

Mitchell Field Boating Access Improvements

MaineDOT WIN 23082.00 & 23472.00

Town of Harpswell
263 Mountain Road
Harpswell, ME 04079

Addendum #3

August 24, 2025

This Addenda consists of three (3) pages and the following attachments:

1. Bid Form / Schedule of Bid Items
2. Specification Section 02200 – Excavation, Backfill, and Compaction
3. Sheet S-04

All Bidders shall acknowledge this Addendum #3 with their proposal submittal.

A. EXTENSION OF BID DATE

1. The bid deadline for the project has been revised as follows:
 - a. Deadline for questions: Friday September 5, 2025, 5:00PM.
 - b. Bid Deadline/Public Bid Opening: Wednesday, September 10, 2025, 2:00PM.

B. CHANGES TO BID DOCUMENTS

1. **REPLACE** The Schedule of Bid Items with the revised version included in this addendum.
2. **REPLACE** Specification Section 02220 – Excavation, Backfill, and Compaction with the revised version included in this addendum.
3. **REPLACE** Sheet S-04 with the revised version included in this addendum.

C. RESPONSE TO RFI's:

Question #1

On sheet S-04, the drawing appears to show the boat ramp panels to be one continuous piece 26' wide. Can you confirm that is the design intent? That is going to be a very heavy lift and has constructability issues as well from the precast vendors as the typical form goes from 12'. Has the reinforcing been analyzed for this sized panel to determine that is capable to handle the weight of these panels, so they won't crack while loading, shipping and placing?

Answer #1

The design intent is to have a 26' wide continuous panel construction in the final installed condition. The contractor may propose an alternate panel layout in which the 26' width is divided into multiple sections. If a segmented panel is proposed then a connection between panels will be required and details will need to be submitted as part of the contractor's alternate proposal for consideration by the Owner and Engineer.

Refer to updated Sheet S-04 which clarifies lifting points for the panels. The panels have been analyzed and cracking is not anticipated when lifted by the specified points. It is the contractor's responsibility to handle, ship, and place the panels in such a manner as to not cause damage.

Question #2

Please clarify what portion of storm drain work is included in base bid and what is included in upper parking alt #1.

Answer #2

Refer to the updated Schedule of Bid Items provided with this addendum and clarification below.

Bid Item 02214-01 – Storm Drainage System has been eliminated. There is no storm drainage system work associated with the Base Bid. All storm drainage system work specified on the plans is associated with *Bid Item 02214-01-Alt#1 – Storm Drainage System* which is included in Alternate Bid Item #1.

Question #3

Please confirm excavation quantities. We have come up with significantly higher quantities than the 500 yds included in the base bid. How will the upper parking lot excavation be paid for (i.e. base bid? No excavation in Alt #1)?

Answer #3

Refer to the updated Schedule of Bid Items provided with this addendum and clarification below.

Excavation quantity for the Base Bid has been updated. A new bid item has been added for excavation associated with to Alternate Bid #1.

Question #4

It is assumed that base bid item 6 will be used for the 8" of crushed stone under the concrete planks, please confirm.

Answer #4

Yes, payment for the 8" of crushed stone under the concrete planks will be made under Bid Item #6 (02220-04 – 1-1/2" Crushed Stone).

Question #5

Please clarify bid item 7, 2" crushed stone removal and disposal. Where will this item be used?

Answer #5

Refer to the updated Schedule of Bid Items provided with this addendum and clarification below.

Bid Item 7 – 2" Crushed Stone Removal and Disposal has been removed. All work is covered by the revisions made to other bid items and quantities.

Question #6

Please clarify how the 12" underlayer stone and 6" bedding stone under the concrete planks will be paid for?

Answer #6

Refer to the updated Schedule of Bid Items provided with this addendum and clarification below.

New Bid Items have been added for underlayer and bedding stone. These items apply to underlayer and bedding stone beneath the concrete boat ramp planks as well as beneath the heavy riprap armor stone.

Question #7

Please clarify the base bid paved pavement x-section. The only callout for a paved section states 4" of base gravel, 6" of base gravel, geotextile, over existing gravel fill.

Answer #7

Refer to Detail 1 on Sheet C-01 which provides a pavement section to be used at all locations specified for pavement under the Base Bid. This includes 6" Type A Base and 12" Type D Subbase over separation geotextile. Beneath the geotextile will either be existing gravel or new gravel fill, depending on the location.

Question #8

Base gravel and subbase gravel for the base bid appear to be substantially overstated for the boat ramp area and small gravel haul road extension. Please confirm quantities and locations.

Answer #8

Refer to the updated Schedule of Bid Items provided with this addendum and clarification below.

Quantities for Base and Subbase gravel have been updated.

Question #9

Underlayer stone and bedding stone in the rip rap areas are called out as incidental to rip rap per the specifications. Will the volumes of underlayer stone and bedding stone be included in the volume determination of rip rap?

Answer #9

Refer to the updated Schedule of Bid Items provided with this addendum and clarification below.

New Bid Items have been added for underlayer and bedding stone. These items apply to underlayer and bedding stone beneath the concrete boat ramp planks as well as beneath the heavy riprap armor stone. The volume determination for riprap armor stone will be based on the armor stone only, not the underlayer or bedding stone which are both now covered by other bid items.

