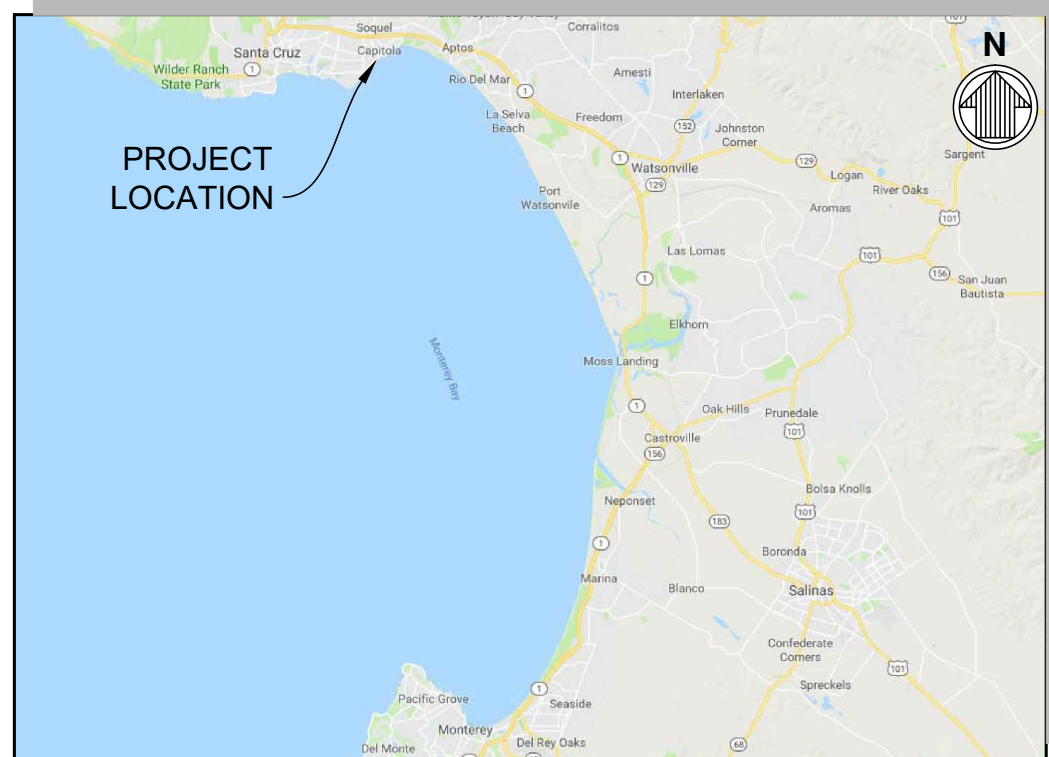


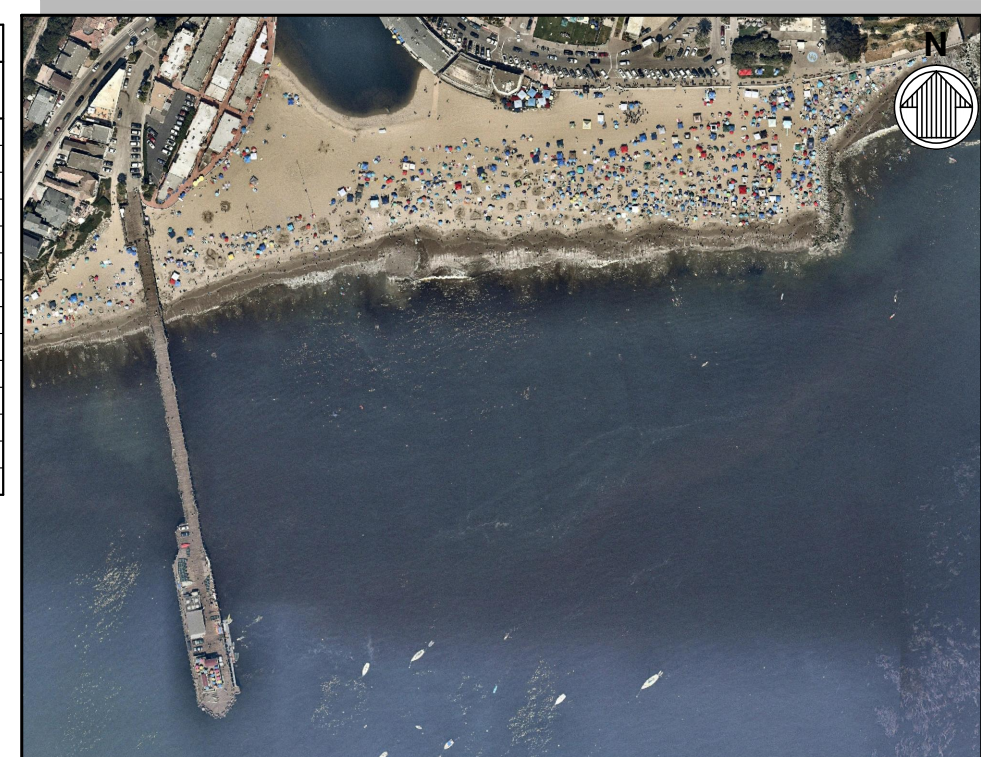
# CAPITOLA BEACH

## FLUME AND JETTY REHABILITATION



VICINITY MAP  
SCALE: NTS

| SHEET LIST |  |
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| SHEET REF. | SHEET TITLE                                |
| G-001      | TITLE SHEET                                |
| G-002      | GENERAL NOTES 1 OF 2                       |
| G-003      | GENERAL NOTES 2 OF 2                       |
| C-101      | OVERALL SITE PLAN                          |
| C-110      | EXISTING FLUME PLAN AND PROFILE            |
| C-111      | EXISTING FLUME PHOTOS                      |
| C-112      | FLUME SECTION AND DETAILS                  |
| C-113      | CUTOFF WALL DETAILS                        |
| C-114      | FLUME WATERPROOFING DETAILS                |
| C-115      | EXISTING FLUME REFERENCE DRAWINGS – OUTLET |
| C-116      | EXISTING FLUME REFERENCE DRAWINGS – INLET  |
| C-120      | JETTY PLAN AND PROFILE                     |
| C-121      | JETTY CROSS SECTIONS                       |
| C-122      | EXISTING JETTY REFERENCE DRAWINGS          |



LOCATION PLAN  
SCALE: NTS

TIDAL DATUM (MONTEREY GAUGE)

|   |         |
|---|---------|
| MEAN HIGHER HIGH WATER (MHHW)           | +5.33ft |
| MEAN SEA LEVEL (MSL)                    | +2.83ft |
| MEAN LOWER LOWER WATER (MLLW)           | 0ft     |
| NORTH AMERICAN VERTICLE DATUM (NAVD) 88 | -0.13ft |



APPROVED, CITY OF CAPITOLA

*Steven E. Jesberg*

STEVEN JESBERG, PUBLIC WORKS DIRECTOR  
REF 44791, EXP 3-31-22



| Mark | Description | Date | Appr. |
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CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION

TITLE SHEET

|  |                            |                            |  |
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| Designed by:<br>BP                                     | Checked by:<br>CD, D.M. ST | Date:<br>01/06/2020        | Rev.:  |
| Submitted by:<br>BRAD PORTER, P.E.<br>MOFFATT & NICHOL | Reviewed by:<br>JJ         | M&N Project No:<br>9154-01 | Drawing Code:<br>Drawing Scale:<br>Plot scale: 1:1 (0 SHEET) |

2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596



Sheet Reference No.  
**G-001**  
INDEX: 1 OF 14

**GENERAL NOTES**

1. ELEVATIONS SHOWN ARE IN FEET REFERENCED TO MEAN LOWER LOW WATER.
2. DEMOLITION OF EXISTING FEATURES SHALL BE LIMITED TO THE ITEMS SHOWN ON THE PLANS AND DESCRIBED IN THE SPECIFICATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE EXISTING FEATURES TO REMAIN THAT ARE DAMAGED BY THE CONTRACTOR.
3. CONTACT THE CITY IMMEDIATELY UPON FINDING ANY FIELD CONDITIONS THAT CONFLICT WITH THE INFORMATION ON THESE DRAWINGS. ALL FIELD ADJUSTMENTS MUST BE APPROVED BY THE CITY BEFORE CONSTRUCTION OF SAID ADJUSTMENTS. FAILURE TO DO SO WILL RESULT IN THE CONTRACTOR ASSUMING FULL RESPONSIBILITY FOR ANY REQUIRED REVISIONS OR FIELD MODIFICATIONS, AS DIRECTED BY THE CITY, AT NO ADDITIONAL COST.
4. PROVIDE CONSTRUCTION SITE SECURITY FOR THE DURATION OF THE CONTRACT PERIOD AND AS SPECIFIED.
5. FURNISH, INSTALL AND MAINTAIN ALL WARNING SIGNS AND DEVICES NECESSARY TO SAFEGUARD THE GENERAL PUBLIC AND THE WORK, AND PROVIDE PROPER AND SAFE ROUTING OF VEHICULAR AND PEDESTRIAN TRAFFIC DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO WORKING HOURS.
6. KEEP THE PROJECT SITE IN A NEAT AND ORDERLY CONDITION, FREE OF RUBBISH AND DEBRIS, AT ALL TIMES.
7. ALL WORK SHOWN SHALL BE NEW UNLESS OTHERWISE NOTED.
8. ALL WORK SHALL CONFORM TO THE PERMIT CONDITIONS ISSUED FOR THE PROJECT BY THE REGULATORY AGENCIES:
  - CALIF COASTAL COMMISSION.
  - US ARMY CORP OF ENGINEERING.
  - REGIONAL WATER QUALITY CONTROL BOARD.

**PROJECT WORK**

- A. **FLUME**
  1. PURPOSE OF THE PROJECT IS TO STOP LEAKAGE IN THE FLUME AND THE RESULTING SAND MIGRATION BELOW THE FLUME THAT CAUSE SINKHOLES AND COLLAPSE IN THE BEACH.
  2. CONSTRUCT WATERPROOFING (FIBERGLASS LINER) ALONG THE ENTIRE LENGTH.
  3. CONSTRUCT CUTOFF WALLS BELOW THE FLUME IN THE BEACH SAND.
  4. REPAIR CONCRETE ABRASION ON THE LOWER FLUME.
  5. SEE DRAWINGS C-110 TO C-116.
- B. **FIBERGLASS LINER (WET-LAYUP)**
  1. THE PURPOSE OF THE FIBERGLASS LINER IS TO PROVIDE A STRONG WATERTIGHT SURFACE TO PREVENT LEAKAGE IN THE FLUME.
  2. THE FIBERGLASS LINER REHABILITATION SYSTEM SHALL BE A COMPLETE SYSTEM WITH A DEMONSTRATED SUCCESSFUL RECORD OF INSTALLATION IN AND PREVENTION OF LEAKAGE IN CONCRETE STRUCTURES IN THE MARINE ENVIRONMENT. QUAKEWRAp CFRP SYSTEM IS DEEMED TO COMPLY WITH THIS SPECIFICATION, OTHER SYSTEMS MAY BE CONSIDERED THAT HAVE EQUIVALENT PROPERTIES AND DEMONSTRATED SUCCESSFUL INSTALLATION.
  3. INCLUDE ALL ENGINEERING, MATERIALS, AND SERVICES REQUIRED TO, DESIGN AND CONSTRUCT A COMPLETE WATER TIGHT LINER SYSTEM
  4. FIBERGLASS FABRIC SHALL BE A HIGH-STRENGTH BIXIAL FABRIC, QUAKEWRAp VB2610G OR APPROVED EQUAL .
  5. FABRIC SHALL BE IMPREGNATED WITH A TWO COMPONENT, HIGH STRENGTH, AND LOW VISCOSITY STRUCTURAL EPOXY, TO THOROUGHLY AND UNIFORMLY SATURATE THE FABRIC. QUAKEBOND J300SR OR APPROVED EQUAL,
  6. SUBMITTALS--SUBMIT THE FOLLOWING PRIOR TO INSTALLATION OF THE FIBERGLASS LINER
    - 6.1. PRODUCT INFORMATION
    - 6.2. REPAIR PLAN INCLUDING MAPPING OF REPAIR AND CRACK AREAS
  7. SURFACE REPAIR--ALL IRREGULARITIES, UNEVENNESS, AND SHARP PROTRUSIONS IN THE SURFACE PROFILE SHALL BE GROUND AWAY TO A SMOOTH SURFACE WITH CSP 3/CSP 2 SURFACE PROFILE USING HAND TOOLS. VOIDS OR DEPRESSIONS WITH DIAMETERS LARGER THAN 2 IN. OR DEPTHS GREATER THAN 1/4 IN., WHEN MEASURED FROM A 12-IN. STRAIGHT EDGE PLACED ON THE SURFACE, SHALL BE FILLED. ANY EXPOSED STEEL REINFORCEMENT SHALL BE CLEANED WITH A WIRE BRUSH.
  8. CRACK REPAIR--ALL CRACKS IN THE SURFACE OF CONCRETE OR THE SUBSTRATE THAT ARE WIDER THAN 0.05 IN. SHALL BE FILLED WITH EPOXY BY PRESSURE INJECTION ACCORDING TO ACI 224R-01 AND 224.1R-07. THE FIBERGLASS LINER SHALL BE INSTALLED NO EARLIER THAN 12 HOURS AFTER CRACK INJECTION.
  9. AFTER SURFACE GRINDING, ANY UNEVENNESS IN THE SURFACE SHALL BE FILLED AND SMOOTHED OVER BY USING PUTTY MADE OF EPOXY RESIN MORTAR OR POLYMER CEMENT MORTAR.

