

M&T Bank Stadium

2019 Expansion Joints Restoration Trials

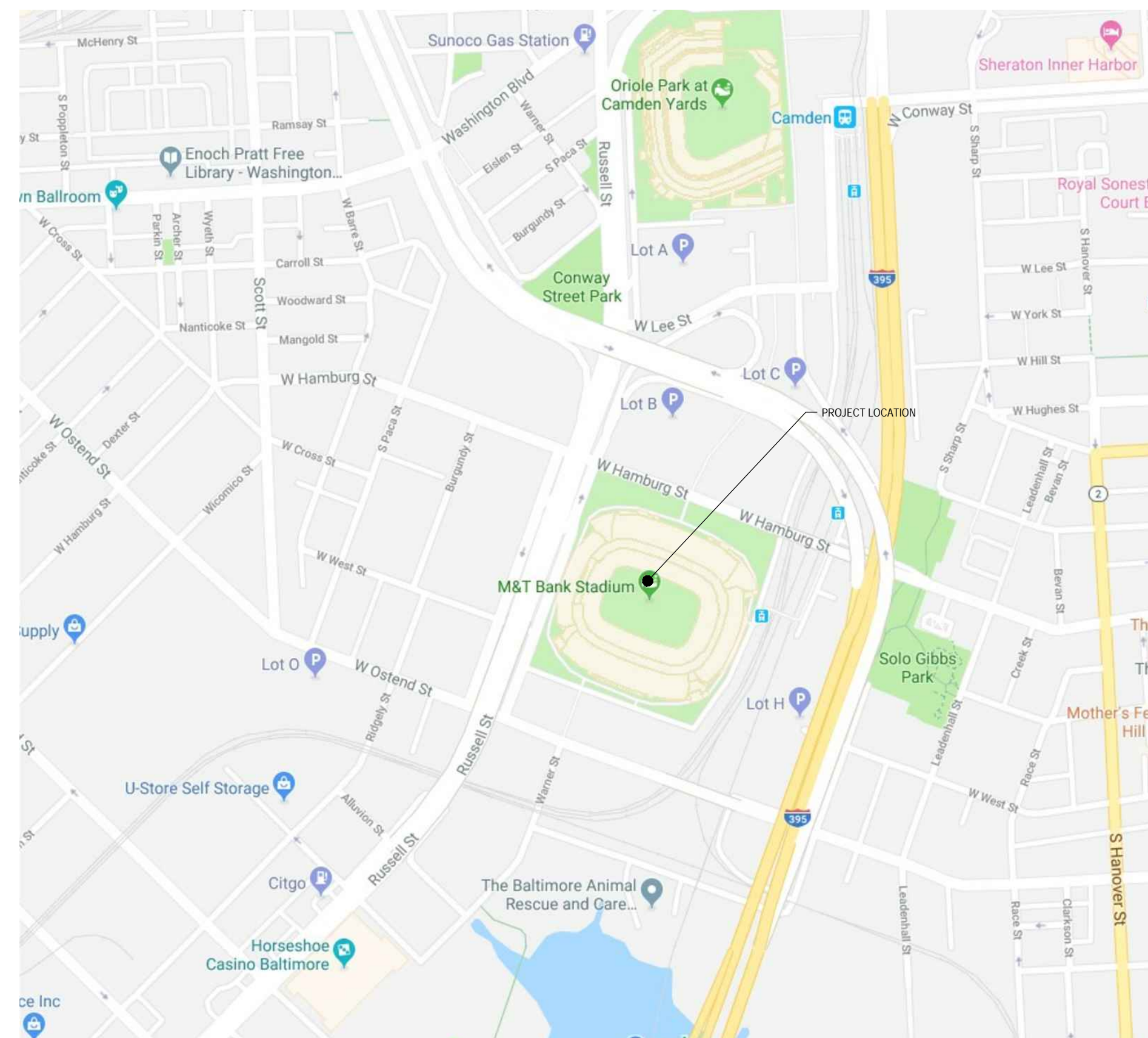
Baltimore, Maryland

PREPARED BY



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GENERAL NOTES

CODES

1. ALL WORK SHALL CONFORM TO THE MARYLAND BUILDING CODE, ALL LOCAL AND ALL OSHA REQUIREMENTS. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS.

PROJECT MANUAL

1. A SEPARATELY BOUND PROJECT MANUAL, DATED APRIL, 2019 EXISTS AND IS PART OF THE CONTRACT DOCUMENTS. SUBSTANTIAL BIDDING, GENERAL CONDITIONS AND TECHNICAL INFORMATION AND REQUIREMENTS ARE INCLUDED IN THE PROJECT MANUAL. CLEARLY ORGANIZED AND DESCRIBED IN SECTIONS CONSISTENT WITH NORMALLY ACCEPTED CONSTRUCTION SPECIFICATION INSTITUTE FORMATS. CONTRACTOR IS TOTALLY RESPONSIBLE FOR ALL REQUIREMENTS OF THIS PROJECT LISTED IN THE PROJECT MANUAL, BUT NOT NECESSARILY INCLUDED ON DRAWINGS.

