CONSTRUCTION NOTES:

1. UNLESS MODIFIED OR OTHERWISE SPECIFIED HEREIN, SUBGRADE AND PAVING WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION. PANEL AND TRACK WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION MANUAL FOR RAILWAY ENGINEERING.

2. AFTER EXCAVATION, MECHANICALLY COMPACT THE DISTURBED SURFACE OF THE SUBGRADE.

3. NO WATER SHALL BE ALLOWED TO STAND ON THE SUBGRADE ONCE THE EXCAVATION IS OPENED UP, OVER AS NECESSARY AND ENSURE THAT SURFACE DRAINAGE IS AWAY FROM THE PROJECT.

4. CLOSE ERECTION IS INTENDED AT TWO LOCATIONS BETWEEN THE NEW CROSSING PANELS AND THE EXISTING DOCK SHEET PILE TAIL WALLS. THE CONTRACTOR SHALL BE PREPARED TO REMOVE SMALL SECTIONS OF SHEET PILING AS DIRECTED BY THE OWNER.

5. SUBGRADE MATERIAL SHALL BE COMPACTED TO A density OF THE MAXIMUM DENSITY USING THE APPROPRIATE OPTIMUM MOISTURE CONTENT FOR COMPACTION AS DETERMINED BY ASTM D712. PRIOR ESTABLISHMENT OF MAXIMUM DENSITY AND OPTIMUM MOISTURE CONTENT WILL BE ACCEPPED. THE CONTRACTOR MAY SUBMIT A COMPACTION PLAN THAT MEETS THE MINIMUM SPECIFIED COMPACTED LEVEL FOR OWNER APPROVAL IN lieu OF IN-PLACE DENSITY TESTING.

6. FLOWABLE FILL SHALL BE ADEQUATELY CURVED TO PREVENT DAMAGE BEFORE PROCEEDING WITH FURTHER WORK. THE CONTRACTOR SHALL PROTECT THE FILL AS NECESSARY FROM CONSTRUCTION, EQUIPMENT AND WORK ACTIVITIES.

7. APPLY AN ASPHALT TACK COAT TO THE TOP OF THE FLOWABLE FILL AND SIDES OF THE PREFABRICATED PANELS NO MORE THAN FOUR (4) HOURS PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE. ASPHALT SHALL BE PLACED IN A MAXIMUM OF THREE (3) INCH LIFTS WITH MECHANICAL CONSTRUCTION, UTILIZING APPROPRIATE CONSTRUCTION EQUIPMENT, OF EACH LIFT UNTIL THERE IS NO FURTHER EVIDENCE OF CONSOLIDATION.

GENERAL NOTES:

1. SCHEDULE THE BEGINNING OF ON-SITE WORK AND DAILY WORK COORDINATION WITH ARC SEWARD FRED AND REAL ESTATE MANAGER. OTHER WORK ACTIVITIES ON THE SEWARD FREIGHT DOCK WILL BE ON-GOING AND THE CONTRACTOR SHALL COORDINATE DAILY OPERATIONS, WORK LIMITS, MATERIAL AND EQUIPMENT STORAGE REQUIREMENTS WITH THE POST MANAGER.

2. BARRICADE THE WORK AREAS AS NECESSARY TO PROTECT PROJECT CONSTRUCTION AND GUARD AGAINST THIRD PARTY PERSONNEL AND EQUIPMENT HARM.

3. THE CONTRACTOR SHALL PROVIDE THEIR OWN UTILITIES AND SUPPORT FACILITIES NECESSARY TO COMPLETE THE WORK ON TIME FOR THE CONTRACTORS' EMPLOYEES UNLESS OTHERWISE AGREED UPON BY ARC.

4. THE SEWARD FREIGHT DOCK IS AN ACTIVELY WORKING FACILITY. THE WORK TO INSTALL THE TRACK PANELS WILL NECESSARILY IMPACT DOCK OPERATIONS. THE CONTRACTOR SHALL Undertake the WORK, once begun, in a conc determined manner to complete the project, and minimize the duration of disruption to normal dock operations. Substantial completion shall be within 30 days of beginning work. Final Completion shall be within 35 days of beginning work. Weather delays for sensitive aspects of the work will be allowed.

DRAWING NOTES:

1. PROJECT STATIONING IS ALONG CENTERLINE OF DOCK TRACK 2.

2. WOODING POST ADJACENT TO THE REMOVABLE BOLLAR = STA 12+488.56, 9.40' RIGHT.

ALASKA RAILROAD CORPORATION

SEWARD FREIGHT DOCK CROSSING PANELS

GENERAL LAYOUT

RESURRECTION BAY
NEW TOP OF RAIL = 97.85 (EXISTING TOP OF RAIL = 97.74)

FLAMEABLE FILL

APPROVED GEOTEXTILE MONOFILAMENT

NEAT SAND OR CEMENT BEDDING OR OTHER

ARC APPROVED PANEL BEDDING METHOD (Typ)

SECTION A

SCALE: 1" = 1'-0"

MATERIAL NOTES:

1. ALL MATERIALS TO CONSTRUCT AND INSTALL THE CROSSING PANELS AS SPECIFIED WITHIN THESE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR UNLESS NOTED AS MATERIAL FURNISHED BY THE OWNER.