10. SUBSTRATE CONCRETE AND FINISHED SURFACE OF CONCRETE SHALL BE CLEANED PRIOR TO APPLICATION OF THE FIBERGLASS AND ALLOWED TO DRY FULLY.
  11. ALL RESIN COMPONENTS, INCLUDING THE MAIN AGENT AND HARDENER, SHALL BE MIXED AS SPECIFIED BY THE MANUFACTURER UNTIL THOROUGH MIXING WITH UNIFORM COLOR AND CONSISTENCY IS ACHIEVED. RESINS SHALL NOT BE DILUTED WITH ANY ORGANIC SOLVENTS SUCH AS A THINNER.
  12. APPLY TWO COATS OF PRIMER ON THE CONCRETE SURFACE TO PENETRATE OPEN PORES, QUAKEBOND 220UR OR EQUIVALENT. THE PUTTY SHALL BE APPLIED AS SOON AS THE PRIMER BECOMES TACK FREE OR IS NOT STICKY TO THE FINGERS. THE PUTTY SHALL BE APPLIED WITHIN 7 DAYS AFTER PRIMER APPLICATION.
  13. THE FABRIC SHALL BE UNIFORMLY SATURATED. THE FABRIC SHALL BE CUT TO THE LENGTH AND BE INSTALLED IN PLACE AND GENTLY PRESSED ONTO THE WET PUTTY. ANY ENTRAPPED AIR BETWEEN THE FIBER SHEET AND THE CONCRETE SURFACE SHALL BE RELEASED OR ROLLED ACROSS THE SHEET IN THE DIRECTION PARALLEL TO THE FIBERS WHILE ALLOWING THE RESIN TO IMPREGNATE THE FIBERS AND ACHIEVE INTIMATE CONTACT WITH THE SUBSTRATE. ROLLING PERPENDICULAR TO THE FIBER DIRECTION IS NOT ALLOWED.
  14. ELASTOMERIC INTERNAL JOINT SEALS (WEKO OR APPROVED EQUIVALENT) CAN BE USED AT THE TERMINATION POINTS WITH THE APPROPRIATE DETAILS INCLUDED IN THE DRAWING SET.
  15. THE FIBERGLASS LINER SYSTEM SHALL BE ALLOWED TO CURE FOR 72 HOURS. FIELD MODIFICATION OF RESIN CHEMISTRY FOR RAPID CURING IS NOT ALLOWED.
  16. AFTER AT LEAST 24 HOURS FOR THE INITIAL CURING OF THE RESIN, A VISUAL INSPECTION OF THE SURFACE WILL BE PERFORMED FOR ANY SWELLING, BUBBLES, VOIDS, OR DELAMINATION.
- C. **JETTY**
1. PURPOSE OF THE PROJECT IS TO RECONSTRUCT JETTY TO THE ORIGINAL CROSS SECTION.
  2. IMPORT ROCK AND REPOSITION EXISTING DISPLACED ROCK AS NEEDED TO RESTORE SECTION.
  3. SEE DRAWINGS C-120, C-121.

**CONSTRUCTION BEST MANAGEMENT PRACTICES**

1. THE CITY SHALL PROVIDE THE SERVICE-APPROVED FISHERY BIOLOGIST.
2. PRIOR TO THE START OF CONSTRUCTION AND IN ACCORDANCE WITH THE PROJECT TIMELINE, A SERVICE-APPROVED FISHERY BIOLOGIST WILL SURVEY THE LAGOON AND FLUME ENTRANCE FOR TIDEWATER GOBY, STEELHEAD, AND COHO SALMON THAT WOULD BECOME EXPOSED, REMOVED, OR IMPACTED IN ANY WAY DUE TO PLANNED ACTIVITY. THE FISHERY BIOLOGIST WILL HAVE THE AUTHORITY TO HALT OR DELAY CONSTRUCTION ACTIVITIES IF SUCH ACTIVITIES ARE RESULTING IN UNINTENDED OR UNANTICIPATED IMPACTS TO SPECIAL STATUS AND MSA-MANAGED SPECIES AND THEIR HABITAT (NMFS 2013; USFWS 2013; D.W. ALLEY & ASSOCIATES 2004).
3. A SERVICE-APPROVED FISHERY BIOLOGIST WILL LEAD AN ON-SITE ENVIRONMENTAL TRAINING FOR WORK CREWS PRIOR TO THE START OF THE PROPOSED PROJECT TO PROTECT SURROUNDING BIOLOGICAL RESOURCES. ANY NEW CREW MEMBERS BROUGHT ONTO THE JOB PRIOR TO PROJECT COMMENCEMENT MUST UNDERGO THE ENVIRONMENTAL TRAINING BEFORE STARTING WORK ON THE PROJECT.
4. A SERVICE-APPROVED FISHERY BIOLOGIST WILL BE PRESENT TO MONITOR DURING ALL CONSTRUCTION ACTIVITIES THAT HAVE THE POTENTIAL TO AFFECT FISH HABITAT IN THE LAGOON/ESTUARY. THIS INCLUDES, BUT IS NOT LIMITED TO, ANY BERM MANIPULATION ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF A CONTINGENCY BYPASS, FLUME CLEARING ACTIVITIES WHEN FISH MAY BE PRESENT, UP UNTIL THE SUCCESSFUL SWITCH OF FLUME USE DURING THE CLOSED LAGOON PHASE TO FULL ESTUARY USE.
5. IF THE CONTINGENCY BYPASS IS INSTITUTED, A SERVICE-APPROVED FISHERY BIOLOGIST WILL SEINE THE VICINITY OF THE LAGOON PERIPHERY TO BE IMPACTED BY CONSTRUCTION ACTIVITIES TO REMOVE ALL STEELHEAD AND TIDEWATER GOBIES FROM THE AREA, FOLLOWED BY INSTALLATION OF A BLOCK NET TO PREVENT FISH FROM RE-ENTERING THE IMPACT ZONE. THE BLOCK NET WILL REMAIN UNTIL THE CONSTRUCTION AREA IS ISOLATED BY EXCLUSIONARY WALLS OF SANDBAGS OR OTHER INSERT MATERIAL.
6. THE SERVICE-APPROVED FISHERY BIOLOGIST WILL BE PRESENT TO RESCUE ANY FISH REMAINING IN ISOLATED AREAS AS AREAS ARE ACTIVELY DEWATERED FOR CONSTRUCTION PURPOSES OR FLUME ISOLATION.
7. MONITORING OF LAGOON WATER QUALITY (I.E. TEMPERATURE, DISSOLVED OXYGEN, TURBIDITY) SHALL BE CONDUCTED BY A SERVICE-APPROVED FISHERY BIOLOGIST IF THE CONTINGENCY BYPASS IS INSTALLED PRIOR TO THE NATURAL FACILITATED BREACHING OF THE BERM. IF THE SAND BERM HAS BEEN BREACHED PRIOR TO THE ONSET OF FLUME REPAIR AND THE FLUME IS COMPLETELY ISOLATED FROM STREAMFLOW AND TIDAL INFLOW, THEN NO WATER QUALITY MONITORING WILL BE NECESSARY.
8. THE CONTRACTOR IMPLEMENTING THE PROPOSED PROJECT SHALL EXERCISE EVERY REASONABLE PRECAUTION AND BMPS TO PROTECT SPECIAL STATUS AND MSA-MANAGED SPECIES AND THEIR HABITATS FROM CONSTRUCTION BY-PRODUCTS AND POLLUTANTS SUCH AS CONSTRUCTION DEBRIS, CHEMICALS, FUEL, HYDRAULIC FLUID, FRESH CEMENT, SAW-DUST, OR OTHER DELETERIOUS MATERIALS.