EXISTING CONDITIONS AND COORDINATION

1. VERIFY ALL EXISTING DIMENSIONS AND BE AWARE OF ALL EXISTING CONDITIONS WHICH RELATE TO THE WORK.

WORK AREA DUST AND DEBRIS CONTROL AND REMOVAL

1. FURNISH ALL SIGNAGE REQUIRED TO CLEARLY ESTABLISH THE WORK AREAS AS RESTRICTED AND OFF LIMITS.
2. FURNISH ALL SIGNAGE (AND ALL OTHER NECESSARY MEASURES) TO SAFELY REROUTE STADIUM PERSONNEL AND PATRONS AROUND WORK AREAS.
3. PROVIDE DUST AND DEBRIS CONTROL MEASURES TO ENSURE ALL DUST AND DEBRIS ETC. GENERATED BY THE WORK REMAINS WITHIN THE WORK AREA AND DOES NOT POSE HAZARDOUS OR OBJECTIONABLE CONDITIONS FOR STADIUM PATRONS AND WORKERS.
4. DISPOSE OF ALL DEBRIS OFF SITE IN A LAWFUL MANNER.

SAFETY

1. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
2. THE DUTY OF THE ENGINEER TO CONDUCT CONSTRUCTION REVIEW OF CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF ADEQUACY OF CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.

