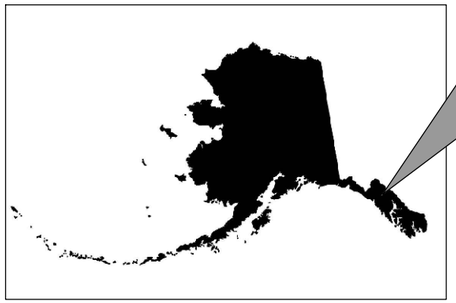
EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP

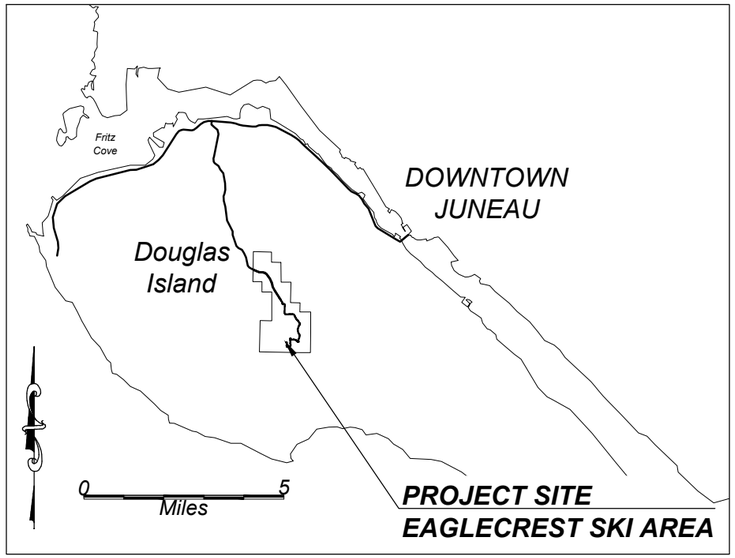
VOLUME II of II

Contract No. BE17-256

File No. 1963

ENGINEERING DEPARTMENT





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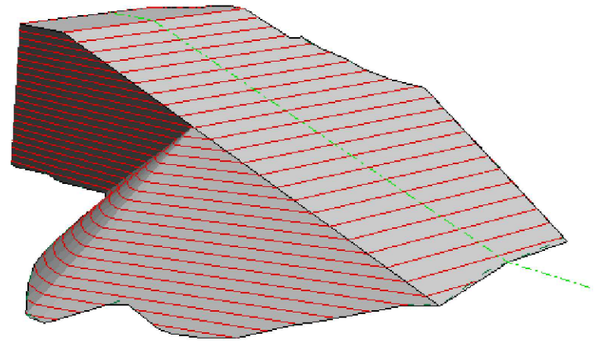


Revisions		
Date	Description	Intls.

STATE OF ALASKA 49TH
Alan H. Steffert
No. CE-13001
5/15/17
REGISTERED PROFESSIONAL ENGINEER

Prepared by:
CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING DEPARTMENT

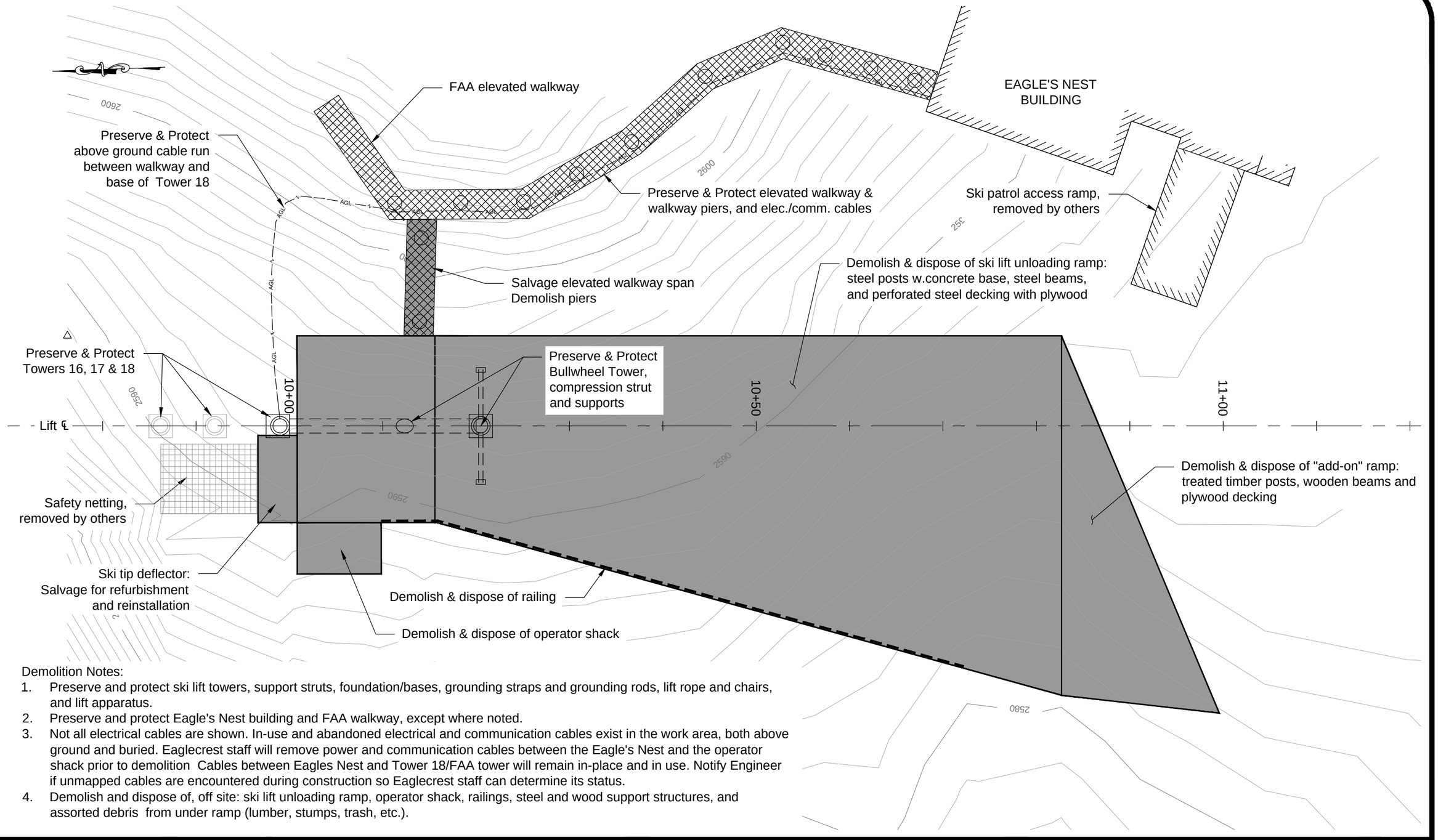
EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP

CONTRACT NO. BE17-256

TITLE SHEET

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

SHEET: 1 of 15



Demolition Notes:

1. Preserve and protect ski lift towers, support struts, foundation/bases, grounding straps and grounding rods, lift rope and chairs, and lift apparatus.
2. Preserve and protect Eagle's Nest building and FAA walkway, except where noted.
3. Not all electrical cables are shown. In-use and abandoned electrical and communication cables exist in the work area, both above ground and buried. Eaglecrest staff will remove power and communication cables between the Eagle's Nest and the operator shack prior to demolition Cables between Eagles Nest and Tower 18/FAA tower will remain in-place and in use. Notify Engineer if unmapped cables are encountered during construction so Eaglecrest staff can determine its status.
4. Demolish and dispose of, off site: ski lift unloading ramp, operator shack, railings, steel and wood support structures, and assorted debris from under ramp (lumber, stumps, trash, etc.).

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EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP

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EXISTING CONDITIONS & DEMOLITION

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

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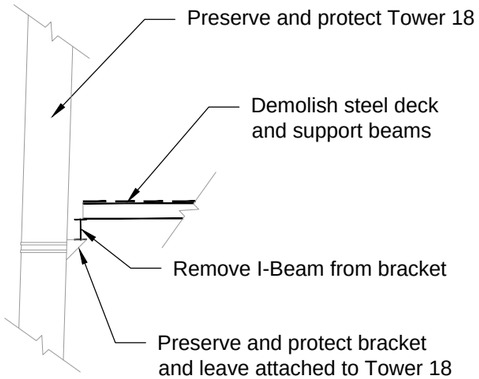
Salvage Notes:

1. The existing steel and plywood ski tip deflector ramp attached to the north lip of the unloading ramp and its associated single support pier and foundation shall be salvaged and refurbished for installation on the new ramp. Contractor shall measure dimensions and angles prior to demolition in order to replicate existing upon reinstallation.
2. The walkway span between the unloading ramp and the FAA walkway shall be salvaged and delivered to Eaglecrest staff. The span's two concrete-filled corrugated plastic pipe (CPP) piers shall be demolished and disposed of.

Demolition Notes:

1. Unless otherwise noted, all demolition debris shall be removed from the site and be disposed of in a legal manner.
2. Demolition debris may include treated timber posts and beams, plywood, steel railings, steel decking, steel beams, steel posts, concrete post bases, operator shack structure, and assorted miscellaneous debris from under the ramp and the general work area.
3. Ramp post and pier bases: Concrete post/pier bases may be disposed of by deep burial within the new ramp shot rock embankment. Pier bases shall not be disposed of in the new MSE wall reinforcement zone. Bases located outside the reinforcement zone may be buried in-place. Any protruding steel shall be cut off flush to concrete surface prior to concrete burial.
4. Stumps, overburden and other organic debris may be disposed of by deep burial within the new ramp shot rock embankment where directed by the Engineer.
5. Live electrical conductors and communication cables run between the Eagle's Nest and the FAA tower, and are located under the FAA walkway. Live cables run along the ground surface between the base of Tower 18 and the Eagle's Nest via FAA walkway (see plan). Preserve and protect all FAA cables and all cables to lift towers.
6. Preserve and protect ski lift tower grounding straps and grounding rods during demolition and construction.
7. Various abandoned communication and electrical cables exist in the vicinity of the work area. Contractor shall consult with Eaglecrest staff to positively identify cables to be removed during demolition.
8. The steel ramp and deck is attached to the bullwheel compression strut and to a bracket on Tower 18. Remove deck without damaging lift towers. See details this sheet.
9. Eaglecrest staff will remove netting attached to ski tip deflector, and the plywood ski patrol access ramp prior to demolition (see plan).