9. THE CONTRACTOR SHALL DEVELOP AND IMPLEMENT A SPILL PLAN AND APPROPRIATE SPILL CONTROL AND CLEAN-UP MATERIALS (E.G., OIL ABSORBENT PADS). SAID PLAN SHALL BE RETAINED ON SITE IN CASE A FUEL SPILLOCCURS. ALL CONSTRUCTION VEHICLES AND EQUIPMENT SHALL BE INSPECTED BEFORE THEY ARE MOVED TO THE PROJECT SITE, AND SHALL NOT BE MOVED TO THE SITE IF LEAKING FLUIDS THAT COULD RESULT IN SPILLS OF TOXIC MATERIALS. ALL CONSTRUCTION VEHICLES AND EQUIPMENT USED ON SITE SHALL BE WELL MAINTAINED AND CHECKED DAILY FOR FUEL, OIL, AND HYDRAULIC FLUID LEAKS OR OTHER PROBLEMS THAT COULD RESULT IN SPILLS OF TOXIC MATERIALS.
10. VEHICLE STAGING, CLEANING, MAINTENANCE, REFUELING, AND FUEL STORAGE SHALL TAKE PLACE IN A VEHICLE STAGING AREA PLACED 100 FEET OR MORE FROM SOQUEL CREEK AND LAGOON AND THE MHWL. THE FUELING AREA WILL BE DOUBLE LINED. DAILY MONITORING WILL OCCUR TO ENSURE THERE ARE NO LEAKS. OIL ABSORBING PADS, DRIP PANS, OR SIMILAR DEVICES WILL BE PLACED BENEATH THE EQUIPMENT WHEN WORKING IN WATERS OR STAGED OVERNIGHT TO CATCH ANY LEAKAGE.
11. ONCE FLUME MAINTENANCE CONSTRUCTION ACTIVITIES ARE COMPLETE, ALL TEMPORARY CONSTRUCTION-RELATED EQUIPMENT AND MATERIAL SHALL BE REMOVED FROM THE SITE.
12. DURING CONSTRUCTION, ALL TRASH WITHIN THE WORK SITE MUST BE PROPERLY CONTAINED AS TO NOT LEAVE THE WORK SITE OR AFFECT BIOLOGICAL RESOURCES IN ANY WAY.
13. A SUMMARY OF THE OBSERVED ACTIONS ASSOCIATED WITH THE FLUME REHABILITATION SHALL BE INCORPORATED INTO A POST-CONSTRUCTION REPORT PROVIDED TO THE NATIONAL MARINE FISHERIES SERVICE (NMFS) FOLLOWING THE COMPLETION OF PROJECT ACTIVITIES.
14. ALL CONSTRUCTION MATERIALS AND EQUIPMENT PLACED ON THE BEACH DURING DAYLIGHT CONSTRUCTION HOURS SHALL BE STORED BEYOND THE REACH OF TIDAL WATERS. THE ONLY OTHER EXCEPTIONS SHALL BE FOR EROSION AND SEDIMENT CONTROLS AND/OR CONSTRUCTION AREA BOUNDARY FENCING WHERE SUCH CONTROLS AND/OR FENCING ARE PLACED AS CLOSE TO THE TOE OF THE SEAWALL/REVTMENT AS POSSIBLE, AND ARE MINIMIZED IN THEIR EXTENT.
15. CONSTRUCTION (INCLUDING BUT NOT LIMITED TO CONSTRUCTION ACTIVITIES, AND MATERIALS AND/OR EQUIPMENT STORAGE) IS PROHIBITED OUTSIDE OF THE DEFINED CONSTRUCTION, STAGING, AND STORAGE AREAS.
16. EQUIPMENT WASHING SHALL NOT TAKE PLACE ON THE BEACH; REFUELING AND/OR SERVICING OF EQUIPMENT SHALL BE ALLOWED ONLY AT DESIGNATED LOCATION AS NOTED ON THE PLAN. APPROPRIATE BEST MANAGEMENT PRACTICES SHALL BE USED TO ENSURE THAT NO SPILLS OF PETROLEUM PRODUCTS OR OTHER CHEMICALS TAKE PLACE DURING THESE ACTIVITIES.
17. THE CONSTRUCTION SITE SHALL MAINTAIN GOOD CONSTRUCTION SITE HOUSEKEEPING CONTROLS AND PROCEDURES (E.G., CLEAN UP ALL LEAKS, DRIPS, AND OTHER SPILLS IMMEDIATELY; KEEP MATERIALS COVERED AND OUT OF THE RAIN, INCLUDING COVERING EXPOSED PILES OF SOIL AND WASTES; DISPOSE OF ALL WASTES PROPERLY, PLACE TRASH RECEPTACLES ON SITE FOR THAT PURPOSE, AND COVER OPEN TRASH RECEPTACLES DURING WET WEATHER; REMOVE ALL CONSTRUCTION DEBRIS FROM THE BEACH; ETC.).
18. THE PERMITTEE SHALL NOTIFY PLANNING STAFF OF THE COASTAL COMMISSION'S CENTRAL COAST DISTRICT OFFICE AT LEAST THREE WORKING DAYS IN ADVANCE OF COMMENCEMENT OF CONSTRUCTION OR MAINTENANCE ACTIVITIES, AND IMMEDIATELY UPON COMPLETION OF CONSTRUCTION OR MAINTENANCE ACTIVITIES.



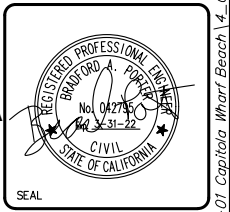
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**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

**GENERAL NOTES 1 OF 2**

|                                   |                       |                          |                     |                           |
|-----------------------------------|-----------------------|--------------------------|---------------------|---------------------------|
| Designed by:<br>BP                | Drawn by:<br>CD, D.M. | Checked by:<br>ST        | Date:<br>01/06/2020 | Rev.:                     |
| Submitted by:<br>MOFFATT & NICHOL | Reviewed by:<br>JJ    | Drawing code:<br>9154-01 | M&N Project No.:    | Plot scale: 1:1 (D SHEET) |

2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596

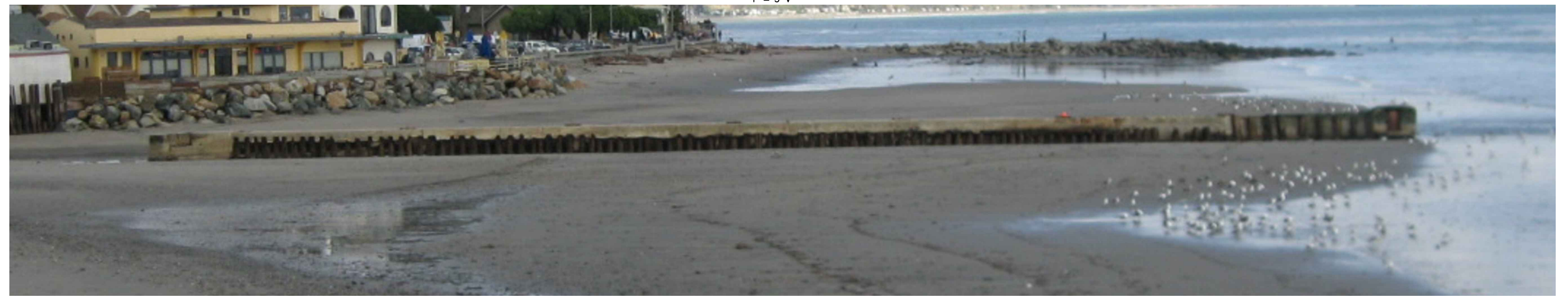
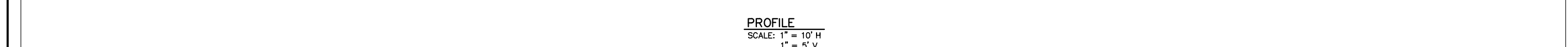
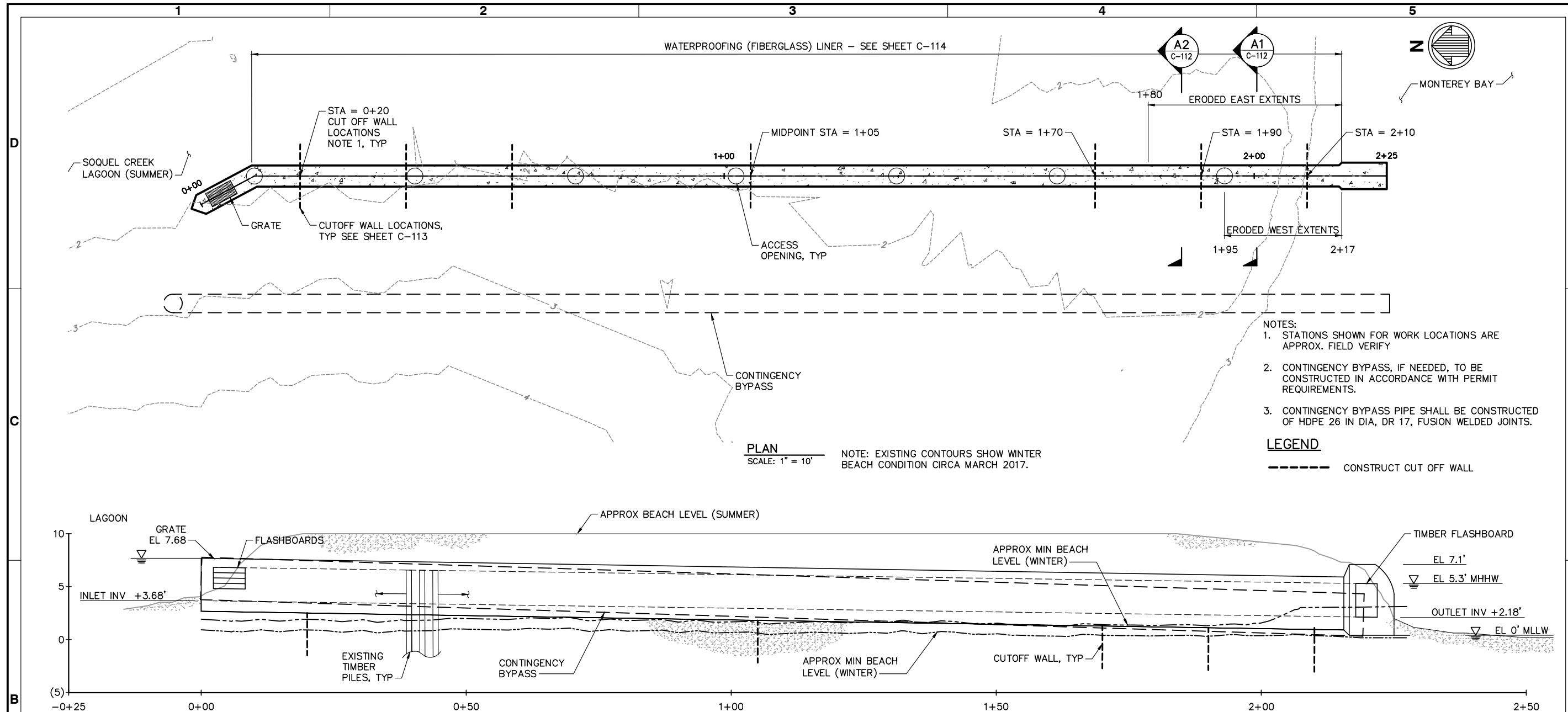


Sheet Reference No.  
**G-002**  
INDEX: 2 OF 14

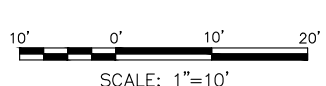
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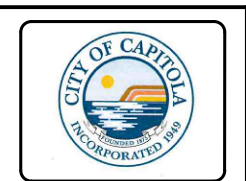




**PHOTO**  
SCALE: NTS  
NOTE: PHOTO SHOWS BEACH IN LOW 'WINTER CONDITION'.



- NOTES:**
1. STATIONS SHOWN FOR WORK LOCATIONS ARE APPROX. FIELD VERIFY
  2. CONTINGENCY BYPASS, IF NEEDED, TO BE CONSTRUCTED IN ACCORDANCE WITH PERMIT REQUIREMENTS.
  3. CONTINGENCY BYPASS PIPE SHALL BE CONSTRUCTED OF HDPE 26 IN DIA, DR 17, FUSION WELDED JOINTS.
- LEGEND**
- CONSTRUCT CUT OFF WALL



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**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