DRAWN BY: P.A. Bellman

ENGINEER: K. Dugan

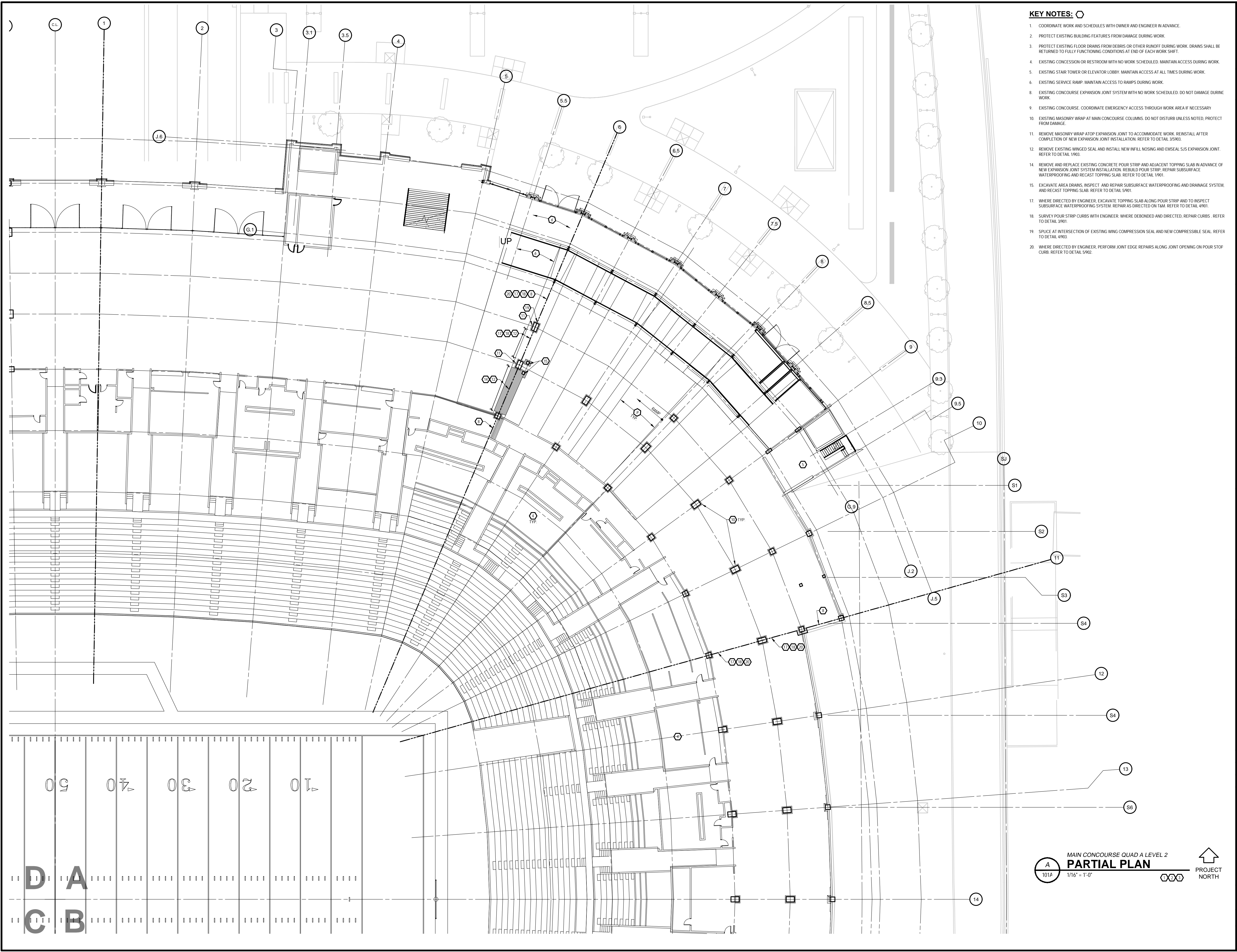
CHECKED BY: C.W. Przywara

M&T Bank Stadium
 Expansion Joints
 Restoration Trials

MSA
 Project No. 19-021

DRAWING TITLE
 TITLE SHEET, DRAWING
 INDEX, AND GENERAL
 NOTES

JOB NUMBER: 18556.00
 DATE: APRIL 2019
 DRAWING NUMBER:



KEY NOTES:

1. COORDINATE WORK AND SCHEDULES WITH OWNER AND ENGINEER IN ADVANCE.
2. PROTECT EXISTING BUILDING FEATURES FROM DAMAGE DURING WORK.
3. PROTECT EXISTING FLOOR DRAINS FROM DEBRIS OR OTHER RUNOFF DURING WORK. DRAINS SHALL BE RETURNED TO FULLY FUNCTIONING CONDITIONS AT END OF EACH WORK SHIFT.
4. EXISTING CONCESSION OR RESTROOM WITH NO WORK SCHEDULED. MAINTAIN ACCESS DURING WORK.
5. EXISTING STAIR TOWER OR ELEVATOR LOBBY. MAINTAIN ACCESS AT ALL TIMES DURING WORK.
6. EXISTING SERVICE RAMP. MAINTAIN ACCESS TO RAMPS DURING WORK.
8. EXISTING CONCOURSE EXPANSION JOINT SYSTEM WITH NO WORK SCHEDULED. DO NOT DAMAGE DURING WORK.
9. EXISTING CONCOURSE. COORDINATE EMERGENCY ACCESS THROUGH WORK AREA IF NECESSARY.
10. EXISTING MASONRY WRAP AT MAIN CONCOURSE COLUMNS. DO NOT DISTURB UNLESS NOTED. PROTECT FROM DAMAGE.
11. REMOVE MASONRY WRAP AT TOP EXPANSION JOINT TO ACCOMMODATE WORK. REINSTALL AFTER COMPLETION OF NEW EXPANSION JOINT INSTALLATION. REFER TO DETAIL 35903.
12. REMOVE EXISTING WINGED SEAL AND INSTALL NEW INFILL NOSING AND EMSEAL SJS EXPANSION JOINT. REFER TO DETAIL 1903.
14. REMOVE AND REPLACE EXISTING CONCRETE POUR STRIP AND ADJACENT TOPPING SLAB IN ADVANCE OF NEW EXPANSION JOINT SYSTEM INSTALLATION. REBUILD POUR STRIP. REPAIR SUBSURFACE WATERPROOFING AND RECAST TOPPING SLAB. REFER TO DETAIL 1901.
15. EXCAVATE AREA DRAINS, INSPECT AND REPAIR SUBSURFACE WATERPROOFING AND DRAINAGE SYSTEM, AND RECAST TOPPING SLAB. REFER TO DETAIL 5901.
17. WHERE DIRECTED BY ENGINEER, EXCAVATE TOPPING SLAB ALONG POUR STRIP AND TO INSPECT SUBSURFACE WATERPROOFING SYSTEM. REPAIR AS DIRECTED ON T&M. REFER TO DETAIL 4901.
18. SURVEY POUR STRIP CURBS WITH ENGINEER, WHERE DEBONDED AND DIRECTED, REPAIR CURBS. REFER TO DETAIL 3901.
19. SPLICE AT INTERSECTION OF EXISTING WING COMPRESSION SEAL AND NEW COMPRESSIBLE SEAL. REFER TO DETAIL 4903.
20. WHERE DIRECTED BY ENGINEER, PERFORM JOINT EDGE REPAIRS ALONG JOINT OPENING ON POUR STOP CURB. REFER TO DETAIL 5902.