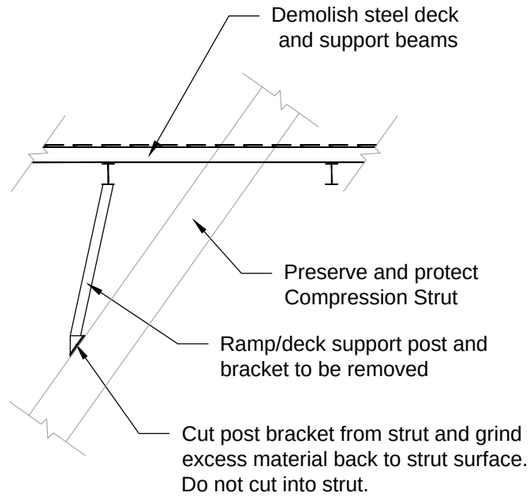


DECK ATTACHMENT AT TOWER 18

NTS

Notes:

1. Paint bare metal exposed after the removal of deck I-Beams and brackets. Use Benjamin Moore DTM alkyd black paint, or equal.



DECK ATTACHMENT AT COMPRESSION STRUT

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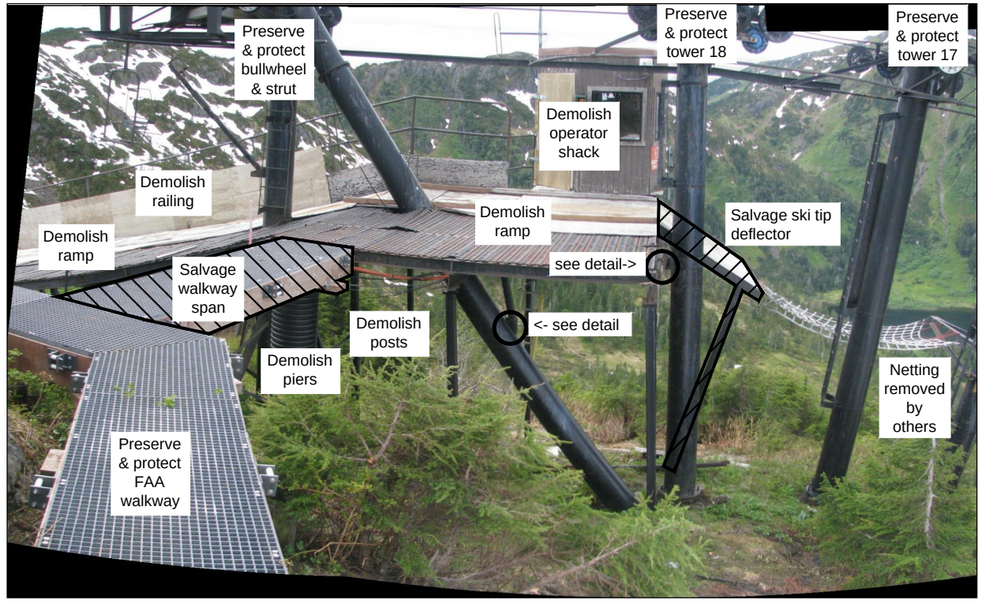

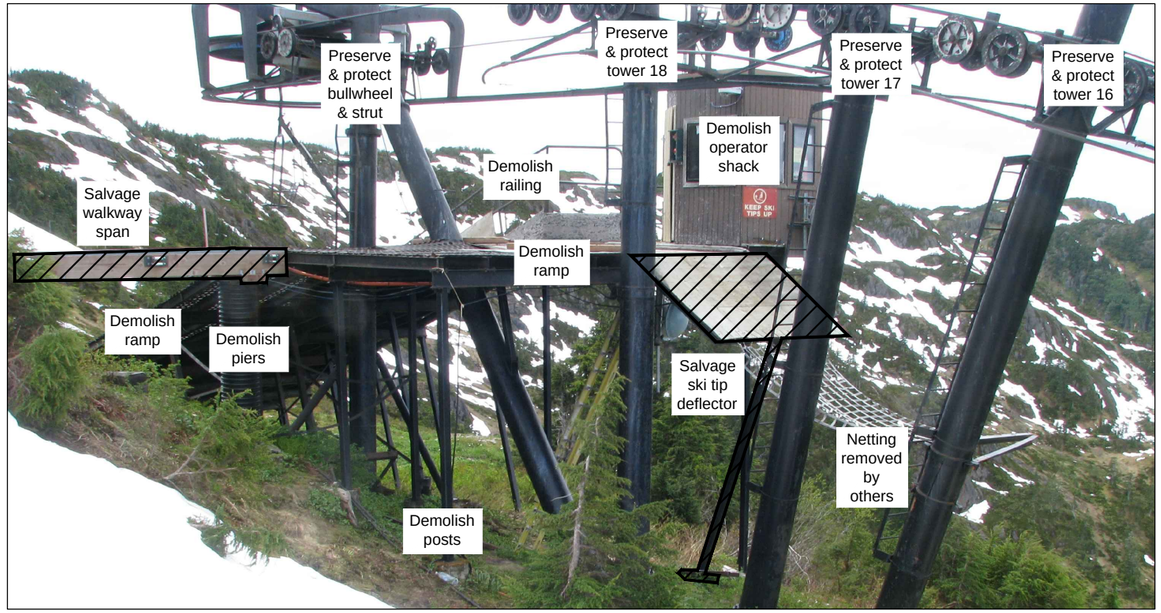

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EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP
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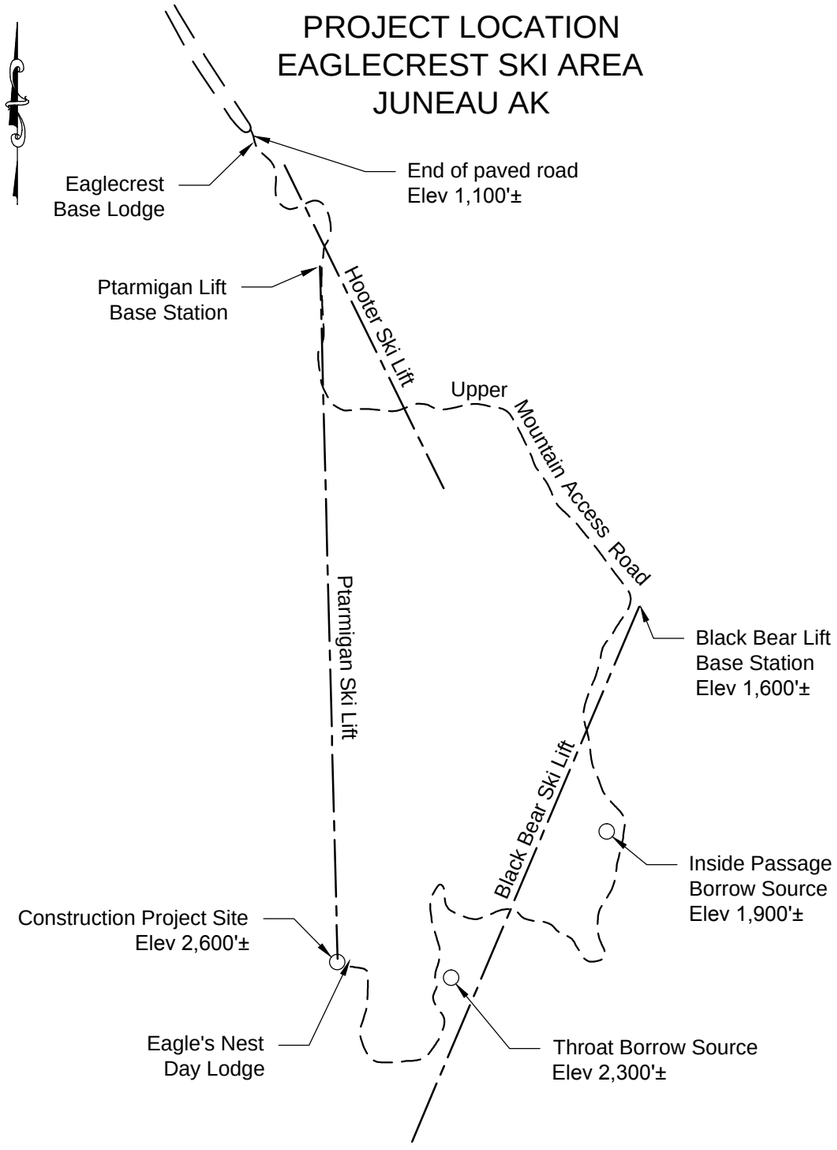
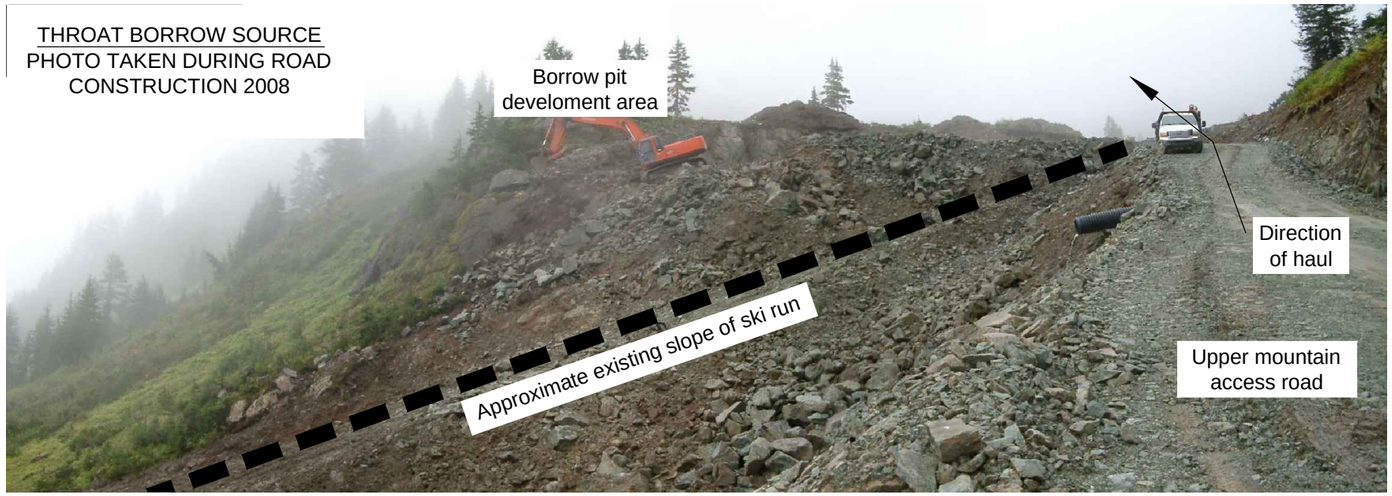
DEMOLITION NOTES & DETAILS