END OF ADDENDUM

WIN: 023082.00 & 23472.00

Municipality: Harpswell

Date: July 2025

ADDENDUM #3

SCHEDULE OF BID ITEMS

Contractor: _____

A. BASE BID ITEMS

Brief Description of Item	Est. Quant.	Unit	Rate	Total Amount in words	Total Amount in figures
1. Mobilization, Demobilization, and Site Preparation (01560-01)	1	LS		_____ dollars and _____ cents	\$ _____
2. Not Used	—	—	—	—	—
3. Excavation & Stockpile (02220-01)	900	CY		_____ dollars and _____ cents	\$ _____
4. Backfill and Compaction (02220-02)	3000	CY		_____ dollars and _____ cents	\$ _____
5. Woven and Nonwoven Geotextile (02220-03)	2250	SY		_____ dollars and _____ cents	\$ _____
6. 1-1/2" Crushed Stone (02220-04)	100	CY		_____ dollars and _____ cents	\$ _____
7. Not Used	—	—	—	—	—
8. Aggregate Sub Base Course (02220-06)	750	CY		_____ dollars and _____ cents	\$ _____
9. Aggregate Base Course (02220-07)	375	CY		_____ dollars and _____ cents	\$ _____
10. Heavy Rip Rap (02270-01)	1650	CY		_____ dollars and _____ cents	\$ _____

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ADDENDUM #3

11. HMA Surface (02740-01)	500	T		_____dollars and_____cents	\$
12. Pavement Markings (02790-01)	1	LS		_____dollars and_____cents	\$
13. Signs and Posts (02890-01)	1	LS		_____dollars and_____cents	\$
14. Greenheart Timber Mooring Piles (03162-1)	5	EA		_____dollars and_____cents	\$
15. Rock Sockets for Mooring Piles (03162-2)	2	EA		_____dollars and_____cents	
16. Precast Units (Boat Ramp) (03410-01)	27	EA		_____dollars and_____cents	
17. Cast-In-Place Concrete (03410-02)	20	CY		_____dollars and_____cents	
18. Floating Timber Docks (03551-01)	750	SF		_____dollars and_____cents	
19. Underlayer Stone (02220-08)	500	CY		_____dollars and_____cents	
20. Bedding Stone (02220-09)	250	CY		_____dollars and_____cents	
TOTAL BID PRICE:					\$

TOTAL BASE BID PRICE WRITTEN IN WORDS:

_____ DOLLARS
_____ CENTS

Date: July 2025

ADDENDUM #3

B. ADD ALTERNATE #1

Brief Description of Item	Est. Quant.	Unit	Rate	Total Amount in words	Total Amount in figures
ADD ALTERNATIVE 1 Upper Parking Area					
1. Excavation & Stockpile (02214-01-Alt #1)	2,000	CY		<u>dollars</u> <u>and cents</u>	\$
2. Storm Drainage System (02214-01-Alt #1)	1	LS		<u>dollars</u> <u>and cents</u>	\$
3. Aggregate Sub Course (02220-01-Alt#1)	860	CY		<u>dollars</u> <u>and cents</u>	\$
4. Aggregate Base Course (02220-02-Alt#1)	430	CY		<u>dollars</u> <u>and cents</u>	\$
TOTAL ADD ALT #1 PRICE:					\$

TOTAL ADD ALTERNATE #1 PRICE WRITTEN IN WORDS:

_____ DOLLARS
 _____ CENTS

WIN: 023082.00 & 23472.00

Municipality: Harpswell

Date: July 2025

ADDENDUM #3

C. ADD ALTERNATE #2

Brief Description of Item	Est. Quant.	Unit	Rate	Total Amount in words	Total Amount in figures
ADD ALTERNATIVE 2 Paving of Upper Parking Area					
1. HMA Surface (02740-01-Alt#2)	500	T		_____ dollars and _____ cents	\$
2. Pavement Markings (02790-01-Alt#2)	1	LS		_____ dollars and _____ cents	\$
TOTAL ADD ALT #2 PRICE:					\$
					\$

TOTAL ADD ALTERNATE #2 PRICE WRITTEN IN WORDS:

_____ DOLLARS
CENTS

SECTION 02220

EXCAVATION, BACKFILL AND COMPACTION

PART 1 GENERAL

1.01 DESCRIPTION

- A. Furnish all labor, materials, equipment and incidentals necessary to perform all excavation, backfill, compaction, grading, material storage, and disposal of surplus materials required to complete the construction and repair of an existing stone coastal revetment in accordance with these specifications and in close conformity with the plans.
- B. Repair of any damaged roadway, driveway, parking or lawn areas damaged by the Contractor in the course of the project.
- C. Material Gradations to be supplied by the Contractor at no extra cost to the Owner. Compaction testing of materials in place will be paid for by the Owner.

1.02 RELATED SECTIONS

- A. Individual Contract Specifications
- B. Section 02270 – Slope Protection and Erosion Control

1.03 REFERENCES

- A. State of Maine Department of Transportation Standard Specifications, latest revision hereafter designated as MaineDOT Specifications.

1.04 SUBMITTALS

- A. Provide submittals through a method as approved by Owner.
- B. Submittals required under this section includes, but are not limited to, the following:
 - 1. Materials Testing Results
 - 2. Soil Testing Reports
 - 3. Gradation

1.05 QUALITY ASSURANCE

- A. Codes and Standards: Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
- B. Testing and Inspection Service: The Contractor shall employ a geotechnical consultant and testing laboratory to perform soil testing and inspection service for quality control testing during trenching operations.
- C. Test Reports: Contractor shall submit the following reports directly to the Engineer from an approved testing service, with copy to the Contractor:
 - 1. Gradation reports on each material to be used.
 - 2. One moisture density curve for each type of fill and native soil encountered.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Fill materials, meeting the following requirements, shall be used in the areas shown on the drawings or where specified herein. Fill materials may be obtained from either on-site excavations or from off-site sources as appropriate. All soil materials shall be free of debris, roots, wood, scrap material, vegetation, refuse, soft unsound particles, and frozen, deleterious, or objectionable materials.

2.02 STONE (GENERAL)

- A. Stones shall consist of sound durable rock which will not disintegrate with exposure to wind or water. The exposed stones shall be angular. Round or thin flat stones will not be permitted.
- B. Stone shall be machine placed to form a tight interlocked matrix.