**EXISTING FLUME PLAN AND PROFILE**

|                    |                        |  |                            |                           |
|--------------------|------------------------|--|----------------------------|---------------------------|
| Designed by:<br>BP | Checked by:<br>CD, DLM | Submitted by:<br>BRAD PORTER, P.E.<br>MOFFATT & NICHOL | Date:<br>06/26/2020        | Rev.:                     |
| Dwn by:<br>CD, DLM | ST                     | JJ   | M&N Project No:<br>9154-01 |                           |
|                    |                        |  | Drawing code:              | Drawing Scale:            |
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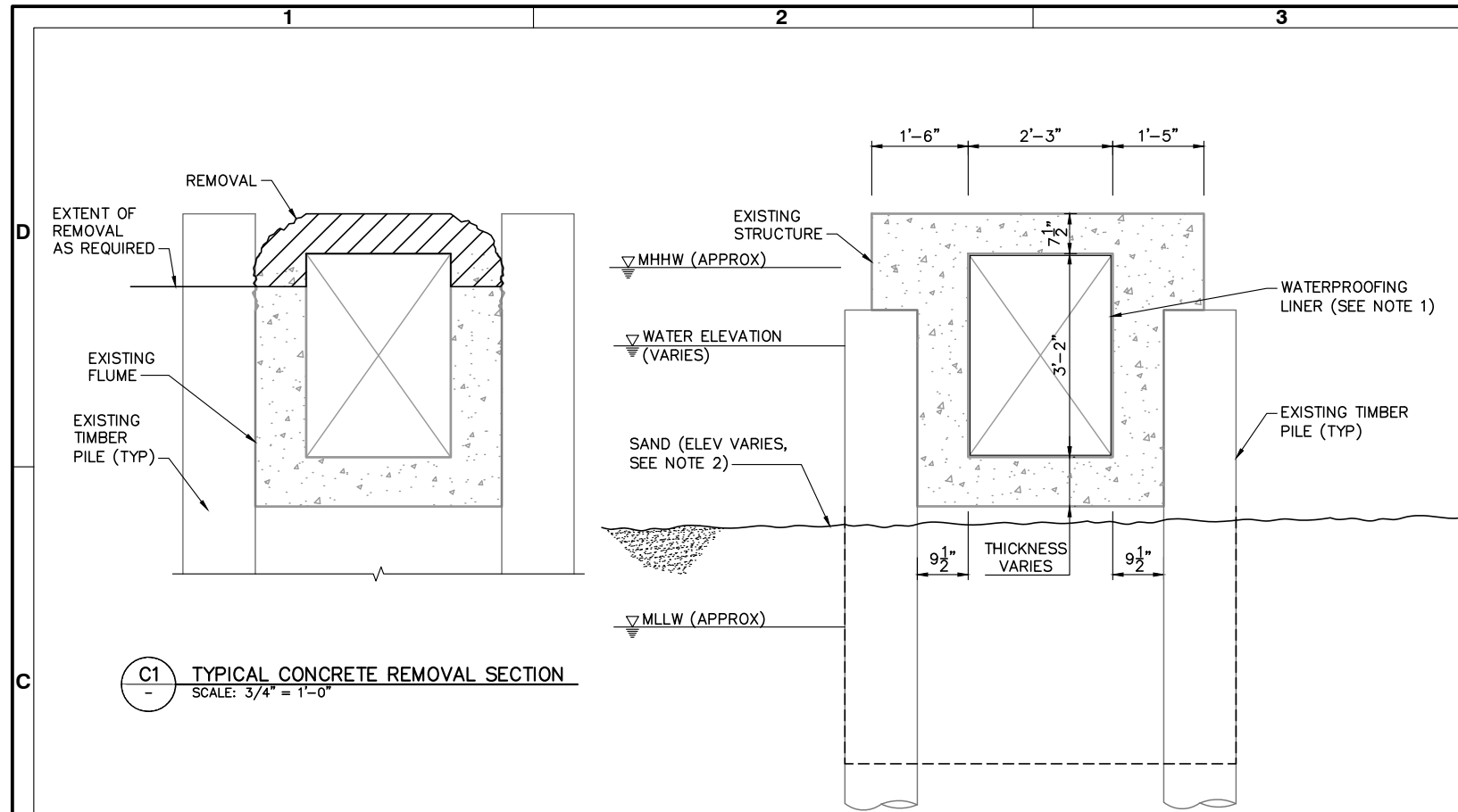
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SUITE 500  
WALNUT CREEK, CA 94596



Sheet Reference No.  
**C-110**  
INDEX: 5 OF 14

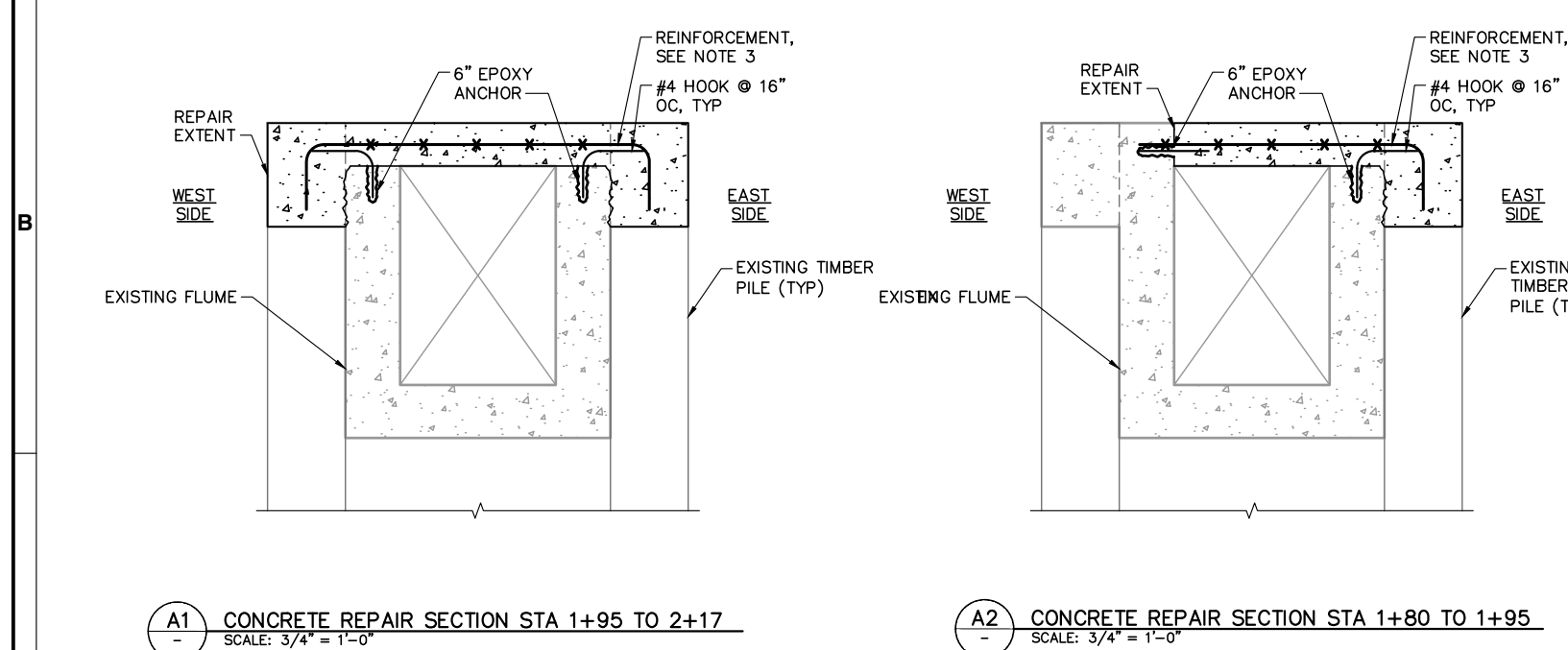
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**C1 TYPICAL CONCRETE REMOVAL SECTION**  
SCALE: 3/4" = 1'-0"

**C2 FLUME LINER TYPICAL SECTION**  
SCALE: 3/4" = 1'-0"



**A1 CONCRETE REPAIR SECTION STA 1+95 TO 2+17**  
SCALE: 3/4" = 1'-0"

**A2 CONCRETE REPAIR SECTION STA 1+80 TO 1+95**  
SCALE: 3/4" = 1'-0"

- NOTES:**
1. INSTALL FIBERGLASS WATERPROOFING LINER. WET LAY UP METHOD PER MANUFACTURER'S INSTRUCTIONS
  2. BEACH ELEVATIONS ARE SEASONAL AND ARE SHOWN FOR REFERENCE ONLY. ACTUAL CONDITIONS WILL BE DETERMINED PRIOR TO CONSTRUCTION
  3. REINFORCEMENT SHALL BE WELDED WIRE FABRIC 4X4 - W4.0 X W4.0 OR #4 REINFORCING STEEL AT 16" OC EACH WAY



**INLET AT STA 0+00**



**STA 1+28 LEFT SIDE LONGITUDINAL COLD JOINTS**



**STA 0+10 AT ANGLE**



**STA 1+28 RIGHT SIDE LONGITUDINAL COLD JOINTS**



**STA 0+10 LEFT SIDE TOP LONG CRACK**

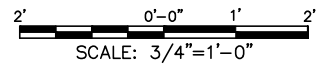


**STA 2+16 OUTLET**



**STA 1+45 COLD JOINT WITH OUTSIDE MATERIAL ENTERING**

**NOTE:** PHOTOS SHOWN WERE TAKEN CIRCA 2016 .



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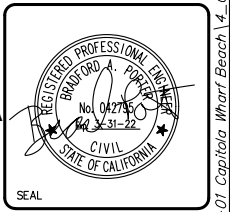
**CAPITOLA BEACH FLUME AND JETTY REHABILITATION**

**FLUME SECTION AND DETAILS**

|   |                         |                             |                           |
|---|-------------------------|-----------------------------|---------------------------|
| Designed by: BP                                   | Checked by: CD, D.M, ST | Date: 01/06/2020            | M&N Project No: 9154-01   |
| Submitted by: BRAD PORTER, P.E., MOFFATT & NICHOL | Reviewed by: J.J.       | Drawing Scale: 3/4" = 1'-0" | Plot scale: 1:1 (D SHEET) |

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**moftatt & nichol**



Sheet Reference No. **C-112**

INDEX: 7 OF 14







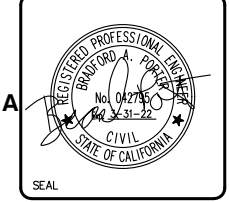
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**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

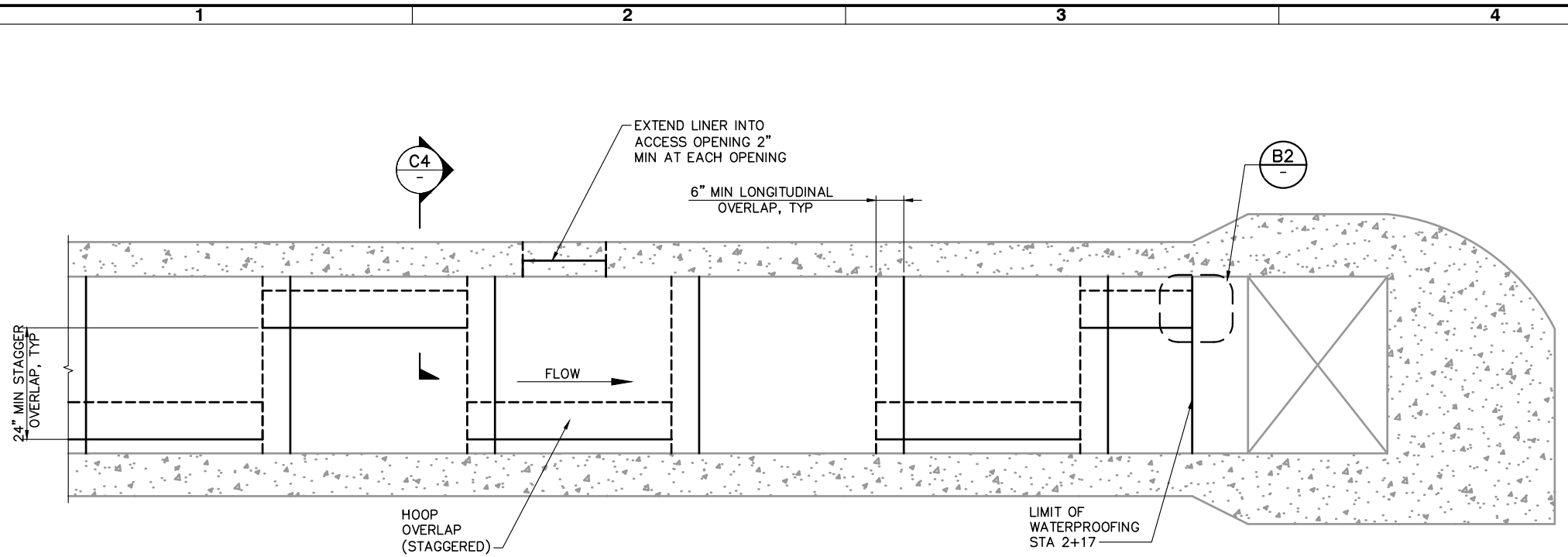
**FLUME WATERPROOFING  
DETAILS**

|  |                            |                |                           |
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| Designed by:<br>BP                                     | Date:<br>01/06/2020        | Rev.:          | -                         |
| Dwn by:<br>CD, D.M                                     | M&N Project No:<br>9154-01 | Drawing code:  |                           |
| Submitted by:<br>JJ                                    | CD, D.M                    | ST             |                           |
| Submitted by:<br>BRAD PORTER, P.E.<br>MOFFATT & NICHOL | Reviewed by:               | Drawing Scale: | Plot scale: 1:1 (D SHEET) |