2. FLAMEABLE FILL SHALL BE A CONTROLLED LOW STRENGTH MATERIAL PER ACI 229 R-99 WITH A MINIMUM STRENGTH OF 500 PSI. THE CONTRACTOR SHALL SUM UP THE MATERIAL QUANTITIES AND PROVIDE DOCUMENTATION TO THE OWNER OF COMPLIANCE WITH THE MINIMUM STRENGTH REQUIREMENT. THE FINISHED SURFACE OF THE FLAMEABLE FILL SHALL NOT DEVIATE MORE THAN 3/16 INCH IN ANY DIRECTION.

3. ASPHALT CONCRETE SHALL MEET THE REQUIREMENTS OF THE ALASKA DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES (ADOT&PF) STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, CLASS A, TYPE 2 UNLESS OTHERWISE APPROVED BY THE OWNER.

4. SUBBASE MATERIAL SHALL BE IN ACCORDANCE WITH ADOT&PF AGGREGATE GRADATION FOR BASE COURSE D-1. THE CONTRACTOR SHALL SUBMIT DOCUMENTATION OF COMPLIANCE WITH AGGREGATE QUALITY PROPERTIES AND GRADATION.

MATERIALS FURNISHED BY OWNER:

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>STARRACK END SECTIONS</td>
<td>4 EACH</td>
</tr>
<tr>
<td>STARRACK MID SECTIONS</td>
<td>20 EACH</td>
</tr>
<tr>
<td>10 FT CROSSTIES</td>
<td>28 EACH</td>
</tr>
<tr>
<td>STARRACK E CUPS</td>
<td>193 EACH</td>
</tr>
<tr>
<td>STARRACK NYLON INSULATORS</td>
<td>193 EACH</td>
</tr>
<tr>
<td>STARRACK LEAK ABSTRACTION STRIPS</td>
<td>48 EACH</td>
</tr>
<tr>
<td>CONEX SEALANT ROLL</td>
<td>16 EACH</td>
</tr>
<tr>
<td>STARRACK CALK, 10 OZ TUBE</td>
<td>24 EACH</td>
</tr>
<tr>
<td>STARRACK UNIT RAIL ANCHORS</td>
<td>8 EACH</td>
</tr>
<tr>
<td>STARRACK PANOROL PULLER</td>
<td>1 EACH</td>
</tr>
<tr>
<td>FOAM BACKER ROC, 260 LF</td>
<td>1 EACH</td>
</tr>
</tbody>
</table>

Rail - the intent is to reuse the rail currently in place on the freight dock.

At the request of the contractor and concurrence of the owner's engineer, the owner will furnish new tie plates, track fasteners, rail anchors and standard 8.5 FT. hardwood crossties for use on this project.

Owner furnished materials will be made available to the contractor in Seward.
NOTE:

1. CAST IRON MANHOLE LID:
   DIAL SUPPLY  P=3492 FRAME
   P=2575 SLOTTED LID
   (OR APPROVED EQUAL)

2. REFERENCE FERRO ENGINEERING (2130 SHORE DRIVE, ANCHORAGE, AK 99515), D&S CONCRETE (FOR ARRCC, 2 SHEETS), HEAVY DUTY FORKLIFT-RATED MANHOLE LID, TYPE II (6 FT #) MANHOLE LID, DATED 8/31/2017 AND STORM MANHOLE (72" Dia.)

MANHOLE DETAIL

SCALE 3/8" = 1'-0"
**Shop Notes:**
1. PANDROL SHOULDER EMBEDMENT MUST BE A MINIMUM DISTANCE OF 1/2" FROM REBAR.
2. MINIMUM STRIPPING STRENGTH = 2,500 PSI
3. HYDROZO SEALED AFTER ROTATING

**Structural Notes:**
1. CONCRETE W/ CORROSION INHIBITOR
   A. 28 DAY COMPRESSIVE STRENGTH $f'_c = 6,000$ PSI
2. DESIGN
   A. ACI 318-08
   B. COOPER E-80 LIVE LOADS W/ 60% IMPACT.
   C. HS-25 AASHTO DESIGN TRUCK W/ 30% IMPACT.
   D. AAR I FREIGHT CAR W/ 60% IMPACT