2.03 4-IN MINUS STONE FILL

- A. Stones for stone fill shall consist of hard, sound, durable rock that will not disintegrate by exposure to water or weather. Stone for stone fill shall be angular and rough. Rounded, subrounded, or long thin stones will not be allowed. Stone for stone fill may be obtained from quarries or by screening oversized rock from earth borrow pits.

<u>Sieve Designation</u>	<u>Percent by Weight Passing Square Mesh Sieves</u>
4 inch	100
1-1/2 inch	25-75
No. 10	0-5

2.04 AGGREGATE BASE

- A. Aggregate base used for pipe bedding for paved roadways, sidewalks, driveways, and structural base material.
- B. MaineDOT Specification 703.06(a) Type A. Screened or crushed gravel of hard durable particles. The gradation of the portion passing a 2-inch sieve shall meet the following:

<u>Sieve Designation</u>	<u>Percent by Weight Passing</u>
1/2 inch	45-70
1/4 inch	30-55
No. 40	0-20
No. 200	0-6.0

2.05 AGGREGATE SUBBASE

- A. Aggregate subbase used for paved roadways.
- B. MaineDOT Specification 703.06(b) Type D. Sand or gravel of hard durable particles. Maximum stone size of 3 inches. The gradation of that portion that passes a 3-inch sieve shall meet the following:

<u>Sieve Designation</u>	<u>Percent by Weight Passing</u>
1/2 inch	35-80
1/4 inch	25-65
No. 40	0-30
No. 200	0-7.0

2.06 CRUSHED STONE

- A. 1-1/2" crushed stone used as leveling pad for precast concrete planks.
- B. MaineDOT 703.31 Crushed Stone. 1-1/2-Inch Crushed stone shall be obtained from rock of uniform quality and shall consist of clean, angular fragment of quarried rock, free from soft or disintegrated pieces or other objectionable matter. The stone shall meet the following gradation requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing</u>
2 inch	100
1-1/2 inch	90-100
1 inch	25-60
½ Inch	0-10

- C. 1/2" crushed stone used as fill material between precast concrete plank joins.
- D. MaineDOT 703.31 Crushed Stone. 1/2-Inch Crushed stone shall be obtained from rock of uniform quality and shall consist of clean, angular fragment of quarried rock, free from soft or disintegrated pieces or other objectionable matter. The stone shall meet the following gradation requirements:

<u>Sieve Designation</u>	<u>Percent by Weight Passing</u>
3/4 inch	100
1/2 inch	90-100
1/4 inch	0-30
No 4	0-5

2.07 COMMON BORROW

- A. Common borrow, used for replacement of unsuitable backfill material or for fill areas on the contract drawings not indicated as other material, shall consist of earth, suitable for embankment construction.
- B. MaineDOT 703.18 Common borrow shall be free from frozen material, perishable rubbish, peat, and other unsuitable material including material currently or previously contaminated by chemical, radiological, or biological agents unless the material is from a MaineDOT project and authorized by MaineDEP for use.

2.08 GRANULAR BORROW

- A. Granular borrow, used for embankment construction.
- B. MaineDOT 703.19 Granular Borrow. Granular borrow shall consist of sand or gravel of hard durable particles free from vegetable matter, lumps or balls of clay, frozen material and other deleterious substances. The gradation of that portion passing a 3-inch sieve shall meet the gradation requirements of the following table:

<u>Sieve Designation</u>	<u>Percent by Weight Passing</u>
No. 40	0-70
No. 200	0-7.0

2.09 SUBGRADE STABILIZATION FABRIC

- A. As indicated on the contract drawings or as follows:
- B. Woven geotextile stabilization fabric shall be Mirafi 600X, or approved equal.
- C. Non-woven geotextile stabilization fabric shall be Mirafi 180N, or approved equal.

2.10 REMOVAL OF TEMPORARY WORKS

- A. After the temporary works have served their purposes, remove them or level and grade them to the extent required to present an acceptable appearance to Owner and to prevent any obstruction of the flow of water or any other interference with the operation of or access to the permanent works.
- B. Except as otherwise specified, remove pipes and casings from wellpoints and fill to ground level with gravel or other material.

PART 3 EXECUTION

3.01 INSPECTION

- A. Examine the areas and conditions under which excavating, filling, and grading are to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.
- B. Prior to beginning of excavation, grading, and embankment operations in any area, perform all necessary clearing in that area.

3.02 PROTECTION OF WORK

- A. Contractor shall execute the work so that no damage occurs to adjacent utilities, structures, property, or any other installation located in or adjacent to work areas. Damaged utilities shall be repaired with similar or better materials of the same size and to the requirements of the utility owner. The Contractor shall have on site the necessary manpower, materials and equipment such as pumps, piping to protect and maintain uninterrupted flows in existing utilities during construction.
- B. Excavations areas outside of coastal waterways shall be kept free from water, snow and ice during construction. Bedding and backfill material shall not be placed in water. Water shall not be allowed to rise upon or flow over bedding and backfill material.
- C. The Contractor shall maintain all benchmarks, monuments and other reference points and, if disturbed, shall replace them at no additional cost to the Owner.
- D. Excavating equipment shall be of such size and type, and used in a manner, that will not damage existing items such as but not limited to paved surfaces, utilities, structures, and trees.
- E. The finished subgrade shall not be disturbed by traffic or other operations and shall be maintained by the Contractor in a satisfactory condition until the finished surfaces are placed. Until the subgrade has been observed by the Engineer, no pavement materials shall be installed thereon.
- F. The Contractor shall take whatever steps necessary to prevent catch basins and drain lines from receiving silt and sediment washed from project work areas. The Contractor shall clean out catch basins and drain lines that have not been successfully protected.