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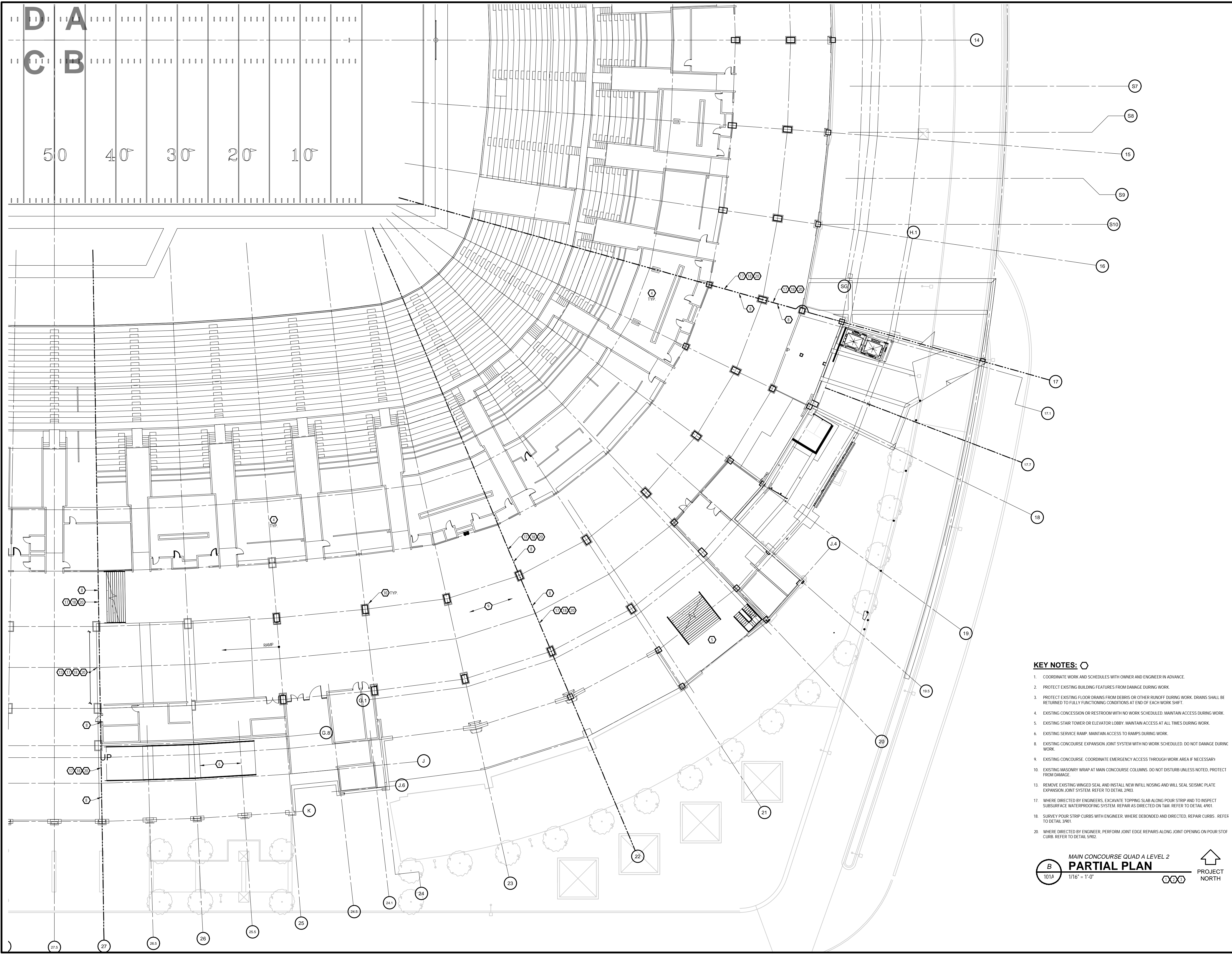
ISSUE	
DATE	
DESCRIPTION	
DRAWN BY:	P.A. Bellman
ENGINEER:	K. Dugan
CHECKED BY:	C.W. Przywara
M&T Bank Stadium Expansion Joints Restoration Trials	
MSA Project No. 19-021	
DRAWING TITLE: MAIN CONCOURSE QUAD A LEVEL 2	
JOB NUMBER:	DATE:
18556.00	APRIL 2019
DRAWING NUMBER:	
101A	

