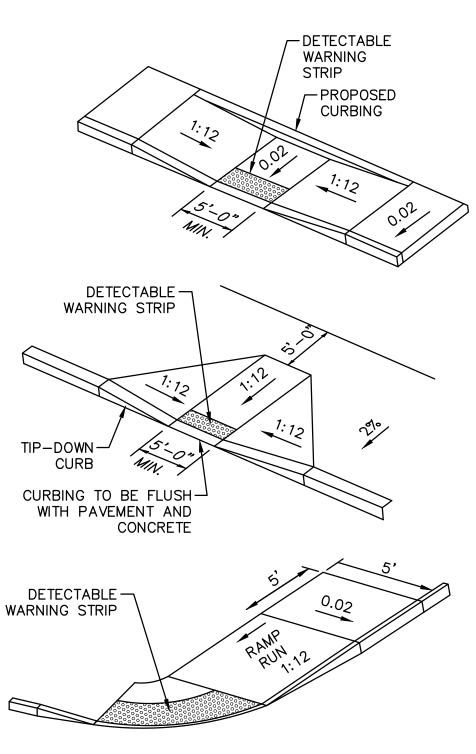
# **ACCESSIBLE PARKING STALL LAYOUT**

SCALE: NONE



### TYPICAL EQUIPMENT PAD & DUMPSTER PAD DETAIL

SCALE: NONE

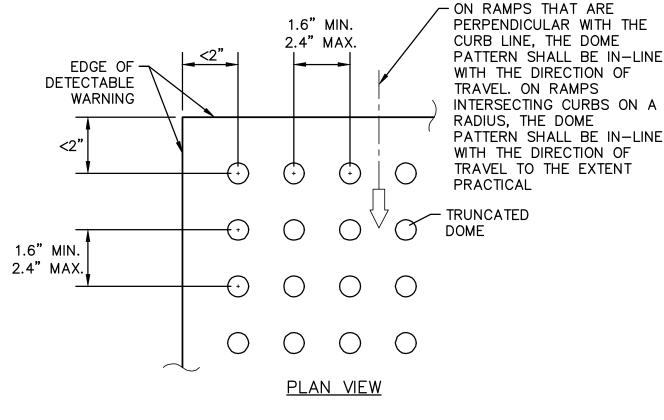


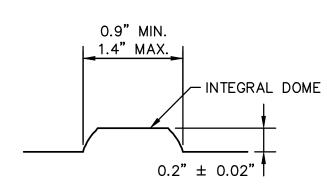
### SIDEWALK RAMP NOTES:

- 1. SLOPE OF RAMP VARIES WITH SIDEWALK WIDTH AND HEIGHT, WITH A MAXIMUM SLOPE OF 1:12.
- 2. AN ADA DETECTABLE WARNING TRUNCATED DOME FINISH TO TRANSVERSE TO THE SLOPE OF THE RAMP AND WARPED SIDEWALK SHALL BE USED ON ALL RAMPS.
- 3. MAINTAIN THE NORMAL GUTTER PROFILE THROUGHOUT THE RAMP AREA. INTERCEPT DRAINAGE ALONG THE CURB IN ADVANCE OF THE RAMP.
- 4. FORM 1" ( $\pm 1/8$ " TOLERANCE) CURB LIP IN SIDEWALK PAVING MATERIAL.