3.03 EXCAVATION

- A. Classifications:
 - 1. Earth Excavation: Removal and disposal of pavements and other obstructions visible on ground surface, underground structures and utilities indicated in data on subsurface conditions, and other materials encountered that are not classified as rock excavation or unauthorized excavation.
 - 2. Rock Excavation:
 - a. Removal and disposal of materials encountered that cannot be excavated without continuous and systematic drilling and blasting or continuous use of a ripper or other special equipment except such materials that are classed as earth excavation.
 - b. Typical Materials: Boulders 1 cu. yd. or more in volume, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits.
 - c. Intermittent drilling performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation.
 - 3. Pavement Excavation:
 - a. Conform to subgrade elevations and dimensions shown, within a vertical tolerance of one (1) inch. Follow MaineDOT requirements for removal and replacement of pavement.

- b. Excavated pavement shall become property of the Owner unless otherwise noted.
- 4. Trench Excavation:
 - a. Conform to elevations and dimensions with a vertical tolerance of one (1) inch. Excavate to the uniform width shown or required for the particular item to be installed. Provide adequate working space for compaction equipment.
 - b. Unless otherwise specifically directed or permitted by the Engineer, begin excavation at the low end of drain or sewer lines and precede upgrade.
 - c. Perform excavation for force mains and/or water mains in a logical sequence.
 - d. Excavate trenches to the depth indicated or required. Carry the depth of trenches for piping to establish the indicated flow lines and invert elevations and provide suitable bedding.
 - e. Where rock is encountered, carry the excavation six (6) inches (or as indicated on the drawings) below the required elevation and backfill with specified pipe bedding material.
 - f. Grade bottoms of trenches as indicated, notching under pipe joints to provide solid bearing for the entire body of the pipe.
- 5. Structure Excavation:
 - a. Conform to elevations and dimensions shown within a tolerance of plus or minus 1/2 inch, and extending a sufficient horizontal distance from footings and foundations to permit placing and removal of concrete form work, installation of services, other construction required, and for inspection.
 - b. In excavating for structures, the Contractor shall take care not to disturb bottom of excavation.
 - c. Excavate by hand to final grade just before concrete is placed.
 - d. Trim bottoms to required lines and grades to leave solid base to receive concrete or drainage fill.
 - e. Rock shattered due to drilling or blasting operations shall be removed. Excess rock excavation shall be filled with concrete.
- 6. Excavation of Unsatisfactory Soil Materials:
 - a. Excavate unsatisfactory soil materials encountered that extend below required elevations, to additional depth directed by Engineer.
 - b. Such additional excavation, provided it is not due to fault or neglect of Contractor, will be measured as directed by the Engineer and paid for as extra work.
 - c. Remove unsatisfactory soil and dispose of off-site.
- 7. Experimental Excavation:

- a. The Contractor shall make excavations at locations authorized by the Engineer, for the purpose of confirming the location and depth of existing utilities, structures or ledge profile.
- 8. Unauthorized Excavation:
 - a. Removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Engineer.
 - b. Under footings, foundation bases, or retaining walls, fill unauthorized excavation by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering required top elevation. Lean concrete fill may be used to bring elevations to proper position, only when acceptable to the Engineer.
 - c. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of same classification, unless otherwise directed by the Engineer.

3.04 MATERIAL STORAGE

- A. Stockpile satisfactory excavated materials where directed, until required for backfill or fill.
- B. Place, grade, and shape stockpiles for proper drainage.
- C. Locate and retain soil materials away from edge of excavations.
- D. Dispose of excess soil and waste materials as specified hereinafter.

3.05 TEMPORARY EARTH SUPPORT

- A. The Contractor shall design, furnish, install and maintain temporary earth support systems, as required, to prevent injury to persons, collapse of the sides of the excavation, and damage, disturbance and settlement of adjacent property. Sheeting and bracing shall be of adequate type; size and strength for the conditions encountered and shall be driven to true alignment in a workmanlike manner.
- B. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.

3.06 COLD WEATHER PROTECTION

- A. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.
- B. Do not place fill or backfill on frozen soil or use frozen material for fill or backfill.

3.07 COMPACTION

- A. Percentage of Maximum Density Requirements:
- B. Provide not less than the following percentages of maximum density of soil material compacted at optimum moisture content, for the actual density of each layer of soil material-in-place.
- C. Structures: Compact top 12 inches of subgrade and each layer of backfill or fill material at 95 percent maximum dry density for cohesionless soils, and 90 percent maximum dry

density for cohesive soil material as determined by laboratory compaction test ASTM D-1557, Method D.

- D. Pavements: Compact top 12 inches of subgrade and each layer of backfill or fill material at 95 percent maximum dry density for cohesionless soils, and 90 percent maximum dry density for cohesive soil material as determined by laboratory compaction test ASTM D-1557, Method D.
- E. Pipe Trenches: Compact pipe bedding material and each layer of backfill to a depth of six (6) inches above the top of the pipe, to 90% of maximum dry density. The remainder of the trench shall be filled with soil compacted to the minimum required compaction for the intended surficial use (i.e., lawns 85% or pavements 95%, etc.). Care shall be taken not to damage the pipe by over compaction.
- F. State Highways: As required by Highway Opening Permit.
- G. Local Streets: As required by Street Opening Permit.
- H. Moisture Control:
 - 1. Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material at such a rate as to avoid free water from appearing on surface during or subsequent to compaction operations.
 - 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compaction to specified density.
 - 3. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by dicing, harrowing, or pulverizing, until moisture content is reduced to a satisfactory value, as determined by moisture-density relation tests.

3.08 BACKFILL AND FILL:

- A. General: Place acceptable soil material in layers to required subgrade elevations, for each area classification listed below:
 - 1. In excavations, use satisfactory excavated material or common borrow.
 - 2. Under grassed areas use satisfactory excavated material or common borrow.
 - 3. Under walks and pavements, use subbase material, aggregate base, or satisfactory excavated material, or combination of all.
 - 4. Under building slabs, footings, and detention pond outlet structures, use aggregate base material.
 - 5. In pipe trenches, use satisfactory excavated material or common borrow.
- B. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Acceptance by the Engineer of construction below finish grade including, where applicable, damp-proofing and waterproofing.
 - 2. Inspection, testing, approval, and recording locations of underground utilities.
 - 3. Removal of shoring and bracing, and backfilling of voids with satisfactory materials. Temporary sheet piling driven below bottom of structures shall be

removed in manner to prevent settlement of the structure or utilities, or cut off and left in place if required.