A
 101A
 1/16" = 1'-0"
 PROJECT NORTH

D A
C B

50 40 30 20 10

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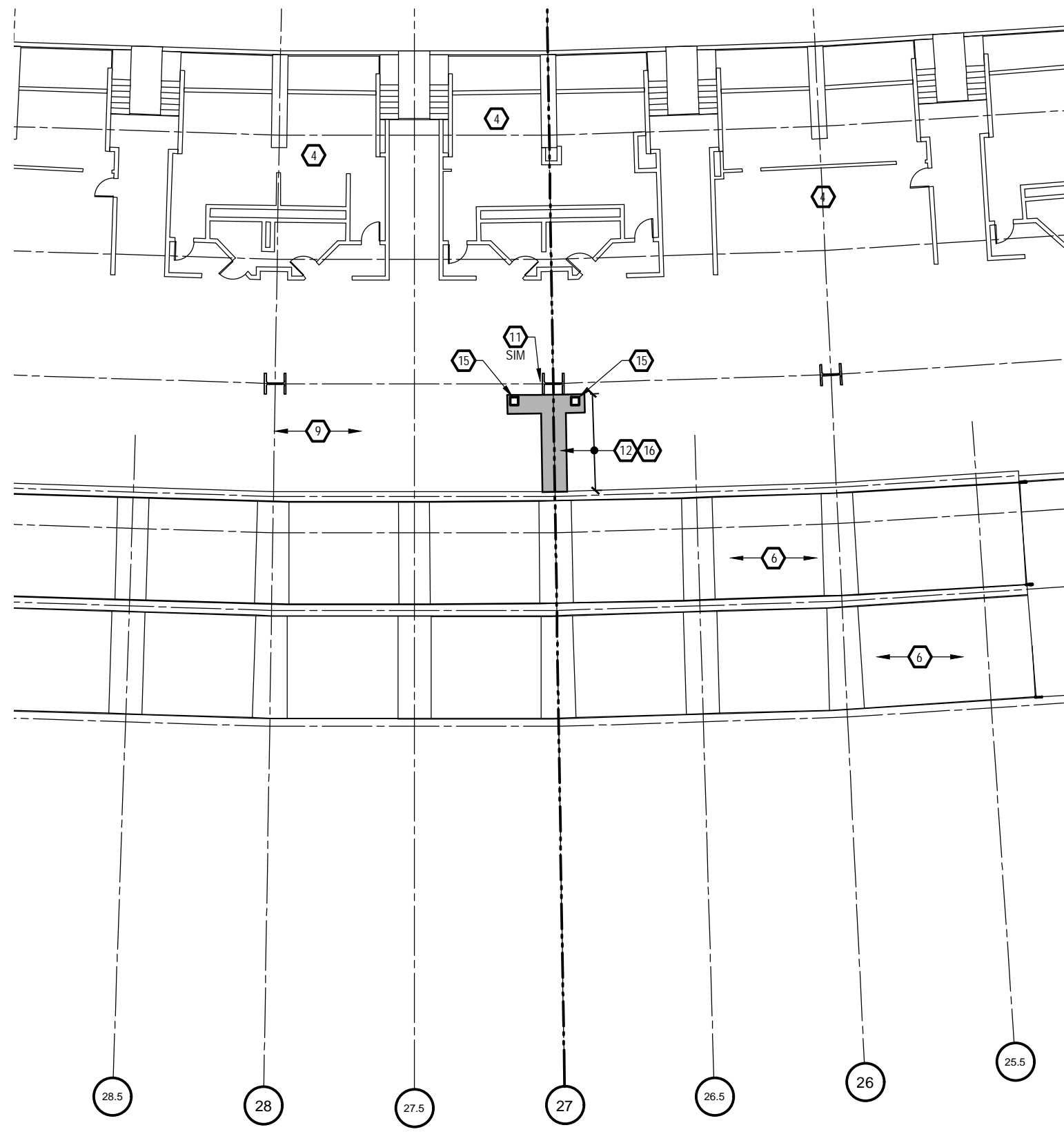
- KEY NOTES:**
1. COORDINATE WORK AND SCHEDULES WITH OWNER AND ENGINEER IN ADVANCE.
 2. PROTECT EXISTING BUILDING FEATURES FROM DAMAGE DURING WORK.
 3. PROTECT EXISTING FLOOR DRAINS FROM DEBRIS OR OTHER RUNOFF DURING WORK. DRAINS SHALL BE RETURNED TO FULLY FUNCTIONING CONDITIONS AT END OF EACH WORK SHIFT.
 4. EXISTING CONCESSION OR RESTROOM WITH NO WORK SCHEDULED. MAINTAIN ACCESS DURING WORK.
 5. EXISTING STAIR TOWER OR ELEVATOR LOBBY. MAINTAIN ACCESS AT ALL TIMES DURING WORK.
 6. EXISTING SERVICE RAMP. MAINTAIN ACCESS TO RAMPS DURING WORK.
 8. EXISTING CONCOURSE EXPANSION JOINT SYSTEM WITH NO WORK SCHEDULED. DO NOT DAMAGE DURING WORK.
 9. EXISTING CONCOURSE. COORDINATE EMERGENCY ACCESS THROUGH WORK AREA IF NECESSARY.
 10. EXISTING MASONRY WRAP AT MAIN CONCOURSE COLUMNS. DO NOT DISTURB UNLESS NOTED, PROTECT FROM DAMAGE.
 13. REMOVE EXISTING WINGED SEAL AND INSTALL NEW INFILL NOSING AND WILL SEAL SEISMIC PLATE EXPANSION JOINT SYSTEM. REFER TO DETAIL 2/903.
 17. WHERE DIRECTED BY ENGINEERS, EXCAVATE TOPPING SLAB ALONG POUR STRIP AND TO INSPECT SUBSURFACE WATERPROOFING SYSTEM. REPAIR AS DIRECTED ON T&M. REFER TO DETAIL 4/901.
 18. SURVEY POUR STRIP CURBS WITH ENGINEER. WHERE DEBONDED AND DIRECTED, REPAIR CURBS. REFER TO DETAIL 3/901.
 20. WHERE DIRECTED BY ENGINEER, PERFORM JOINT EDGE REPAIRS ALONG JOINT OPENING ON POUR STOP CURB. REFER TO DETAIL 5/902.