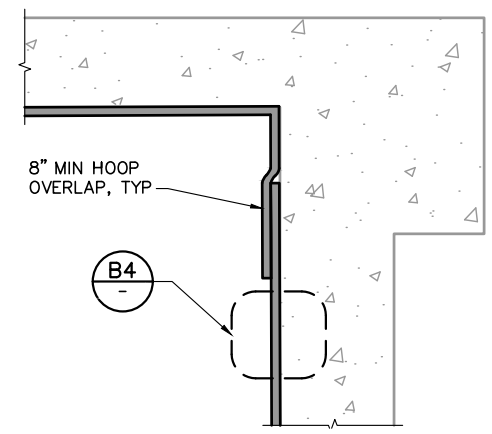
2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596



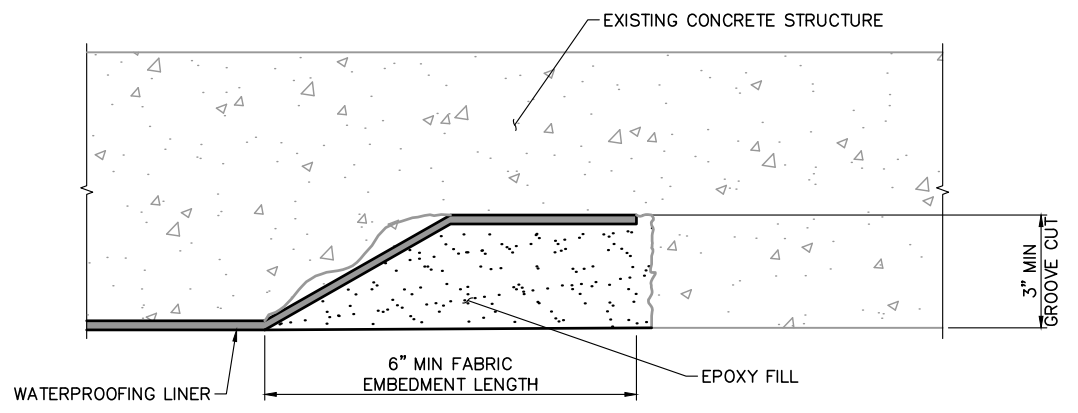
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Reference No.  
**C-114**  
INDEX: 9 OF 14



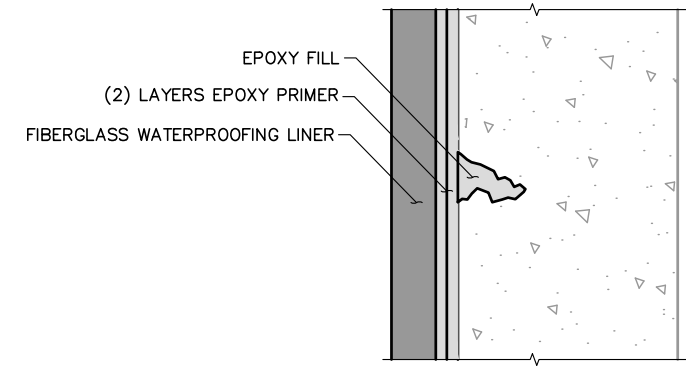
**WATERPROOFING LINER LAYUP ELEVATION**  
SCALE: 3/4" = 1'-0"



**C4 SECTION**  
NTS

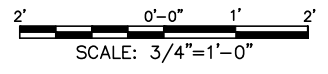


**B2 TERMINATION DETAIL**  
NTS



**B4 LAYER INSTALLATION**  
NTS

- NOTES:**
- ALL FABRIC SHALL BE INSTALLED IN HOOP DIRECTION AND SHALL HAVE A 8" HOOP OVERLAP.
  - THE FABRIC SHALL HAVE A 6" OVERLAP IN THE LONGITUDINAL DIRECTION WITH THE DOWNSTREAM EDGE BELOW THE UPSTREAM EDGE TO PROVIDE A SHINGLE EFFECT.
  - FOR CONCRETE SURFACES THE SURFACE PROFILE SHALL CONFORM TO ACI CSP3/CSP2.
  - ANY HOLES, FRACTURES, GAPS, AND LEAKS SHALL BE REPAIRED BY THE CONTRACTOR PRIOR TO INSTALLATION OF THE WATERPROOFING SYSTEM.





| Rev. | Date | Description | Mark |
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### CAPITOLA BEACH FLUME AND JETTY REHABILITATION

EXISTING FLUME  
OUTLET  
REFERENCE DRAWINGS -

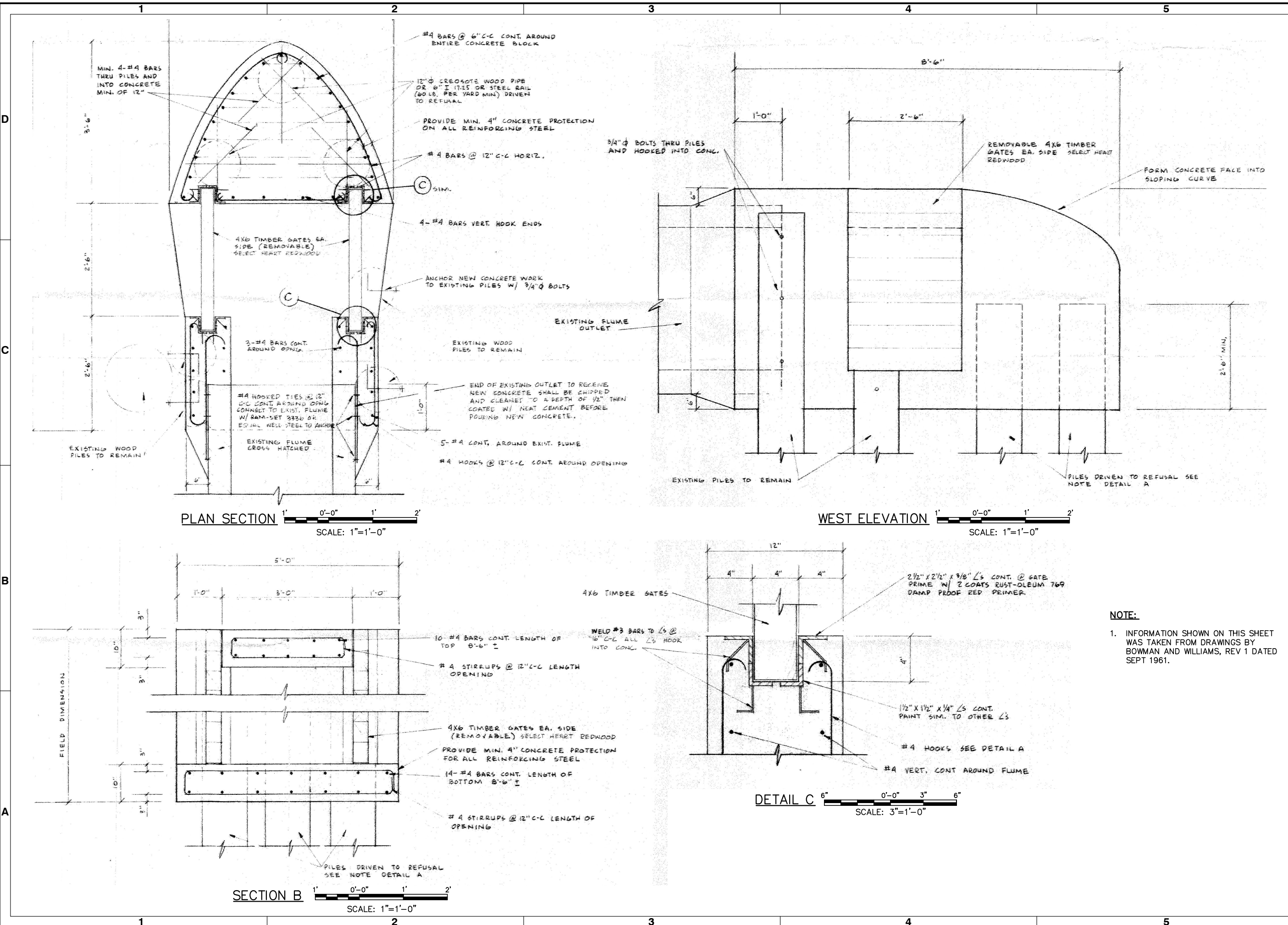
| Designed by:                                       | Date:                     | Rev. |
|--|---------------------------|------|
| BP   | 01/06/2020                | -    |
| CD by: <td>M&amp;N Project No.<td></td></td>       | M&N Project No. <td></td> |      |
| CD, D.M.   | 9154-01                   |      |
| ST   | Drawing code:             |      |
| JJ   | Drawing Scale:            |      |
| Submitted by: <td colspan="2">P.E. (D. SHEET)</td> | P.E. (D. SHEET)           |      |
| MOFFATT & NICHOL                                   | BRAD PORTER, P.E.         |      |

2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596

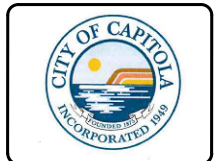
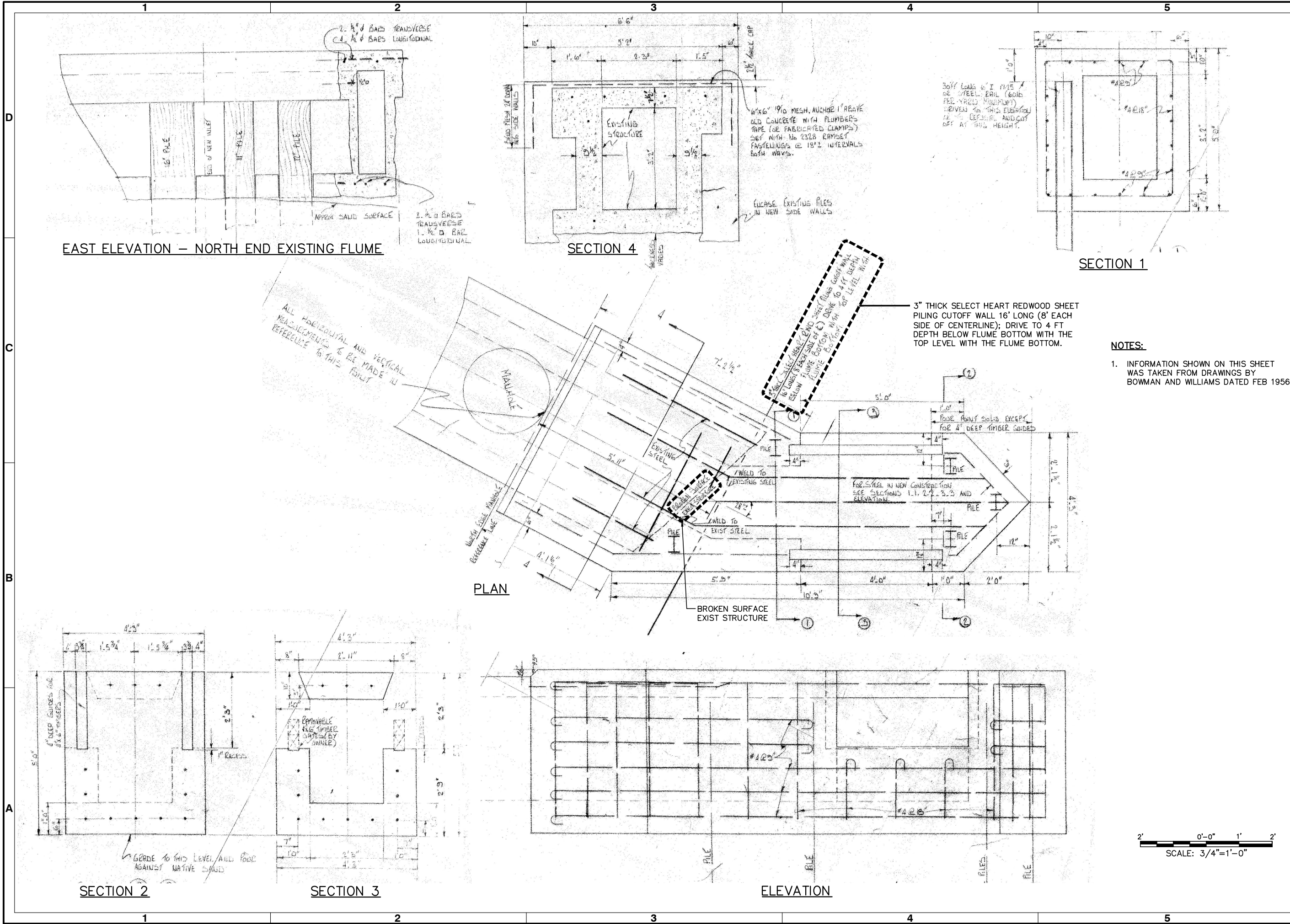