4. Removal of trash and debris.

C. Ground Surface Preparation:

1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills.
2. Plow, strip, scarify or break-up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface.
3. When existing ground surface has a density less than that specified under "Compaction" for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.

D. Placement and Compaction:

1. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
2. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to required percentage of maximum dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
3. Place backfill and fill materials evenly adjacent to structures, to required elevations. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around structure to approximately same elevation in each lift.

3.09 DISPOSAL OF SURPLUS MATERIAL

- A. No excavated materials shall be removed from the site of the work or disposed of by the Contractor except as approved by the Owner. Materials shall be neatly piled so as to inconvenience as little as possible the public and adjoining property owners until used or otherwise disposed of as specified below.
- B. Suitable excavated material shall be used for fill embankments or backfill on the different parts of the work as required.
- C. Owner approved surplus excavated material and fill shall become the property of the Contractor and shall be removed and disposed of by him off the site.
- D. Remove trash, debris, and waste materials, from work areas and legally dispose of it at the municipal landfill, if permitted, or in a lawful and acceptable manner, at no additional cost to the Engineer.

3.10 PAVEMENT BASE AND SUBBASE COURSES:

- A. General: This work consists of placing aggregate base and subbase material, in layers of specified thickness, over subgrade surface to support the pavement.
- B. Grade Control: During construction, maintain lines and grades including crown and cross-slope of subbase course.

C. Placing:

1. Place subbase and base course material on prepared surfaces in layers of uniform thickness, conforming to indicate cross-section and thickness. Maintain optimum moisture content for compacting material during placement operations.
2. When a compacted subbase course is shown to be 6 inches thick or less, place material in a single layer. When shown to be more than 6 inches thick, place material in equal layers, except no single layer more than 6 inches or less than 3 inches in thickness when compacted.

3.11 FIELD QUALITY CONTROL

- A. Quality Control Testing During Construction: Allow testing service to examine and test subgrade and fill layers. Before further construction work is performed, test results meeting the requirements of 3.06A herein, shall be obtained.
- B. Perform field density tests in accordance with ASTM D-2922 (nuclear method), using Troxler moisture-density gauge Model 3411B or 3401B or approved equal.
- C. Foundation and Footing Subgrade: For each stratum of soil on which footings will be placed, conduct at least one field density test for each 30 linear foot of footing or each 2,000 square feet of foundation slab.
- D. Paved Areas: Conduct at least one field density test of subgrade for every 2,000 square feet of paved area, but in no case less than three tests.
- E. Foundation Wall Backfill: Conduct at least two field density tests, at locations and elevations as directed.
- F. Pipe Trenches: Conduct at least one field density test between each manhole and for each 300 linear feet of force main.
- G. If, in the opinion of the Engineer based on testing services reports and inspection, subgrade or fills which have been placed are below specified density, Contractor shall provide additional compaction and testing at no additional expense to Owner.

3.12 GRADING

- A. General: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Grade areas to property drain runoff to appropriate collection structures or ditches. Smooth finished surface with specified tolerances, compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Grading Lines: Finish surfaces free from irregular surface changes, and as follows:
 1. Lawn or Unpaved Areas: Finish areas to receive topsoil to within not more than one (1) inch above or below the required subgrade elevations.
- C. Compaction: After grading, compact subgrade surfaces to the depth and percentage of maximum density for each area classification.

3.13 MAINTENANCE

- A. Protection of Graded Areas:
 1. Protect newly graded areas from traffic and erosion.

2. Keep free of trash and debris.
 3. Repair and re-establish grades in settled, eroded, and rutting areas to specified tolerances.
- B. Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, re-shape, and compact to required density prior to further construction.

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT AND PAYMENT

A. METHOD OF MEASUREMENT – Base Bid Items

1. Measurement for EXCAVATION & STOCKPILE shall be measured by the cubic yard for the volume of soil temporarily excavated and stockpiled. The volume shall be determined as the volume in place prior to excavation and shall be surveyed by the Contractor. All measurements shall be taken in the presence of the Engineer and agreed with the Engineer. Final determination of the volume will be as determined by the Engineer.
2. Measurement for BACKFILL & COMPACTION shall be measured by the cubic yard. Measurement shall be the volume of soil backfilled and compacted in place.
3. Measurement for WOVEN AND NONWOVEN GEOTEXTILE shall be measured by the square yard of in place area covered by geotextile not including overlaps.
4. Measurement for 1-1/2" CRUSHED STONE shall be measured by the CUBIC YARD installed in place.
- ~~5. Measurement for 2" CRUSHED STONE shall be measured by the CUBIC YARD installed in place.~~
6. Measurement for AGGREGATE SUB BASE COURSE shall be measured by the CUBIC YARD installed in place.
7. Measurement for AGGREGATE BASE COURSE shall be measured by the CUBIC YARD installed in place.
- ~~8. Measurement for UNDERLAYER STONE shall be measured by the CUBIC YARD installed in place.~~
- ~~9. Measurement for BEDDING STONE shall be measured by the CUBIC YARD installed in place.~~

B. METHOD OF MEASUREMENT – Add Alternate #1 Items

1. Measurement for AGGREGATE SUB BASE COURSE shall be measured by the CUBIC YARD installed in place.
2. Measurement for AGGREGATE BASE COURSE shall be measured by the CUBIC YARD installed in place.