**Accessories**

<table>
<thead>
<tr>
<th>QTY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>NYLON INSULATORS</td>
</tr>
<tr>
<td>2</td>
<td>3/16&quot; X 59&quot; UHMW ABRASION STRIPS</td>
</tr>
<tr>
<td>1</td>
<td>ROLL 3/4&quot; CONSEAL</td>
</tr>
<tr>
<td>1</td>
<td>TUBE SIKAFLEX - 1A URETHANE CAULK</td>
</tr>
</tbody>
</table>
CONCRETE DESCRIPTION
3" BUSH - 7000# FIBER FIRE RESISTANCE MID SECTION
4" BUSH - 7000# FIBER FIRE RESISTANCE END SECTION
5" BUSH - 7000# FIBER FIRE RESISTANCE SMALL PART

ACCESSORIES
100 BUSH - 2 1/2" x 2 1/2" UNDER RUBBER STRIPS
100 BUSH - 3" x 3" UNDER RUBBER STRIPS
100 SLEEVE - 3" STEEL CONNECTOR
100 SLEEVE - 3" STEEL CONNECTOR CLEAR
100 SLEEVE - 3" STEEL CONNECTOR CLEAR CLEAR

CONTRACTOR IS TO VERIFY THAT ALL INFORMATION SHOWN ON DRAWINGS HAS BEEN CHECKED, COMPLIES WITH THE CONTRACT DOCUMENTS AND IS ADEQUATE TO MEET THE FIELD CONDITIONS. OLDCASTLE PRECAST ACCEPTS NO RESPONSIBILITY FOR ERRORS OR OMISSIONS AFTER RECEIPT OF APPROVED SHOP DRAWINGS.

NOTE: PRODUCTION WILL NOT COMMENCE UNTIL RECEIPT OF SIGNED APPROVED SHOP DRAWINGS.

CONTRACTOR / PROJECT ENGINEER APPROVAL
I HAVE REVIEWED & UNDERSTAND THIS DRAWING & AUTHORIZE FABRICATION AS SHOWN OR REVISED AS NOTED.
StarTrack
Suggested Installation Procedure

Preliminary Subsurface Investigation
(Optional)

Prior to removal of ties and ballast, soil samples shall be taken by a recognized soil testing laboratory and through laboratory analysis, sufficient data is collected to evaluate the depth of excavation and thickness of base required.

Subgrade Preparation

Rails, ties, asphalt, ballast, and sub ballast will be removed from an area comprising the length of the crossing plus 15’ on each end and 10’ wide (13’ wide for HD) to a minimum depth of 12” below precast modules, or as determined above. If any areas of pumping or other indications of instability are encountered, they shall be undercut as required and backfilled with compacted base course material.

The resulting subgrade shall be scarified and compacted to 95% of its peak dry density. Drainage tile shall then be installed in a trench area, surrounded by open graded stone or filter fabric.

The entire excavated area and sides shall be lined with an approved fabric equal in performance characteristics to “TYPAR” style 3401.

The base course material shall be applied in 4” lifts compacted to 98% of peak dry intensity. The leveling course (1-1/2” maximum thickness) shall be carefully screeded to the grade shown. Screeded surface to be within +/- 1/4” of grade. Fill and compact entire excavation. See StarTrack’s “StarTrack Base Options” for other acceptable subgrade procedures.

Module Placement

Modules shall be placed on the resulting base as snug as possible to one another and to within +/- 1/4” in alignment, utilizing lifting hardware provided. Sika 1A and T-Strip sealant shall be applied as shown on the drawing details. Should any screeded surface irregularity become evident during placement of modules, the module shall be removed and the surface corrected.

Placing and Fastening of Rail

Rail shall then be placed along StarTrack modules on both sides and all rail splicing completed, making sure all polyethylene pads are in place. After laying rail into blockout groove, start rail installation by centering rail between a set of shoulders, inserting nylon insulators, and then pull the clips into place over the insulators with the pandrol puller or other acceptable methods. Repeat this process throughout the crossing, then connect rail to track rail by normal methods. If necessary, adjust final alignment by moving modules with rail jacks or backhoe.

Placing of Rail Groove Filler

Install rubber rail groove filler according to StarTrack’s rail Groove Filler Installation Instructions for StarTrack Rubber Inserts.

Final Completion

Surface the adjacent track construction with new 10’ switch ties in the transition area. Install signal wiring in conduit if required. Apply T-Strips to joints as required.

Clean all debris from excavation and pave alongside, up to and flush with module. Apply asphalt at ends of crossing to provide a 5’ transition from tie surface to module surface (optional). If asphalt is used for rail groove filler, run locomotive across to cut flangeway.

Remove all construction debris from site and leave completed crossing in a clean condition. Package and ship loaned lifting hardware to plant (freight prepaid.)