Sheet Reference No.  
**C-115**  
INDEX: 10 OF 14

File: G:\WC\9154-01\Capitola Wharf Beach 14-CADD\_Active\Construction\915401-C-115; Plotted: 6/26/2020 11:00 AM by PORTER, BRAD; Saved: 6/12/2020 2:39 PM by PHUA



**NOTE:**  
1. INFORMATION SHOWN ON THIS SHEET WAS TAKEN FROM DRAWINGS BY BOWMAN AND WILLIAMS, REV 1 DATED SEPT 1961.



| Rev. | Date | Description |
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**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

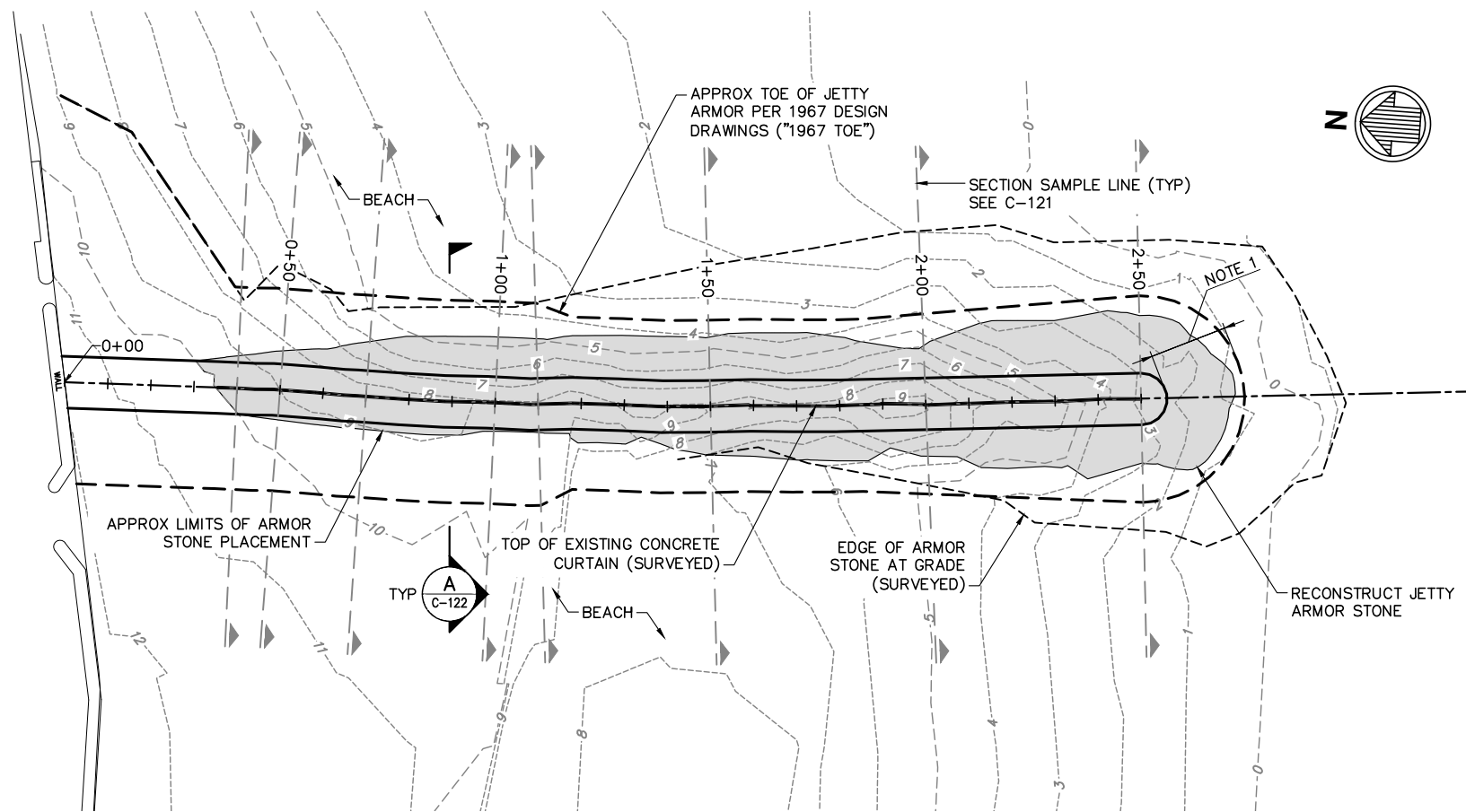
**EXISTING FLUME  
INLET  
REFERENCE DRAWINGS -  
INLET**

|                    |                            |  |                          |                      |                     |                            |                   |                    |                           |
|--------------------|----------------------------|--|--------------------------|----------------------|---------------------|----------------------------|-------------------|--------------------|---------------------------|
| Designed by:<br>BP | Checked by:<br>CD, D.M. ST | Submitted by:<br>BRAD PORTER, P.E.<br>MOFFATT & NICHOL | Drawn by:<br>CD, D.M. ST | Reviewed by:<br>J.J. | Date:<br>01/06/2020 | MAN Project No.<br>9154-01 | Drawing code:<br> | Drawing Scale:<br> | Plot scale: 1:1 (D SHEET) |
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2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596



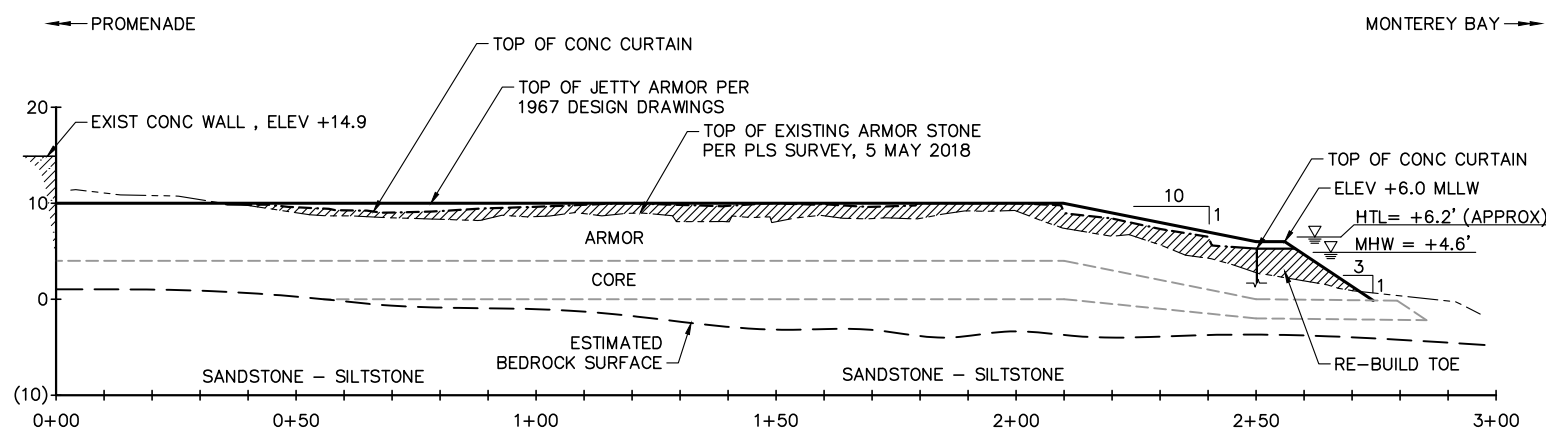
Sheet Reference No.  
**C-116**  
INDEX: 11 OF 14



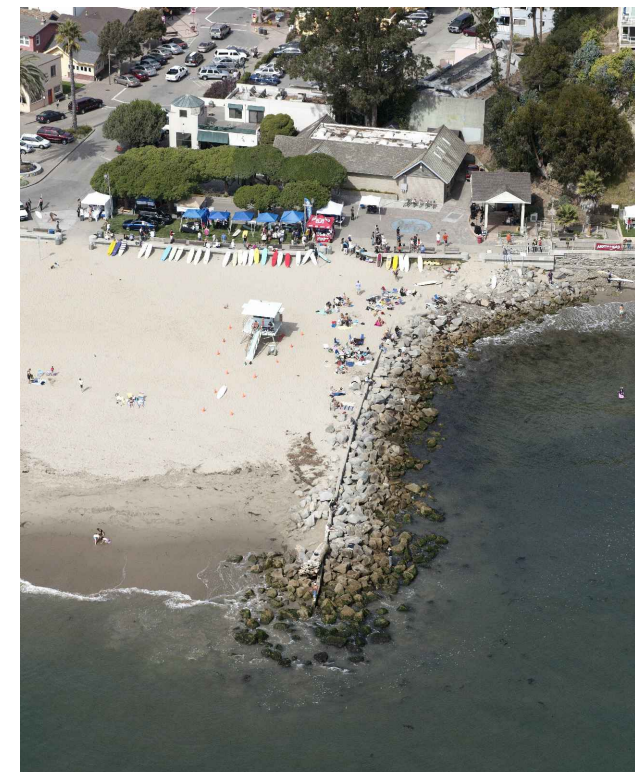
**PLAN**  
SCALE: 1" = 20'

**NOTES:**

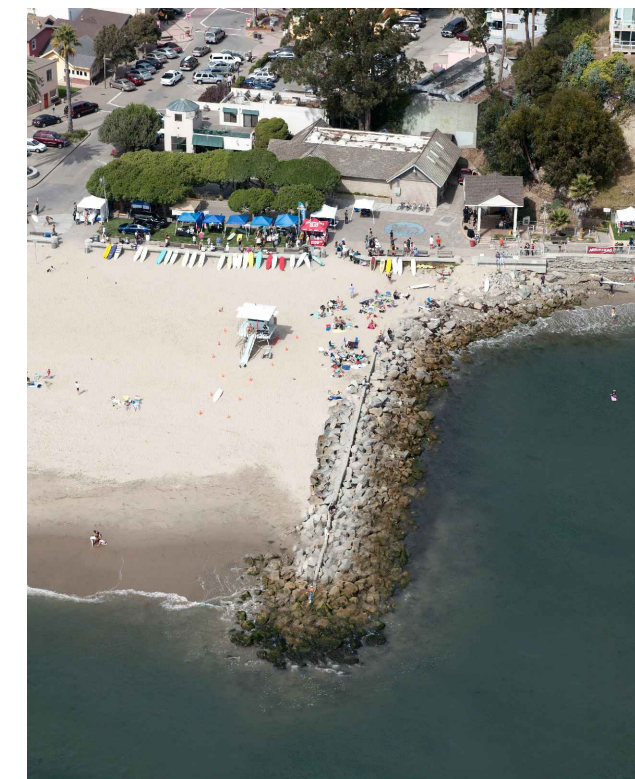
- 1. REPOSITION (E) ARMOR STONES THAT HAVE SCATTERED OUTSIDE OF THE 1967 TOE TO WITHIN PLACEMENT LIMITS SHOWN.