C. METHOD OF PAYMENT – Base Bid

1. Payment for EXCAVATION & STOCKPILE shall be made by the Contract Unit Price per CUBIC YARD. This price and payment shall constitute full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work, including excavation, sorting, segregation, removal and relocation of all excavated soil.
2. Payment for BACKFILL & COMPACTION shall be made by the Contract Unit Price per CUBIC YARD. This price and payment shall constitute full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work, including backfill and compaction **of fill placed beneath the Aggregate Subbase Course and Aggregate Base Course to establish project grades for the volume shown on the Contract Drawings, including underwater backfill within the expanded boatramp area.**
3. Payment for WOVEN AND NONWOVEN GEOTEXTILE shall be made by the Contract Unit Price per SQUARE YARD and shall be full compensation for all materials, equipment, labor, supervision and incidental or appurtenant work to install the geotextiles as shown on the Contract Drawings.
4. Payment for 1-1/2" CRUSHED STONE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to install the rip rap filtration berm as shown on the Contract Drawings.
- ~~5. Payment for 2" CRUSHED STONE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.~~
6. Payment for AGGREGATE SUB BASE COURSE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.
7. Payment for AGGREGATE BASE COURSE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.
- ~~8. Payment for UNDERLAYER STONE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.~~
- ~~9. Payment for BEDDING STONE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.~~

D. METHOD OF PAYMENT – Add Alternate #1

1. Payment for AGGREGATE SUB BASE COURSE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.

2. Payment for AGGREGATE BASE COURSE shall be made by the Contract Unit Price per CUBIC YARD and shall be full compensation for all materials, equipment, transportation, labor, supervision and incidental or appurtenant work to place and compact the imported gravel as shown on the Contract Drawings.

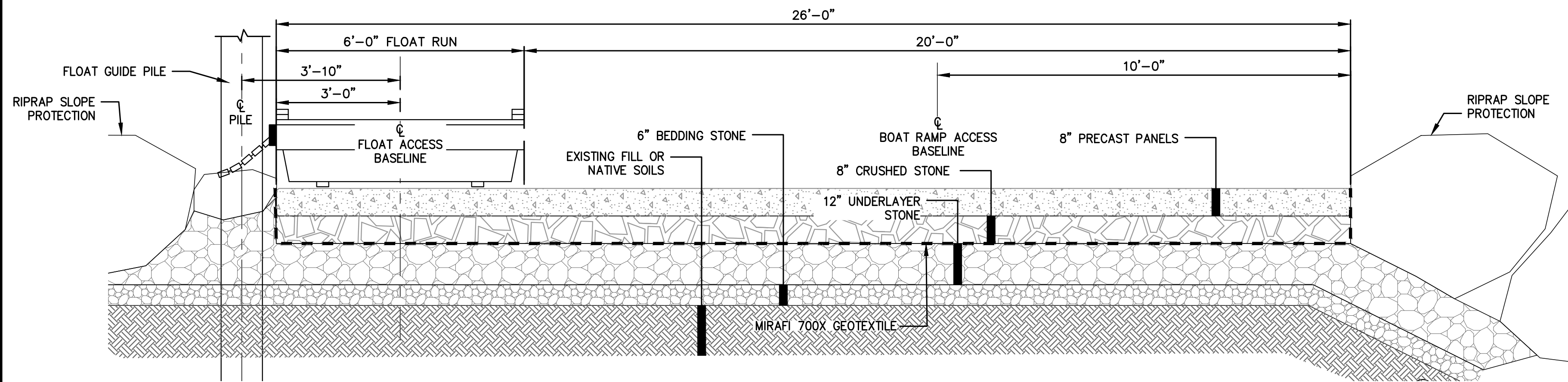
E. PAYMENT ITEM

<u>BASE BID ITEMS</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02220-01	Excavation & Stockpile	CY
02220-02	Backfill and Compaction	CY
02220-03	Woven and Nonwoven Geotextile	SY
02220-04	1-1/2" Crushed Stone	CY
02220-05	2" Crushed Stone	CY
02220-06	Aggregate Sub Base Course	CY
02220-07	Aggregate Base Course	CY
02220-08	Underlayer Stone	CY
02220-09	Bedding Stone	CY

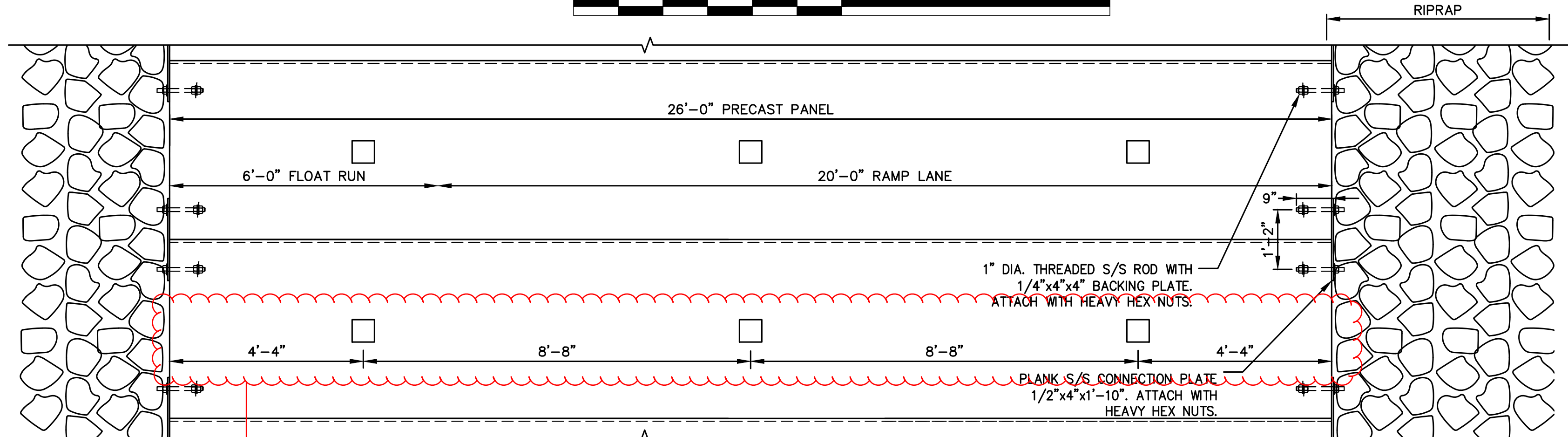
<u>ADD ALT #1 ITEMS</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
02220-01-Alt#1	Aggregate Sub Base Course	CY
02220-02-Alt#1	Aggregate Base Course	CY