SCALE: NONE





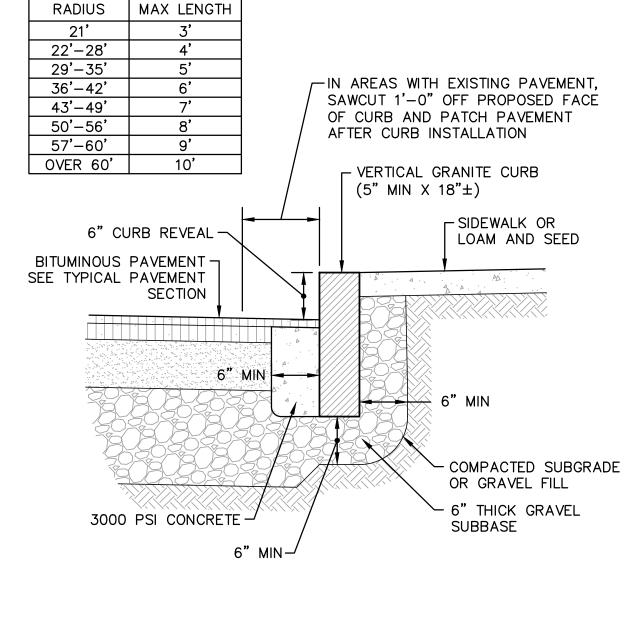
TRUNCATED DOME

### **DETECTABLE WARNING NOTES:**

- 1. BASE-TO-BASE SPACING SHALL BE 0.65" MINIMUM BETWEEN DOMES.
- 2. ALL SIDEWALK CURB RAMPS SHALL HAVE DETECTABLE WARNING SURFACES THAT EXTEND THE FULL WIDTH OF THE RAMP AND IN THE DIRECTION OF TRAVEL 24 INCHES FROM THE BACK OF CURB.
- 3. THE TOP WIDTH OF THE DOME SHALL BE A MINIMUM OF 50% AND A MAXIMUM OF 65% OF THE BASE DIAMETER.
- 4. WARNING PANELS TO BE CAST IRON AND PAINTED YELLOW.

### TYPICAL DETECTABLE WARNING DETAILS

SCALE: NONE

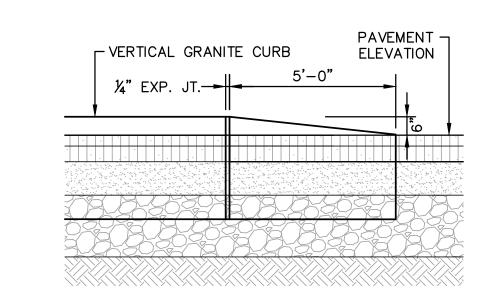


### VERTICAL GRANITE CURB NOTES:

- 1. MINIMUM LENGTH OF CURB STONES 3'
- 2. MAXIMUM LENGTH OF CURB STONES 10'
- 3. MAXIMUM LENGTH OF STRAIGHT CURB STONES LAID ON CURVES SEE CHART.
- 4. ADJOINING STONES SHALL HAVE THE SAME OR APPROXIMATELY THE SAME LENGTH.
- 5. CURB ENDS TO BE TIPPED DOWN.

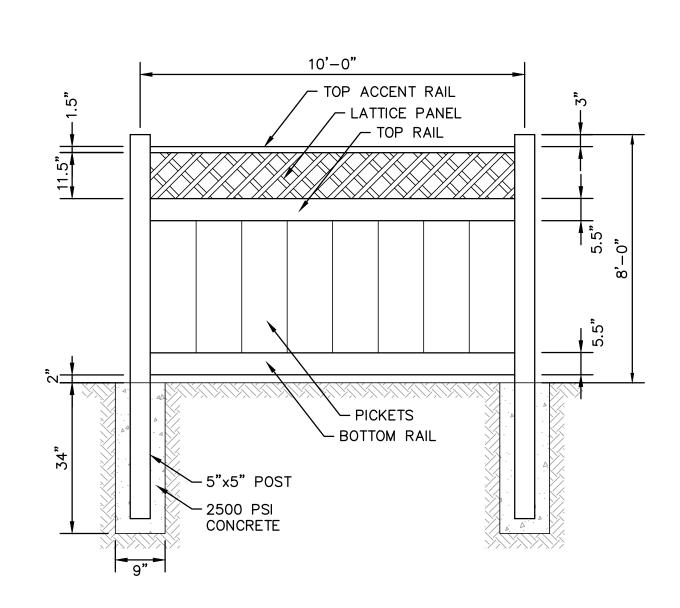
# **VERTICAL GRANITE CURB DETAIL**

SCALE: NONE



### **VERTICAL GRANITE TIP-DOWN DETAIL**

SCALE: NONE



### **DUMPSTER VINYL FENCE DETAIL**

SCALE: NONE

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