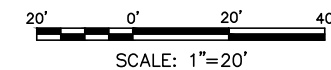
**PROFILE**  
SCALE: 1" = 20'



**PHOTO 1—JETTY PRE—PROJECT (EXISTING)**  
SCALE: NTS



**PHOTO 2—JETTY POST— PROJECT (PHOTO RENDITION)**  
SCALE: NTS



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**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

**JETTY PLAN AND PROFILE**

|                    |  |                            |                |                           |
|--------------------|--|----------------------------|----------------|---------------------------|
| Designed by:<br>BP | Checked by:<br>V.F. D.J.M. ST                          | Date:<br>01/06/2020        | Rev.:          | —                         |
| Dwn by:            | Submitted by:<br>BRAD PORTER, P.E.<br>MOFFATT & NICHOL | M&N Project No:<br>9154-01 | Drawing Scale: | Plot scale: 1:1 (D SHEET) |
| Reviewed by:       |  | Drawing code:              | Drawing Scale: |                           |

2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94696



Sheet Reference No.  
**C-120**  
INDEX: 12 OF 14

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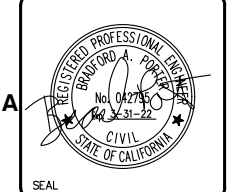
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**CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION**

**JETTY CROSS SECTIONS**

|                     |                            |  |                          |
|---------------------|----------------------------|--|--------------------------|
| Designed by:<br>BP  | Checked by:<br>VF, DJM, ST | Submitted by:<br>BRAD PORTER, P.E.<br>MOFFATT & NICHOL | Plot scale: 1" (D SHEET) |
| Date:<br>01/06/2020 | M&N Project No.<br>9154-01 | Drawing code:  | Drawing Scale:           |
| Reviewed by:        |                            |  |                          |

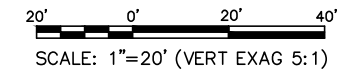
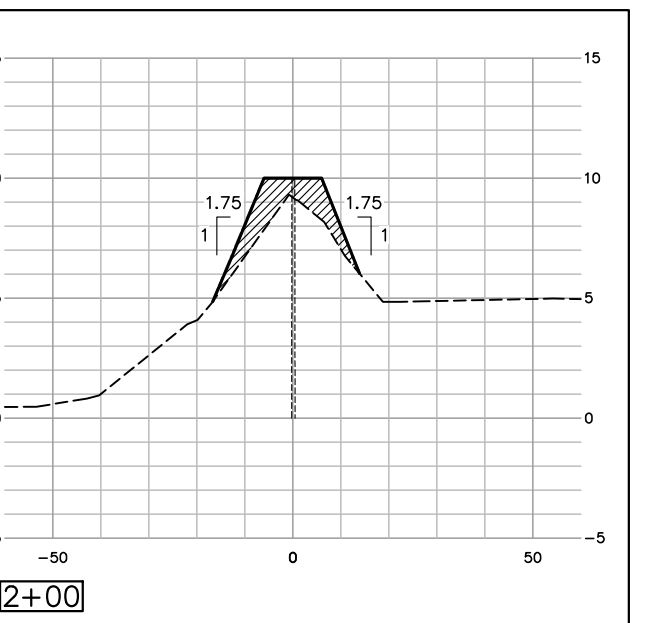
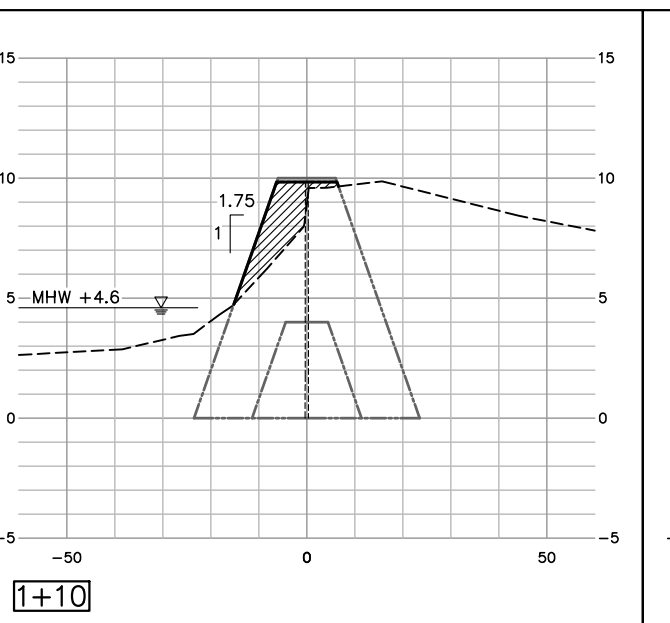
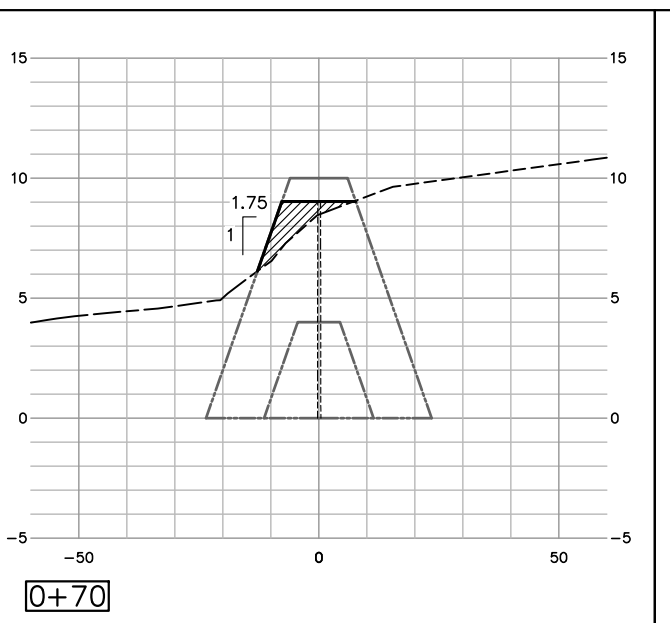
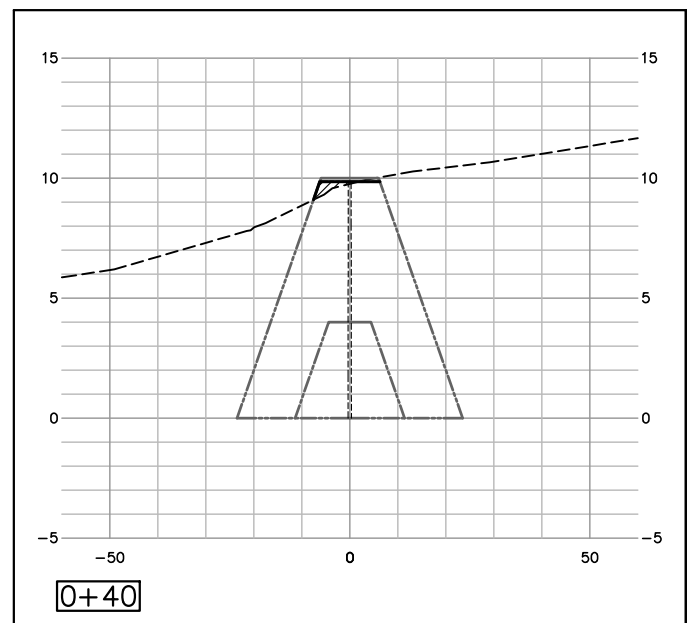
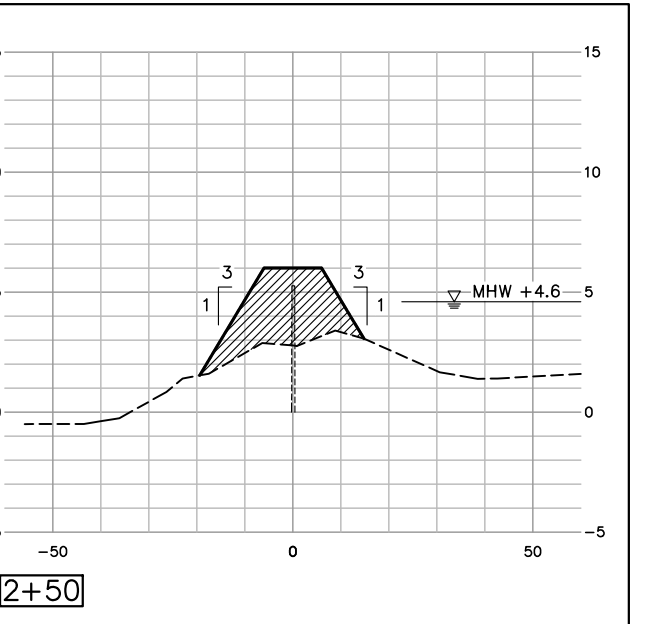
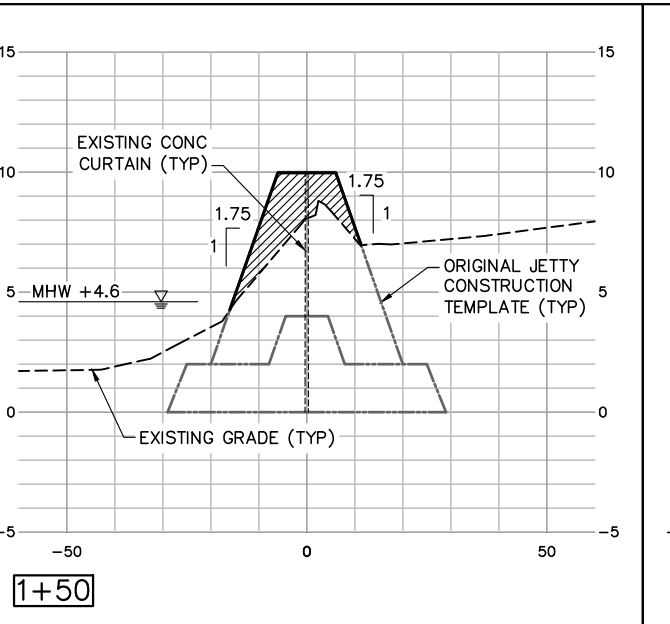
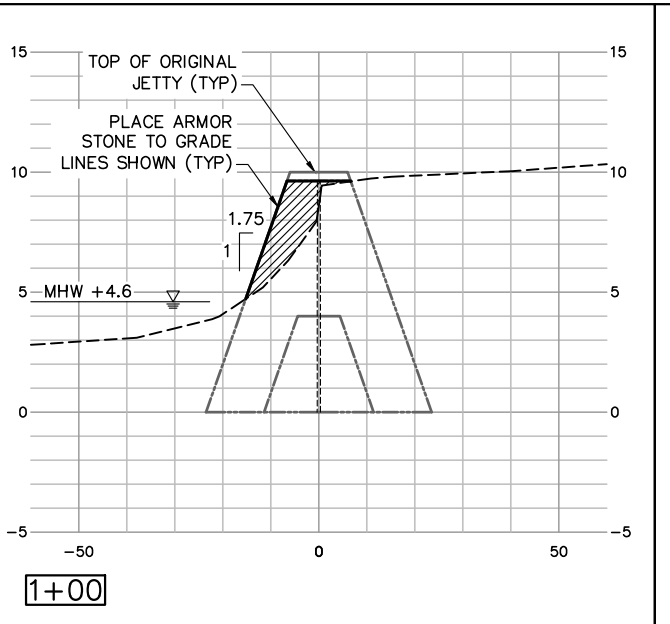
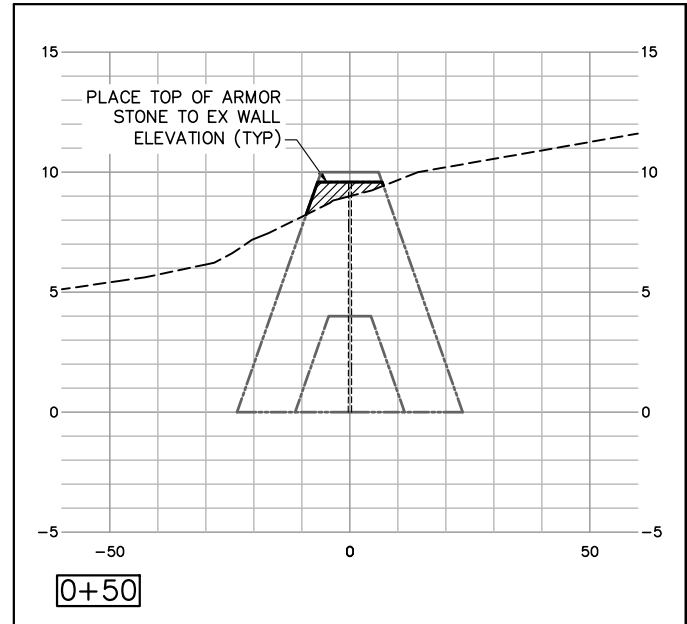
2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596