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown



THROAT BORROW SOURCE
PHOTO TAKEN DURING ROAD CONSTRUCTION 2008



INSIDE PASSAGE BORROW SOURCE
EXISTING CONDITIONS 2016

Shot Rock Borrow Source Notes:

1. Shot rock for this project may be obtained from within the Eaglecrest ski area. Two borrow sources, "Inside Passage" and "Throat", previously used during construction of the upper mountain access road are available for this project. Both borrow sites were reclaimed by backfill and grading into ski runs after road construction was completed.
2. Inside Passage borrow source: The Contractor shall excavate and conserve previously backfilled material from the old mining face and overburden stripped from the Inside Passage ski run to expose bedrock to drill and shoot. After removal of project rock, the mined area will be back-filled with oversized rock and conserved material and graded to form a smooth fall-line roll over in the ski run.
3. Throat borrow source: The Throat borrow site is located on a steep section of ski run, with road access from the top only. The intent of mining the Throat is to widen and improve the existing ski run by removing the side and toe of the rock knob to the south of the ski run.
4. It is the Contractor's responsibility to produce or process shot rock to meet the Contractor's MSE Wall System supplier's specifications for Select Shot Rock borrow for use in the wall reinforcement zone.
5. Contractor shall supply a mining and reclamation plan for each borrow source used.

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EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP
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BORROW SOURCE NOTES

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

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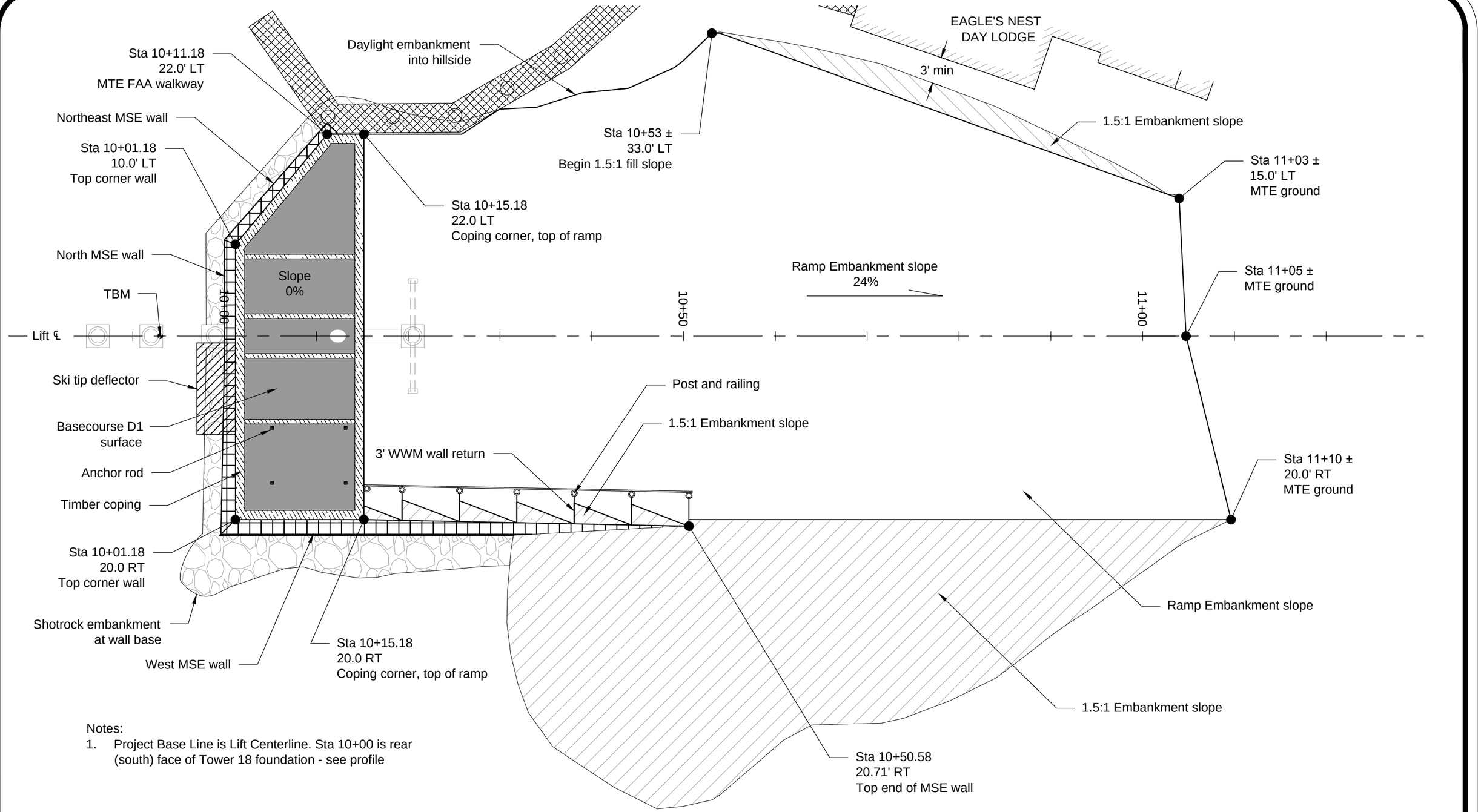

Notes:

1. Project Base Line is Lift Centerline. Sta 10+00 is rear (south) face of Tower 18 foundation - see profile

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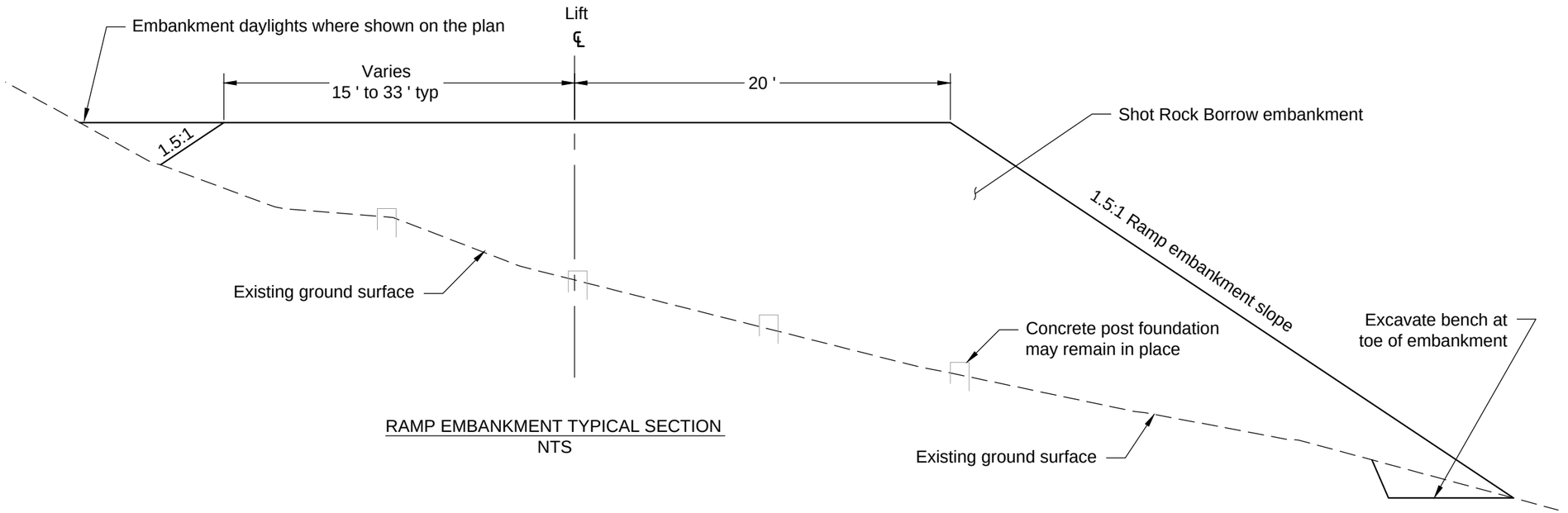
EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP

CONTRACT NO. BE17-256

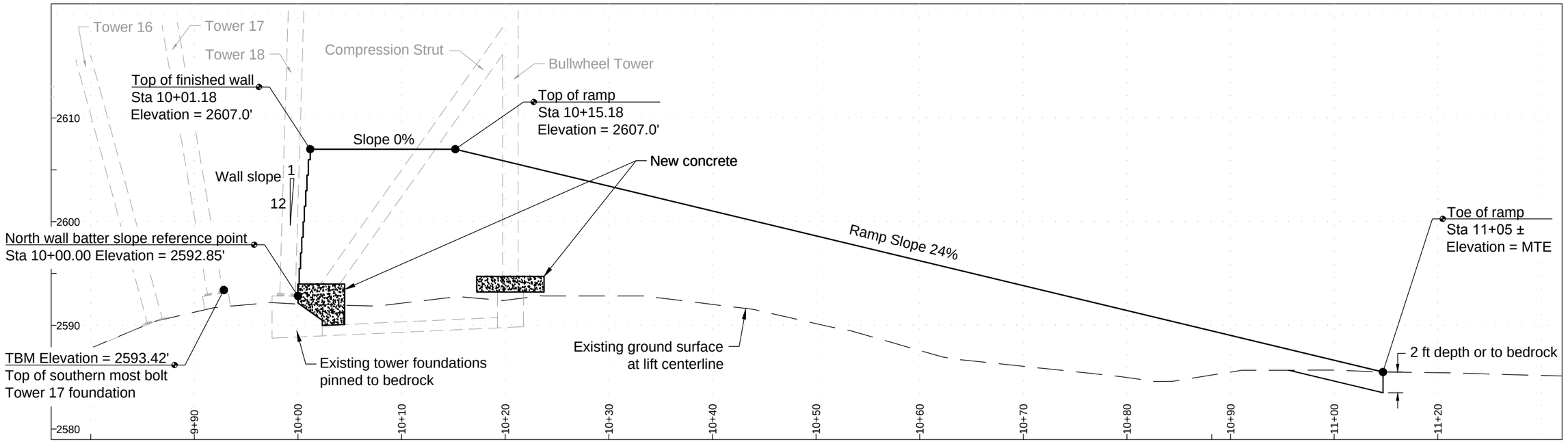
RAMP PLAN

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

SHEET: 5 of 15



RAMP EMBANKMENT TYPICAL SECTION
NTS



PROFILE ON LIFT CENTERLINE

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RAMP PROFILE & SECTION

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

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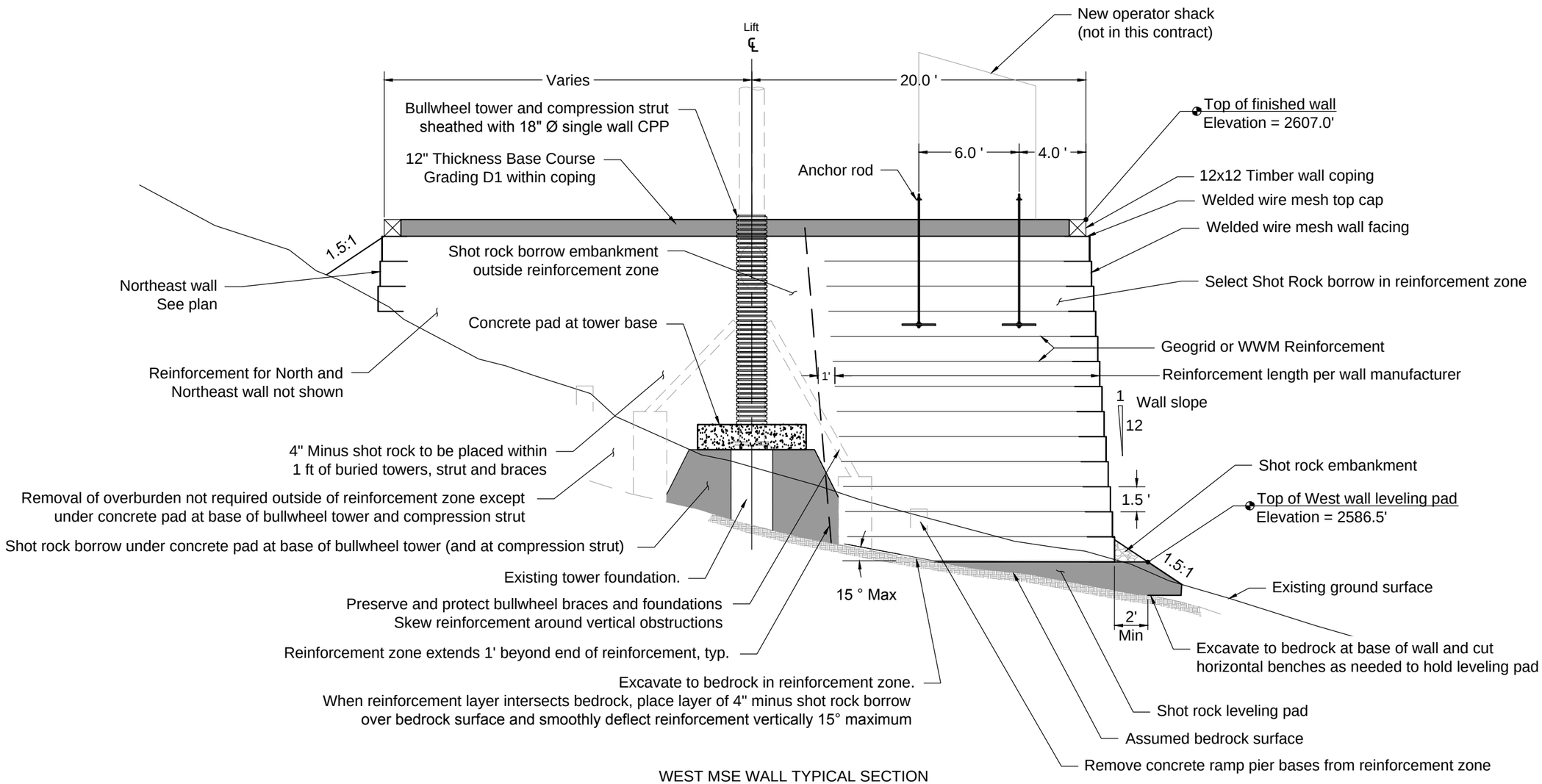

WEST MSE WALL TYPICAL SECTION
NTS

Notes:
1. MSE Wall System supplier to determine type and length of reinforcement material, and define gradation of Select Shot Rock borrow to be used in reinforcement zone.
2. Hand place clean shot rock graded to be retained by wall facing mesh size, directly behind WWM facing, per wall manufacturer's recommendations.

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WEST MSE WALL TYPICAL SECTION

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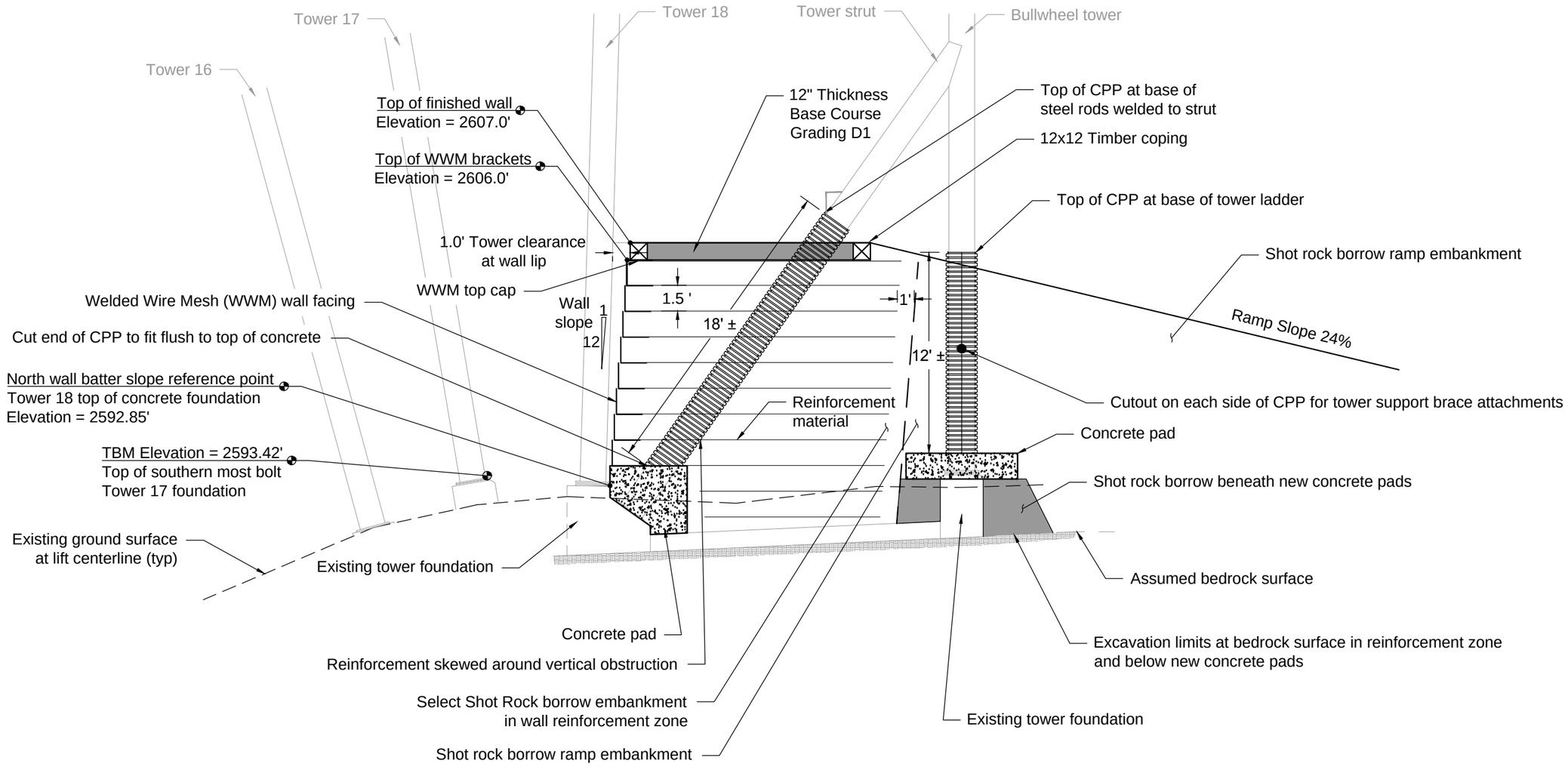

NORTH & NORTHEAST MSE WALL TYPICAL SECTION
NTS

Notes:

1. MSE Wall System supplier to determine type and length of reinforcement material, and define gradation of Select Shot Rock borrow to be used in reinforcement zone.
2. Hand place clean shot rock graded to be retained by wall facing mesh size, directly behind WWM facing, per wall manufacturer's recommendations.
3. Anchor plates and anchor rods not shown. See Sheet 14 detail.
4. Ski tip deflector ramp not shown. See Sheet 14 detail.
5. Towers to be painted before placement of concrete and installation of plastic pipe sheathing.
6. CPP for sheathing towers to be cut lengthwise and secured in-place around towers with stainless steel bands. Bevel cut lower ends of CPP as needed to fit flush with top of concrete pads. Cut holes in CPP as needed to accommodate attachment points for support braces on bullwheel tower.
7. Outer face of new concrete pad at base of compression strut/tower 18 to align with existing vertical face of tower 18 foundation. Top elevation of concrete pad to match elevation of top of adjacent WWM facing panels. See Tower Base Concrete Sheet 12.