END OF SECTION 02220

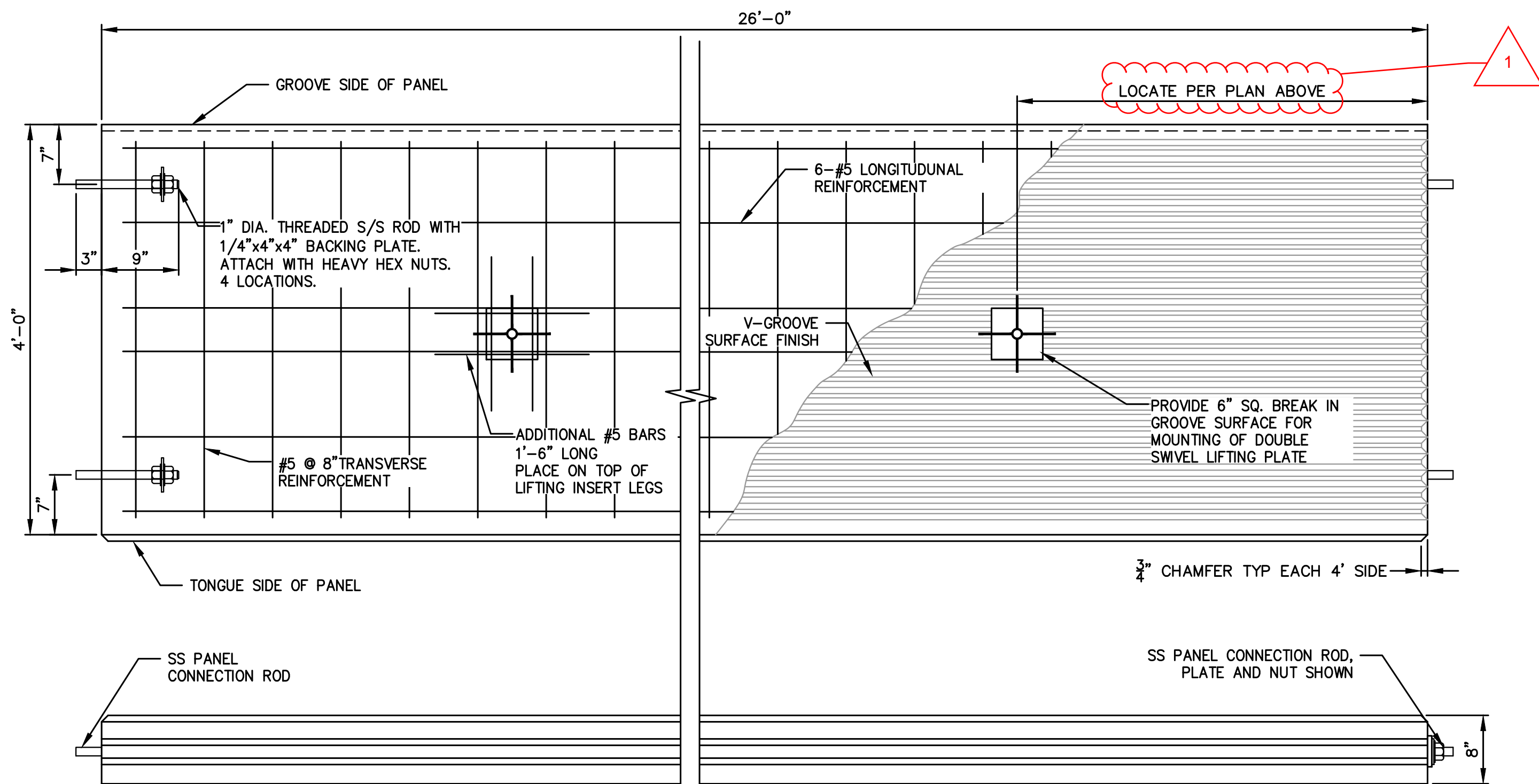
STEEVES, JACOB B\Working\harpwell_town.d2201528.mxd\consultant\waterfront03_CAD\Design\Sheets\2201528_STRUCTURE SHEETS.dwg - 8/21/2025