B
101A
MAIN CONCOURSE
QUAD B
LEVEL 2
PARTIAL PLAN
1/16" = 1'-0"
PROJECT NORTH

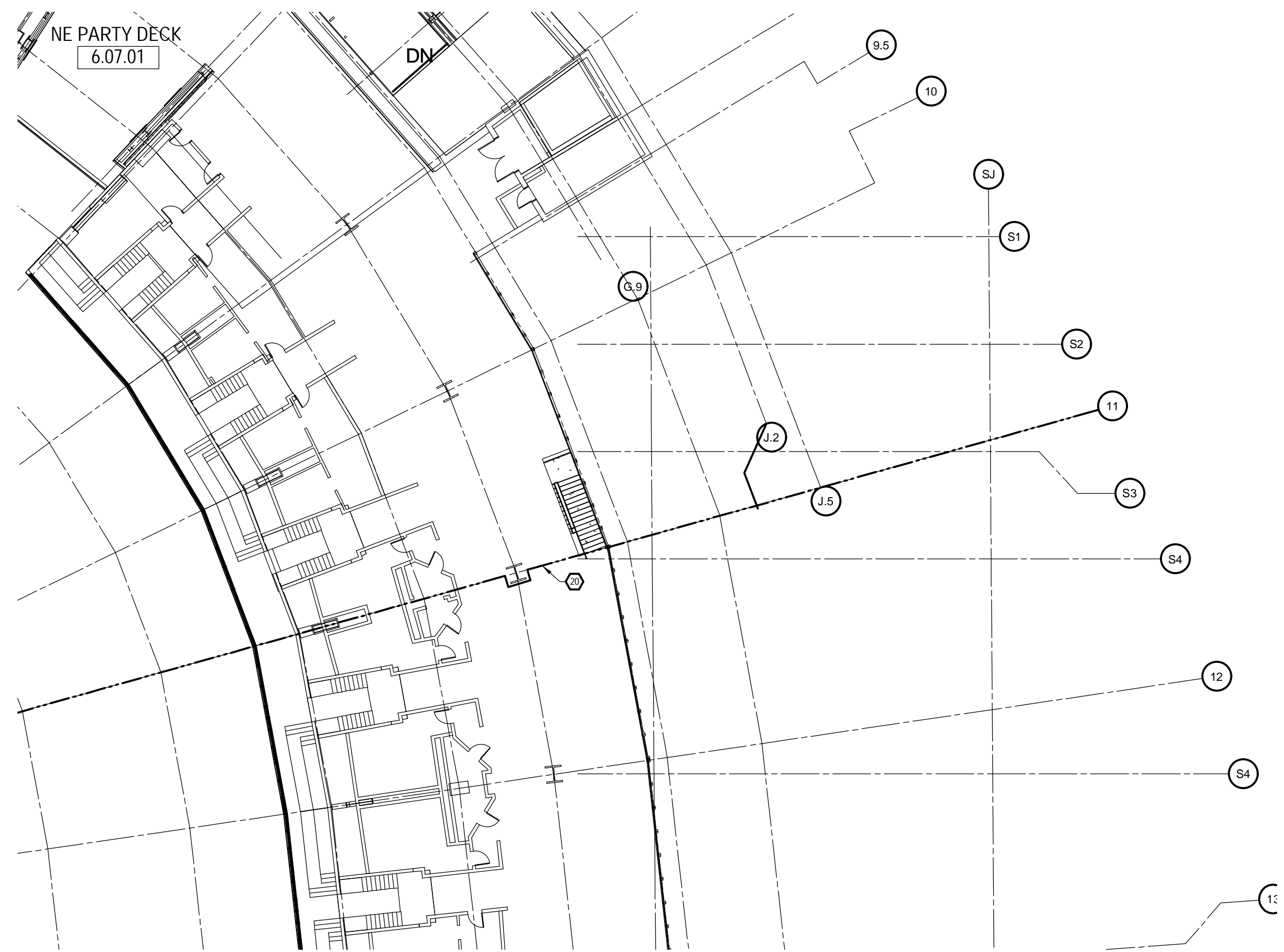
DESIGNED BY:	P.A. Bellman
ENGINEER:	K. Dugan
CHECKED BY:	C.W. Przyvara
DRAWING TITLE:	M&T Bank Stadium Expansion Joints Restoration Trials
MSA Project No. 19-021	
DRAWING NUMBER:	18556 00
DATE:	APRIL 2019
JOB NUMBER:	
DRAWING NUMBER:	101B