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NORTH & NORTHEAST MSE WALL TYPICAL SECTION

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

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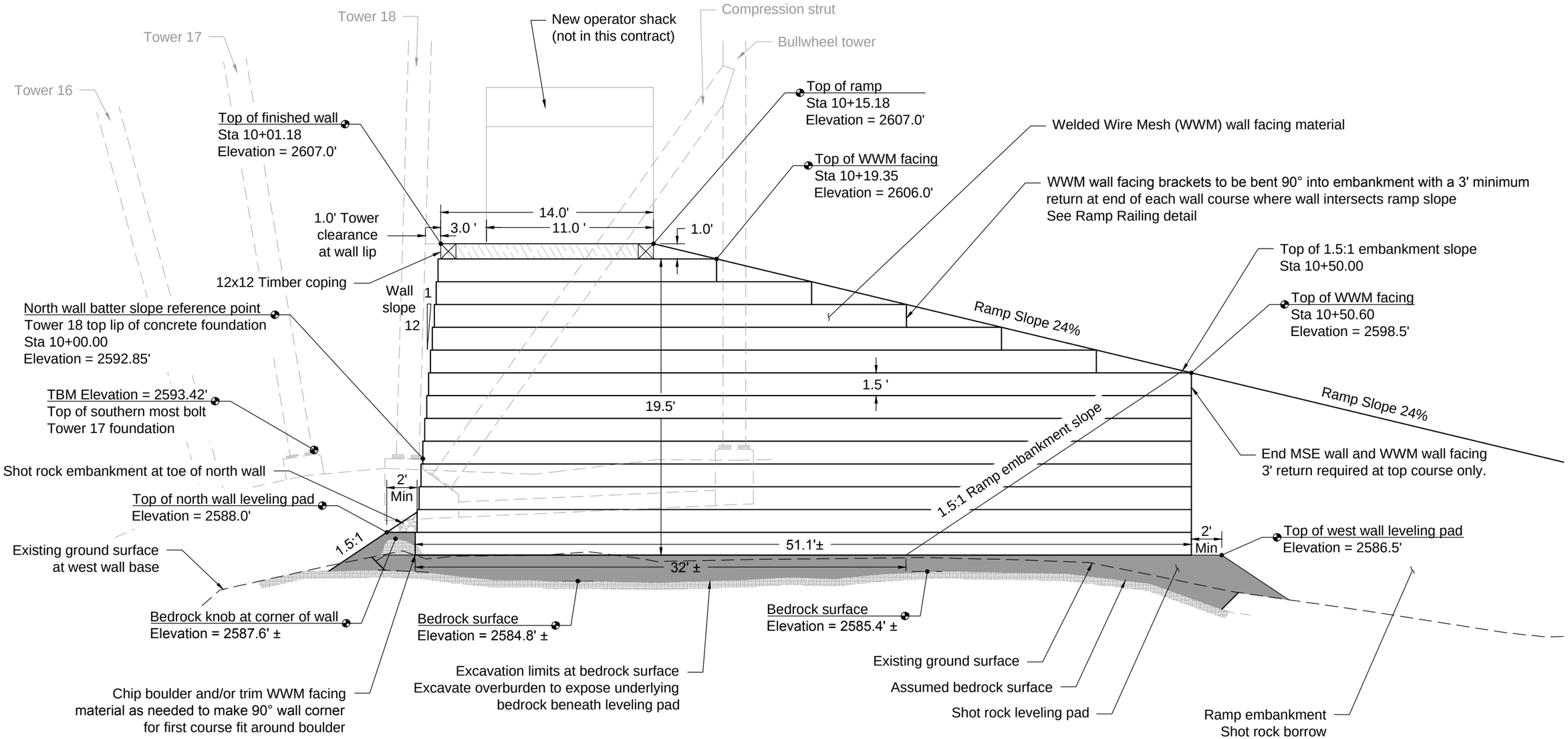

WEST WALL ELEVATION
NTS

Notes:
1. Anchor plates/rods for new operator shack not shown. See Anchor Rod Location Plan detail on sheet 14.
2. Fence post bases and railing not shown.

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WEST MSE WALL ELEVATION

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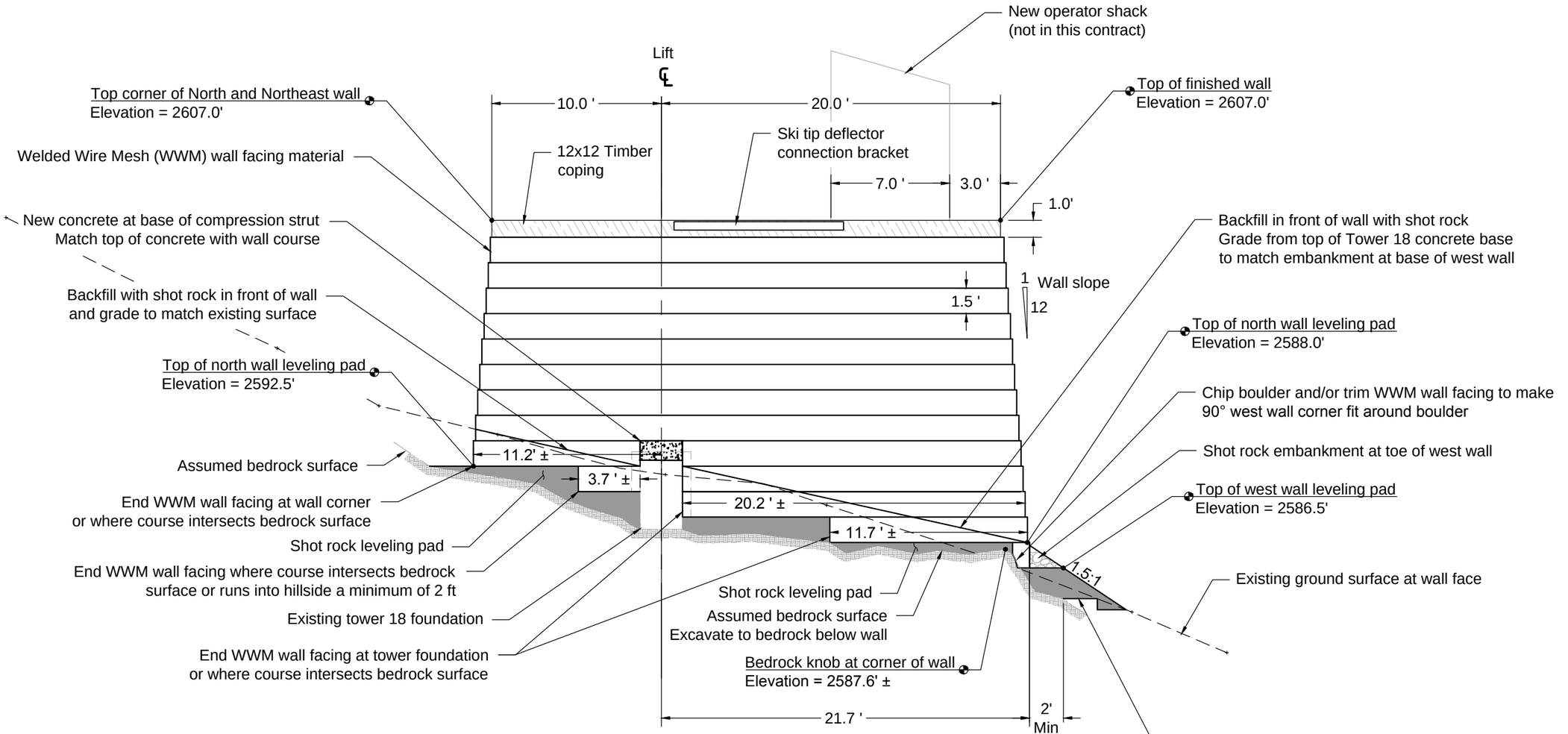

NORTH WALL ELEVATION
NTS

Notes:
1. Anchor plates/rods for new operator shack not shown. See Anchor Rod Location Plan detail sheet 14
2. Ski tip deflector support post and base not shown

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NORTH MSE WALL ELEVATION

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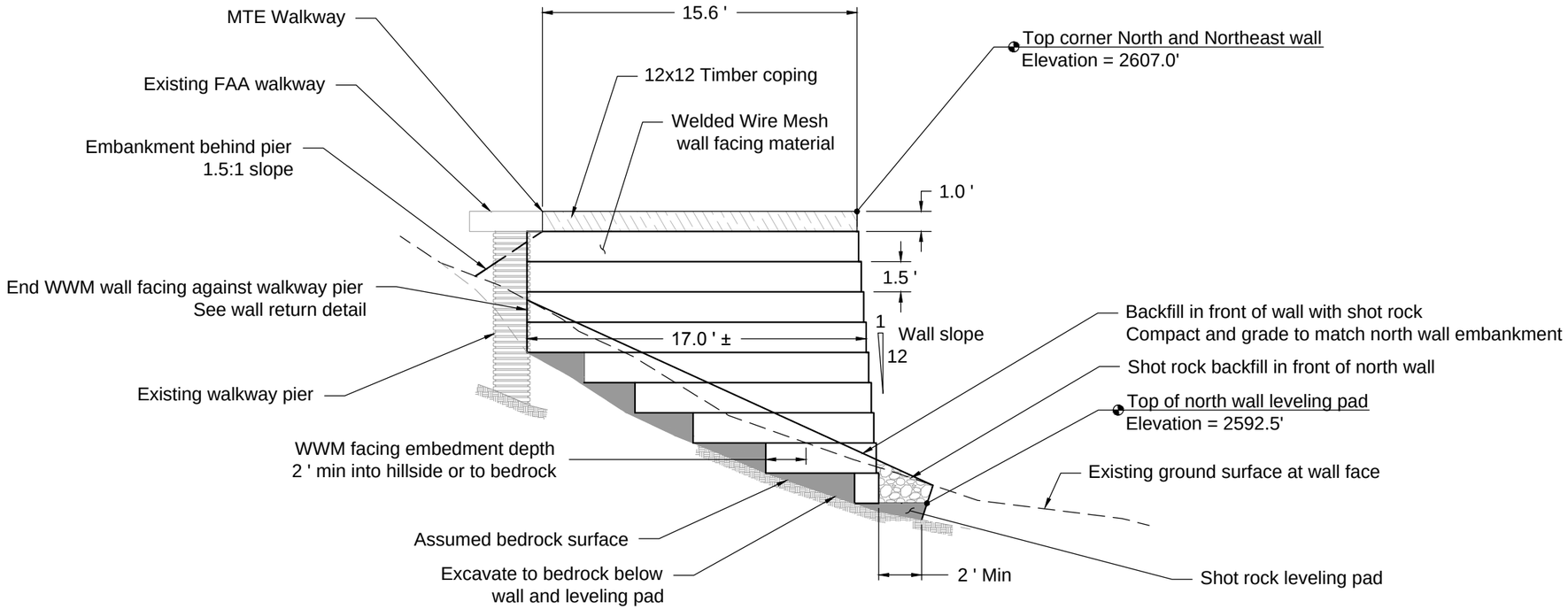