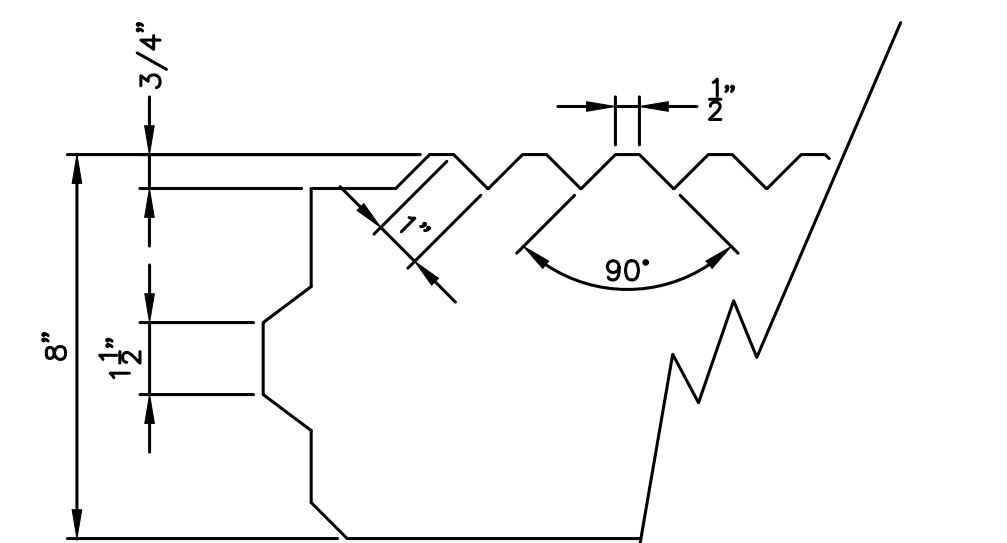
TYPICAL SECTION



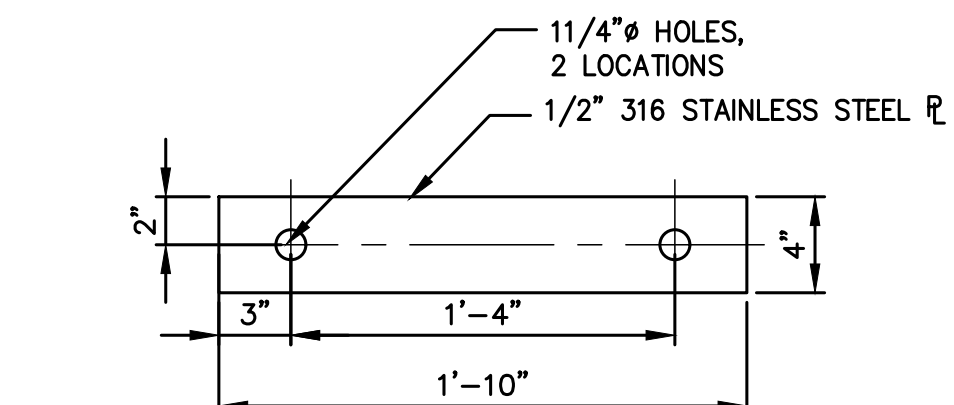
PLAN



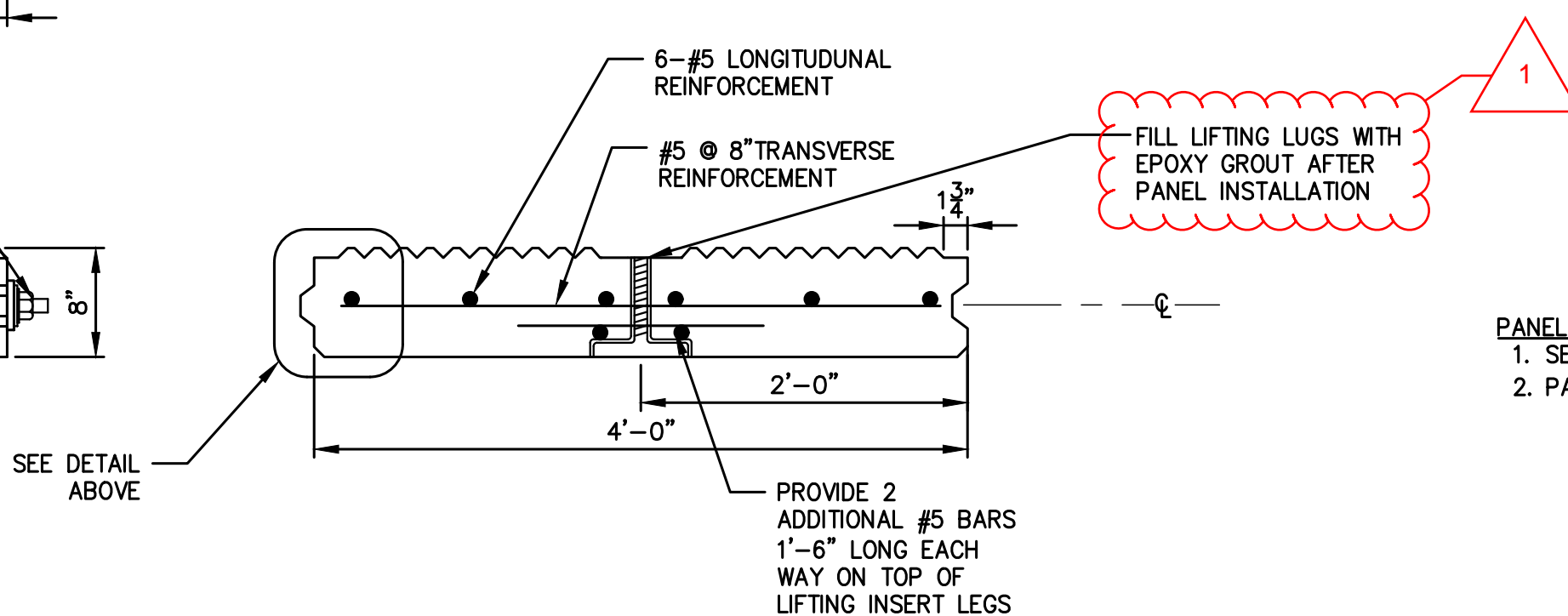
PRECAST CONCRETE BOAT RAMP PANELS



PANEL EDGE AND V-GROOVE DETAIL



PANEL CONNECTION PLATE DETAIL



- PANEL DESIGN NOTES:
1. SEE SHEET G-2 FOR CONCRETE SPECIFICATIONS.
 2. PANEL WEIGHT = 10500 LBS

1 ADDENDUM #3



P.E. No.: 13033

Approved: DJB

Checked: DJB

Drawn: JLD

Designed: BJB

GEI Project 2201528

Attention: 1"
0 1"
If this scale bar does not measure 1"
then drawing is not original scale.

3 8/22/2025 ADDENDUM #3 DJB

2 8/12/2025 ADDENDUM #2 DJB

1 7/23/2025 FINAL PS&E DJB

NO. DATE ISSUE/REVISION APP

SHEET NAME

**BOAT RAMP
SECTIONS**

SHEET NO.

S-04