Sheet Reference No.  
**C-121**  
INDEX: 13 OF 14

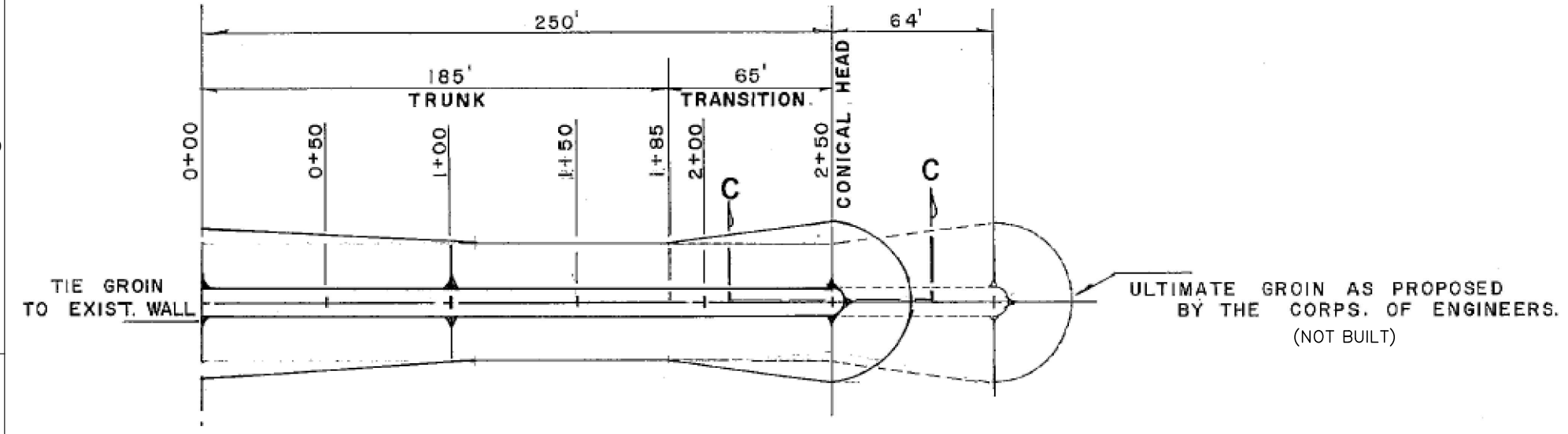
**LEGEND**

RECONSTRUCT JETTY ARMOR STONE.

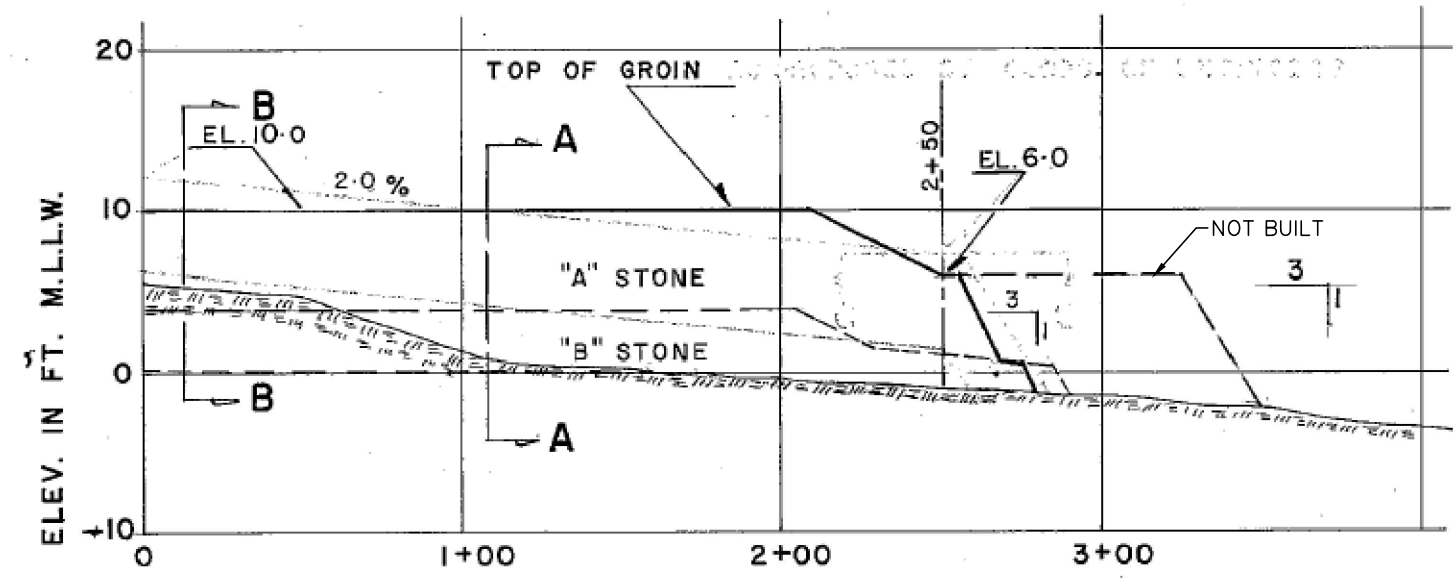




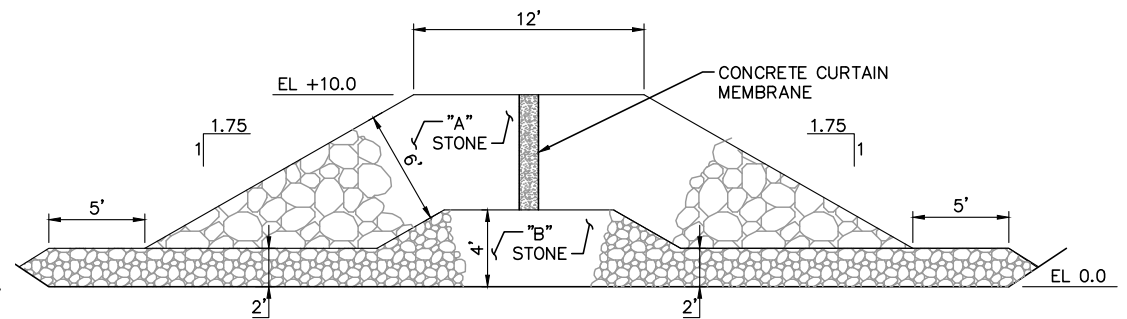
- NOTES:**
- DRAWINGS ARE BY CITY OF CAPITOLA, UNDATED, CIRCA 1967-68. BASED UPON BEACH EROSION STUDY BY CORPS OF ENGINEERS, APRIL 1966, MARCH 1967, (ADDENDUM NO. 1).
  - JETTY WAS CONSTRUCTED IN 1968.
  - ADDENDUM TO BEACH EROSION STUDY, BY US ARMY CORPS OF ENGINEERS DATED 12 NOV, 1971 DISCUSSION POSTPONEMENT OF EXTENSION BASED UPON POST CONSTRUCTION SURVEYS.



GROIN PLAN  
SCALE: 1"=30'

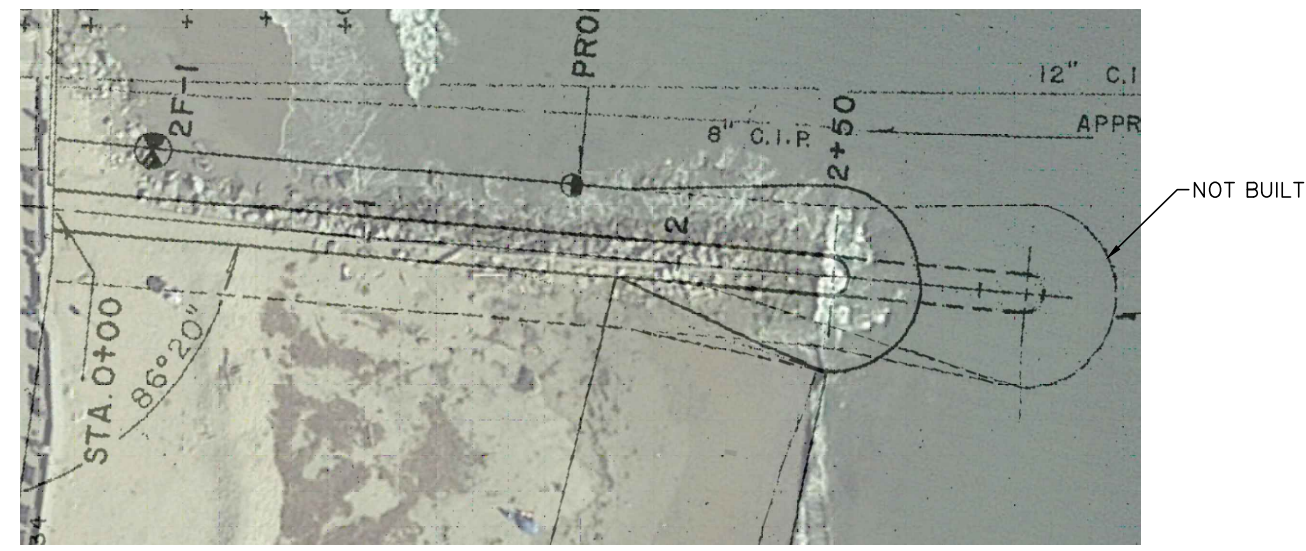


DESIGN CENTERLINE PROFILE  
SCALE: 1"=30' (VERT EXAGG 5:1)



TRUNK, SECTION A-A  
STA; 1+10

SCALE: 1"=5'



1967 DESIGN OVERLAY ON CURRENT AERIAL

| Date | Description |
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CAPITOLA BEACH  
FLUME AND JETTY  
REHABILITATION  
EXISTING JETTY  
REFERENCE DRAWINGS

|                  |                            |  |
|------------------|----------------------------|--|
| Designed by: BP  | Checked by: V.F. D.J.M. ST | Submitted by: BRAD PORTER, P.E. MOFFATT & NICHOL |
| Date: 01/06/2020 | M&N Project No.: 9154-01   | Drawing Code:                                    |
| Dwn by:          | Rev.:                      | Drawing Scale:                                   |

2185 N. CALIFORNIA BLVD.  
SUITE 500  
WALNUT CREEK, CA 94596



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