KEY NOTES:

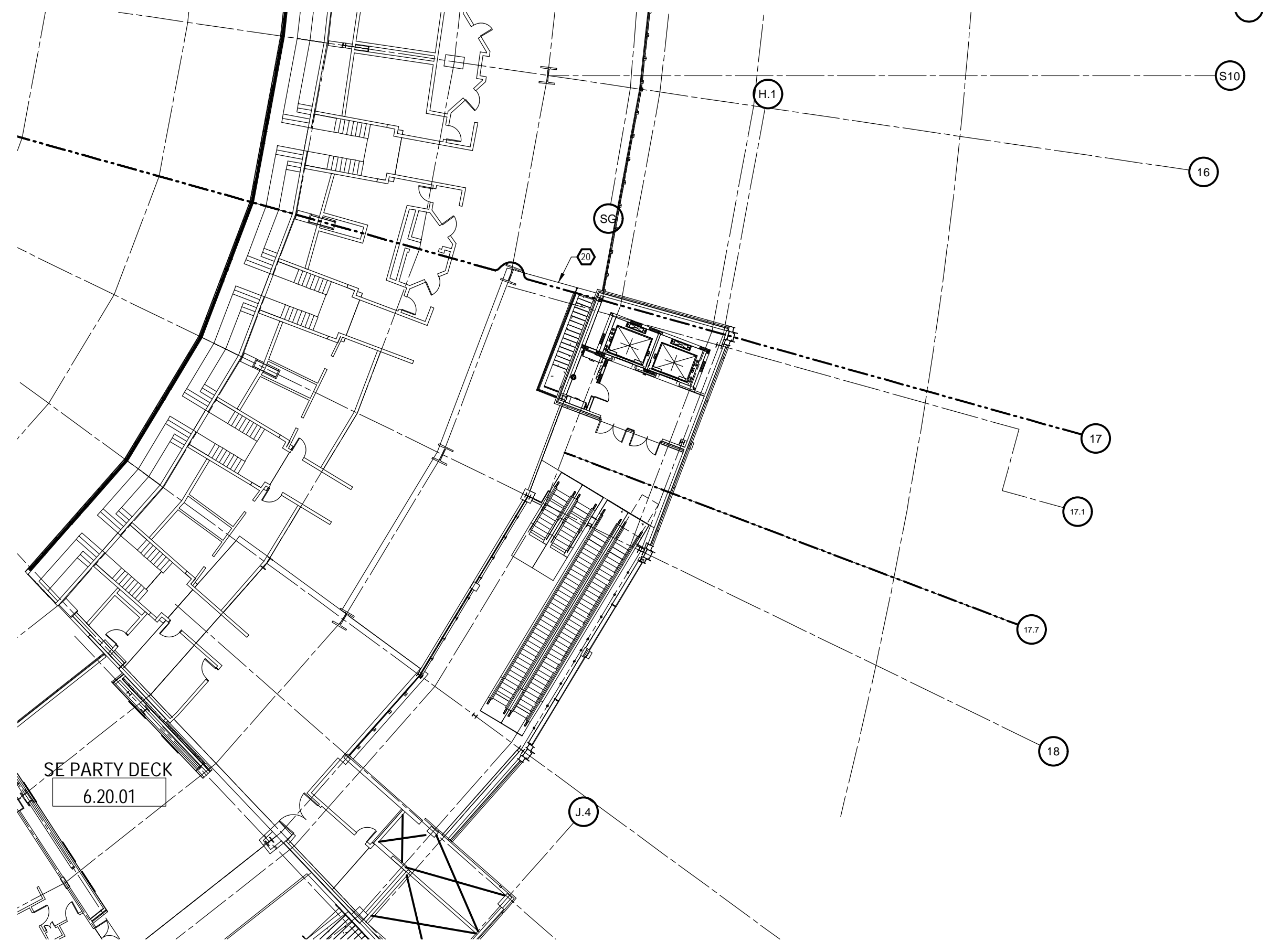
1. COORDINATE WORK AND SCHEDULES WITH OWNER AND ENGINEER IN ADVANCE.
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4. EXISTING CONCESSION OR RESTROOM WITH NO WORK SCHEDULED. MAINTAIN ACCESS DURING WORK.
5. EXISTING CONCOURSE. COORDINATE EMERGENCY ACCESS THROUGH WORK AREA IF NECESSARY.
6. EXISTING SERVICE RAMP. MAINTAIN ACCESS TO RAMPS DURING WORK.
7. REMOVE MASONRY WRAP ATOP EXPANSION JOINT TO ACCOMMODATE WORK. REINSTALL AFTER COMPLETION OF NEW EXPANSION JOINT INSTALLATION. REFER TO DETAIL 3/5903.
8. REMOVE EXISTING WINGED SEAL AND INSTALL NEW INFILL NOSING AND EMSEAL SJS EXPANSION JOINT. REFER TO DETAIL 1/903.
9. EXCAVATE AREA DRAINS, INSPECT AND REPAIR SUBSURFACE WATERPROOFING AND DRAINAGE SYSTEM, AND RECAST TOPPING SLAB. REFER TO DETAIL 5/901.
10. REMOVE 3'-0" WIDTH OF TOPPING SLAB ALONG EXPANSION JOINT FROM OUTER RAIL TO STRUCTURAL STEEL COLUMN TO EXPOSE SUBSURFACE WATERPROOFING SYSTEM FOR ENGINEER REVIEW. PERFORM DIRECTED REPAIRS TO SYSTEM ON T&M BASIS. RECAST TOPPING SLAB. REFER TO DETAIL 2/901.
11. WHERE DIRECTED BY ENGINEER, EXCAVATED LL DEFINE SUBSURFACE WATERPROOFING TERMINATION DETAIL. AFTER ENGINEER REVIEW, REPAIR. REFER TO DETAIL 6 ON DRAWING 901.