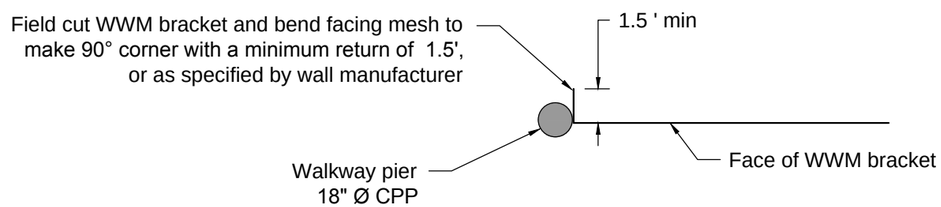
NORTH EAST WALL ELEVATION
NTS

Basis of Estimate for MSE Wall - Welded Wire Mesh Faced (Pay Item 2726.1)

Estimated minimum volume of Select shot rock borrow required for MSE wall reinforcement zone 641 CY
- Assumes each wall's reinforcement length = 0.7 max wall height
- Reinforcement zone extends 1 ft minimum beyond end of reinforcement

Estimated shot rock volume in leveling pads and toe of wall backfill 62 CY

Estimated total WWM wall face area (excluding returns at wall ends) 1,530 sq. ft.



NORTH EAST WALL WWM RETURN DETAIL
PLAN VIEW
NTS

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NORTHEAST MSE WALL ELEVATION

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

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Concrete Work Notes:

1. General:

1.1. Preserve and protect all lift components, lift towers and tower bases, and support struts and bases.

1.2. If excavation reveals that the existing tower foundations are not placed directly on bedrock discontinue excavation in foundations vicinity and notify Engineer. Do not undermine foundations.

1.3. Top of concrete at Tower 18 based on MSE wall system using 1.5' high wall courses. During wall layout and prior to constructing forms the Contractor shall determine actual elevations of each wall course and adjust Top of Concrete to match top of adjacent wall courses.

2. Site Preparation:

2.1. Excavate overburden to expose bedrock and top of existing foundation.

2.2. Backfill to elevation of the base on new concrete with compacted shot rock borrow. Backfill within wall reinforcement zone to be Class A shot rock.

3. Bullwheel Tower and Compression Strut Preparation:

3.1. Remove dirt, moss, and other deleterious material from the bullwheel tower and compression strut bases and surfaces of the existing concrete foundations that will be encased in new concrete.

3.2. Clear debris from interior void space and from between flanges at base of bullwheel tower.

3.3. Prepare steel surfaces of bullwheel tower, compression strut, flanges and anchor bolts to Hand Tool Cleaning (SSPC-SP2) specifications prior to painting.

3.4. Paint the bullwheel tower, compression strut, flanges and anchor bolts prior to pouring concrete. Use Benjamin Moore DTM alkyd black paint, or approved equal.

4. Tower Drain Pipes:

4.1. PVC drain pipes shall be ¾" minimum diameter.

4.2. PVC drain pipe shall be installed at the base of bullwheel tower and the base of the compression strut before pouring concrete.

4.3. PVC drain pipe at base of bullwheel tower shall be inserted in the gap between tower base steel flanges and bent to extend 6-inches vertically up in to the open tower base to ensure concrete will not obstruct or block the open end.

4.4. Drill a hole at the base of the compression strut and insert PVC drain pipe 6-inches into the hole.

4.5. PVC drain pipes to be sloped for positive drainage away from the tower/strut and shall be run through the welded wire mesh wall facing material of the north wall, terminating above the top of backfill placed at wall base.

5. Reinforcing Bar:

5.1. All reinforcing steel to be #5 deformed bars ASTM A615, grade 60

5.2. 3" minimum concrete cover required for all reinforcing steel

5.3. Provide suitable support for all reinforcing to prevent displacement during concreting

6. Concrete:

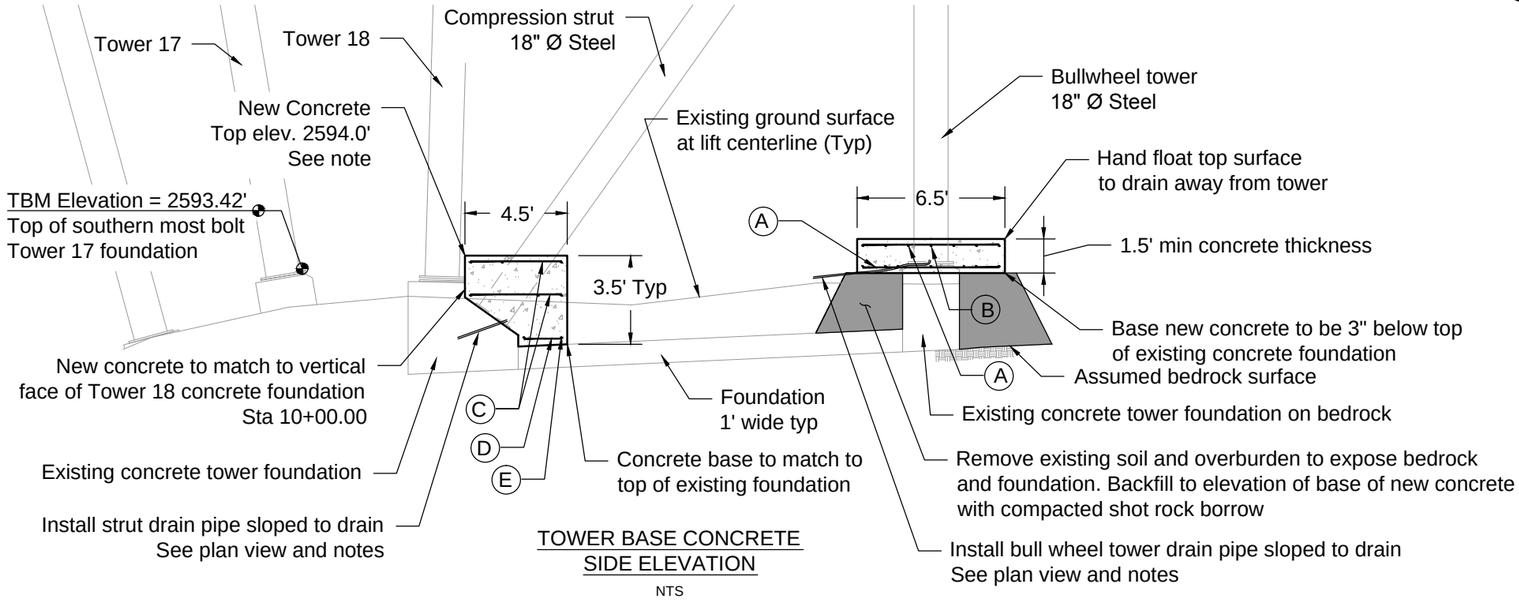
6.1. Use Std CBJ 6-1/2 sacks/CY mix.

6.2. Minimum concrete compressive strength f'c = 3,000 psi @ 28 days

6.3. Slump 3" ± 1"

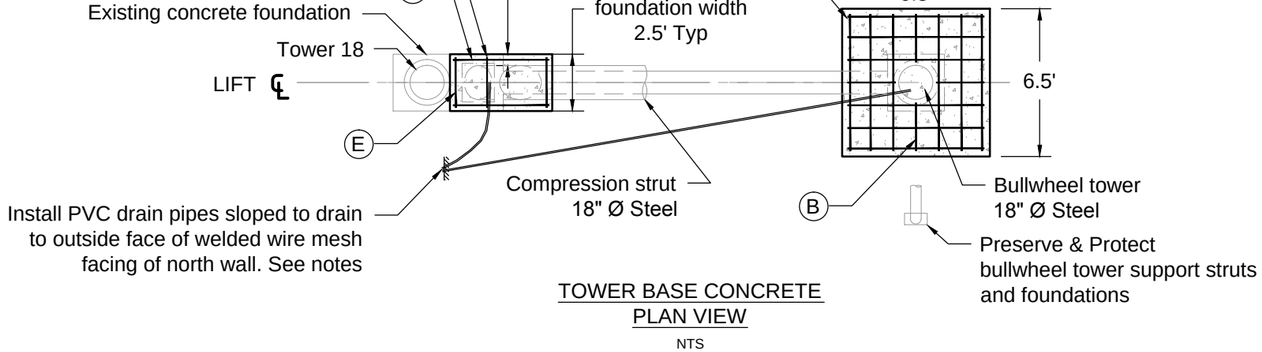
6.4. Entrained air 3-6%

6.5. Contractor shall provide the owner with three (3) concrete test cylinders per truck load of concrete poured



TOWER BASE CONCRETE
SIDE ELEVATION

NTS



TOWER BASE CONCRETE
PLAN VIEW

NTS

REBAR SCHEDULE

Balloon No.	Quantity	Bar Size	Length & Description	Location
A	24	# 5	6' - 0" @ 12" o.c., top & bottom, each way	Bullwheel tower base
B	8	# 5	2' - 0" radial, top & bottom	Bullwheel tower base
C	4	# 5	4' - 0" top and middle	Compression strut base
D	2	# 5	1' - 10" typ, field cut to fit at bottom	Compression strut base
E	8	# 5	2' - 0" top, middle & bottom	Compression strut base

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TOWER BASE CONCRETE

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

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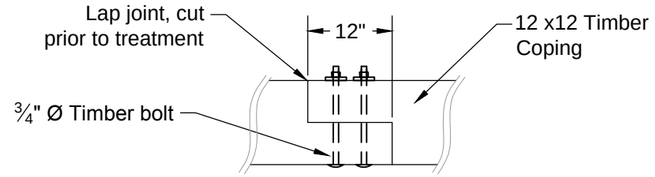
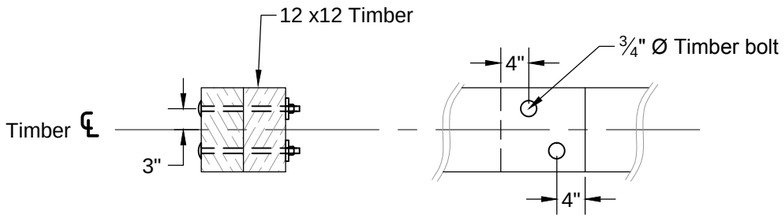


TIMBER COPING SPLICE
PLAN



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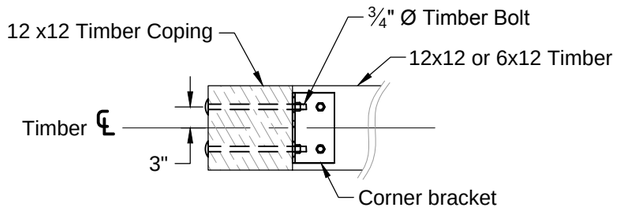
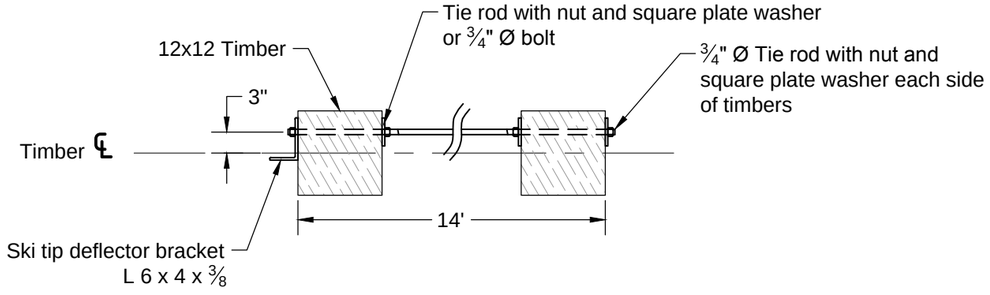
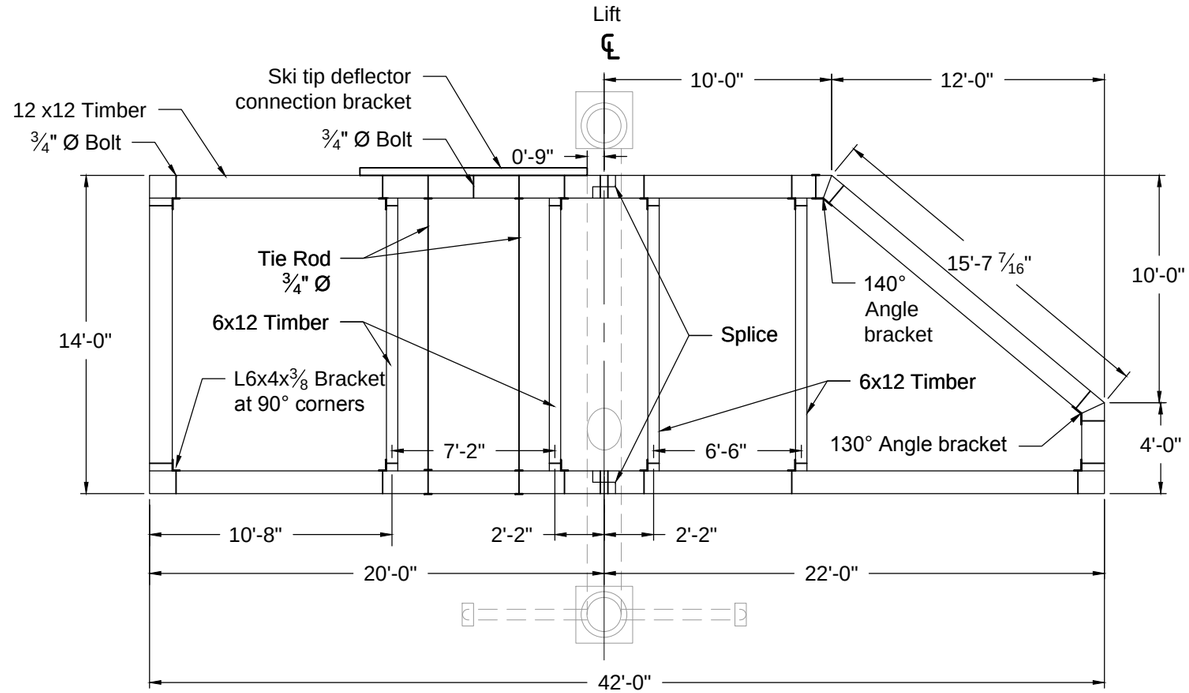


CORNER BRACKET INSTALLATION
TYPICAL ELEVATION SECTION



SKI TIP DEFLECTOR BRACKET
INSTALLATION
TYPICAL ELEVATION SECTION



TIMBER COPING PLAN
NTS

Notes:

1. All coping timbers: Full-sawn, Coast Region Douglas Fir, pressure treated with creosote. Fabrication and drilling to be completed as much as possible before pressure treatment. Field drilled holes, cuts and minor damaged areas shall be field treated per AWPA M-4, with an Engineer approved product.
2. All steel hardware is to be hot dipped galvanized.
3. Timber to timber connections secured with L6x4x⅜ angle brackets, 130° and 140° ⅜" plate brackets, or lap joints where shown on plan.
4. Bolts: ¾" Ø Timber bolts or ¾" Ø A307 hex head bolts. All bolts require malleable iron washers to be used if nut or hex head is in wood contact.
5. Tie rods: ¾" Ø with 2-3/4" square plate washers when nut is in wood contact.
6. Ski tip connection bracket: 10 ft length, L6x4x⅜ steel angle, hot dipped galvanized, secured with tie rods, and timber/hex head bolts

Revisions		
Date	Description	Intls.

STATE OF ALASKA 49TH — Alan H. Steffert No. CE-13001 — 5/15/17 — REGISTERED PROFESSIONAL ENGINEER

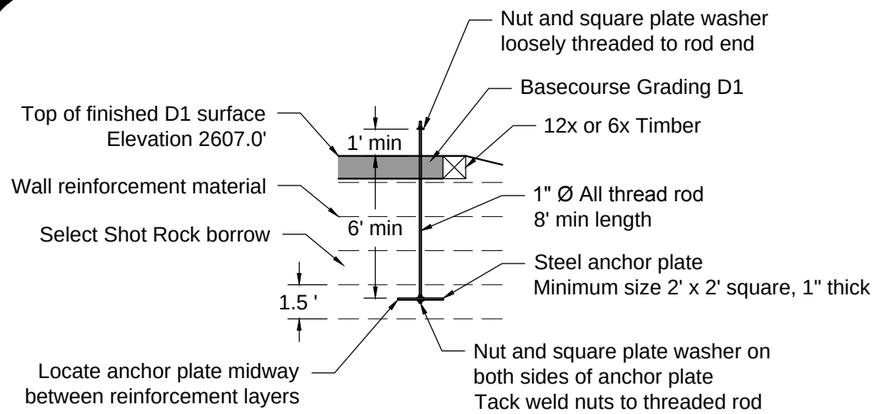
Prepared by:
CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING DEPARTMENT

EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP
CONTRACT NO. BE17-256

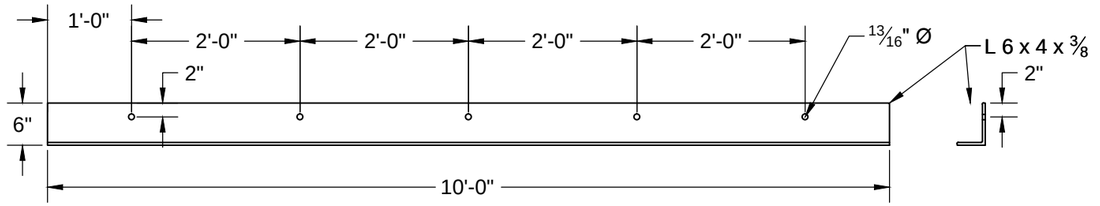
TIMBER COPING

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

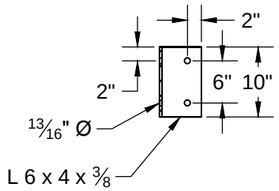
SHEET: 13 of 15



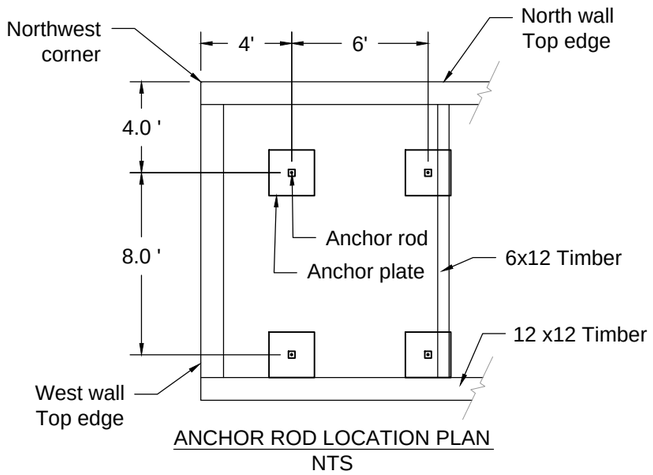
ANCHOR ROD DETAIL
NTS



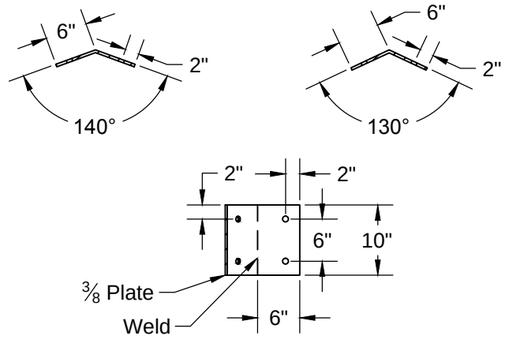
SKI TIP DEFLECTOR BRACKET



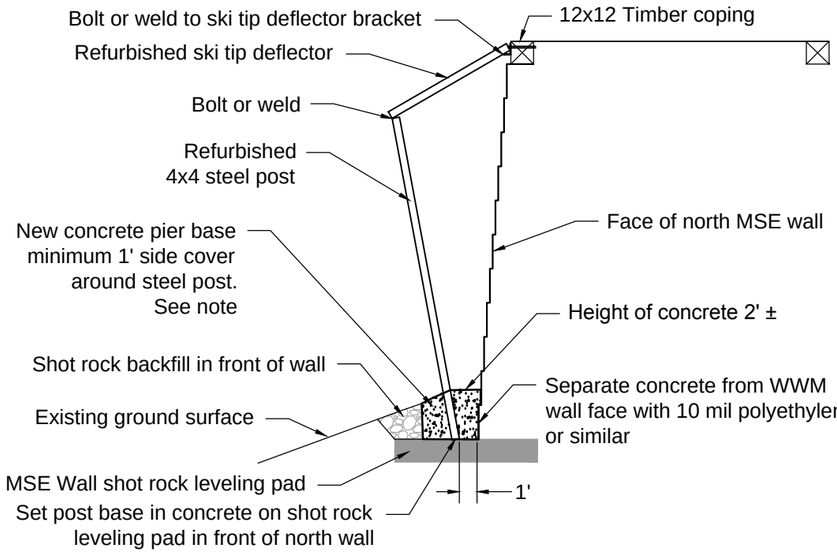
90° CORNER CONNECTOR BRACKET



ANCHOR ROD LOCATION PLAN
NTS



130° & 140°
CONNECTOR BRACKETS



SKI TIP DEFLECTOR INSTALLATION
NTS

Anchor Rod Notes:

1. All thread rod, nuts, washers and anchor plates to be hot dipped galvanized
2. All tread rod and nuts to be ASTM A307 Grade A.
3. Exposed end of anchor rod to have a minimum of 1' of useable length above finished ramp surface.
2. Loosely attached square plate washer and nut to exposed end of rod.
3. Anchor rods will be vertical obstructions to wall reinforcement material. Pierce or skew wall reinforcement material per MSE wall manufacturer's recommendations
4. Four anchors required, located at corners of new operator shack (Operator shack not in this contract).
5. Center of outside anchor plates to be set back 4' from face of wall (see plan)

Connector Bracket Hardware Notes:

1. All brackets to be be hot dipped galvanized after fabrication
2. Provide shop drawings for all hardware
3. Size holes for ¾" bolts or rods.

Ski Tip Deflector Notes:

1. Existing ski tip deflector consisting of steel frame, plywood decking, post and concrete post base, is to be salvaged and refurbished.
2. Prior to demolition, Contractor shall take in-place measurements of dimensions and angles in order to replicate existing installation when reinstalling refurbished ski tip deflector.
3. Refurbishment includes repainting salvaged steel frame and post, and installing new plywood.
4. Place separation material, 10 mil polyethylene sheeting or similar, between welded wire mesh wall facing material and new concrete post base to prevent adhering to wall.
5. Refurbished ski tip deflector to be bolted or welded to ski tip deflector bracket attached to timber coping, and welded or bolted to refurbished post.
6. Steel pier base may be embedded directly in concrete as shown, or by installing a welded flange on base of pier and securing to concrete pad using two ¾" x 7" Hilti bolts.

Revisions		
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STATE OF ALASKA — 49TH — Alan H. Steffert — No. CE-13001 — 5/15/17 — REGISTERED PROFESSIONAL ENGINEER

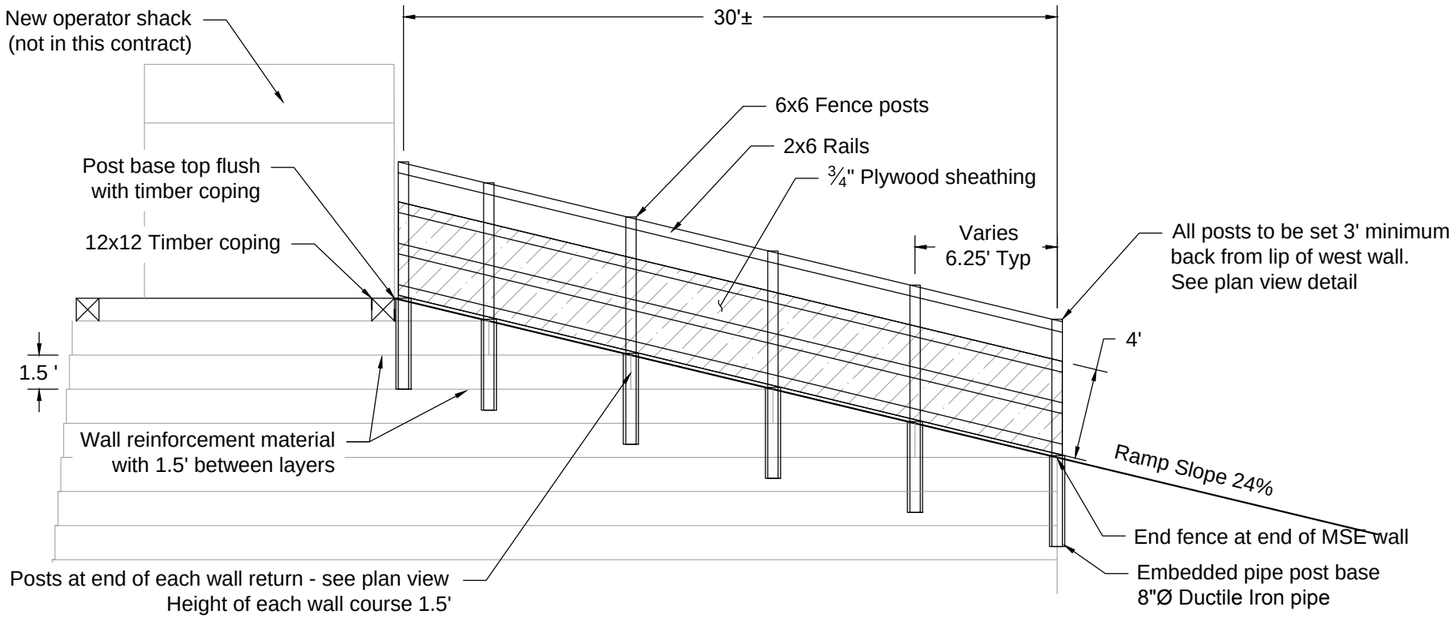
Prepared by:
CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING DEPARTMENT

EAGLECREST PTARMIGAN LIFT OFF-LOAD RAMP
CONTRACT NO. BE17-256

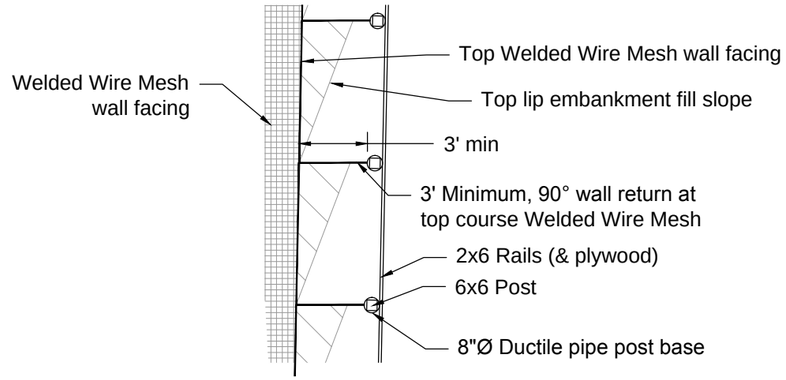
COPING HARDWARE, ANCHORS & SKI TIP DEFLECTOR DETAILS

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

SHEET: 14 of 15



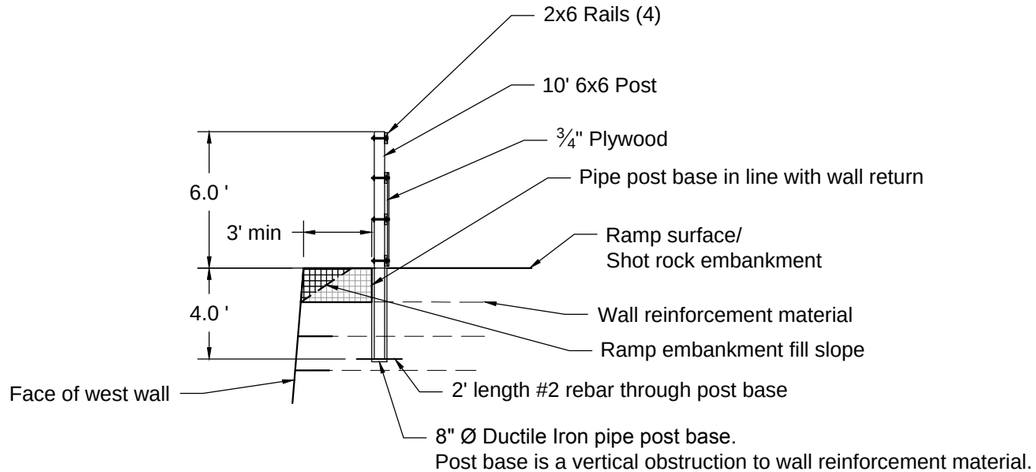
RAILING ELEVATION
NTS



RAILING PLAN VIEW
NTS

Notes:

1. Post bases: 8" Ø Ductile Iron pipe. Install 2' length of #2 rebar through holes in base of pipe to provide pullout resistance.
2. Fence Posts: 6x6 wooden posts, 10' length, pressure treated for ground contact
3. Rails: 2x6 pressure treated lumber
4. Plywood: ⅜" thick, pressure treated
5. Lap joints to be used for joining rails, with joint centered on post.
6. Rails to be secured to posts with ½" Ø economy head bolts, hot dipped galvanized, with nut ends facing out from ramp (west).
7. Plywood may be secured to rails and posts with HDG bolts or deck screws suitable for use in treated wood.



RAILING DETAIL
NTS

Revisions		
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STATE OF ALASKA 49TH — Alan H. Steffert No. CE-13001 5/15/17 REGISTERED PROFESSIONAL ENGINEER

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RAMP RAILING DETAILS

DATE: 4/28/17 | DRAWN BY: STAFF | SCALE: As Shown

SHEET: 15 of 15