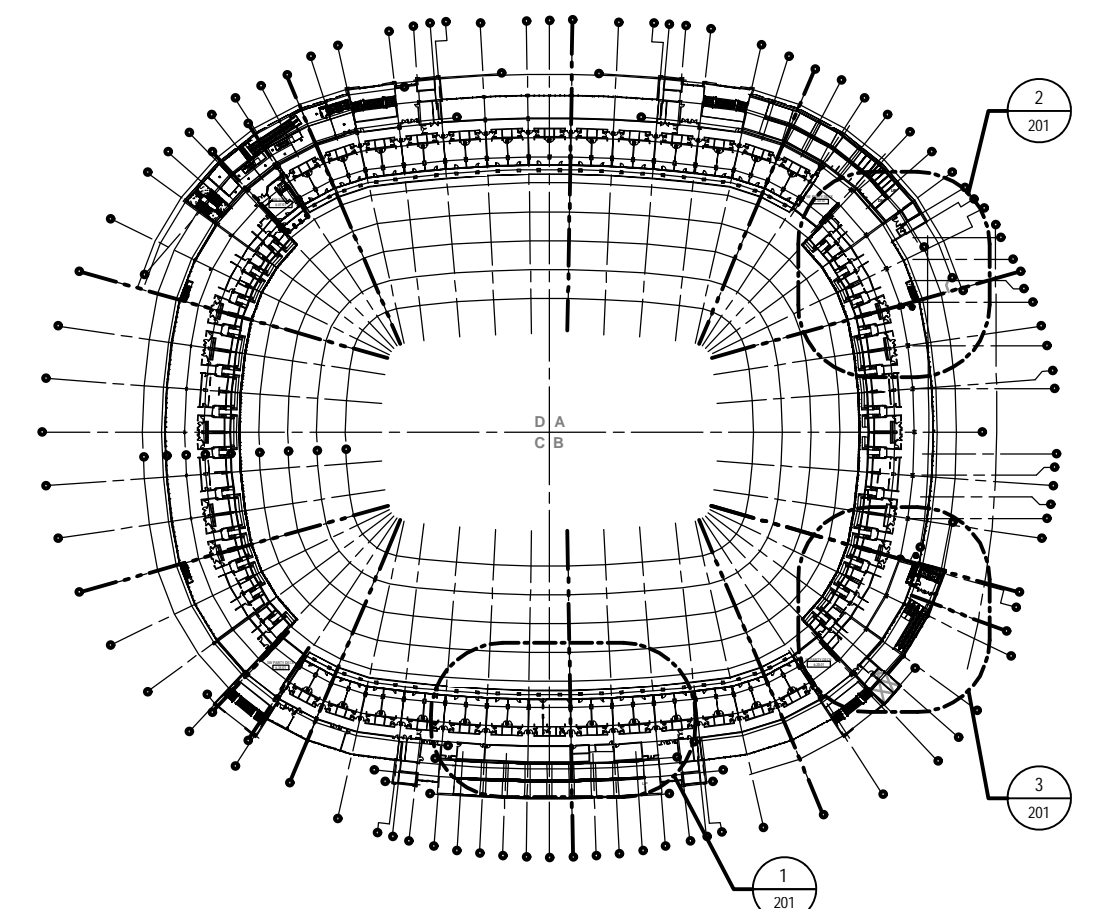
1
 UPPER CONCOURSE - LEVEL 7
PARTIAL PLAN
 3/32" = 1'-0"
 PARTIAL ADD ALTERNATE NO.1 WORK



2
 NORTH EAST UPPER SUITE LEVEL CONCOURSE
PARTIAL PLAN
 3/32" = 1'-0"

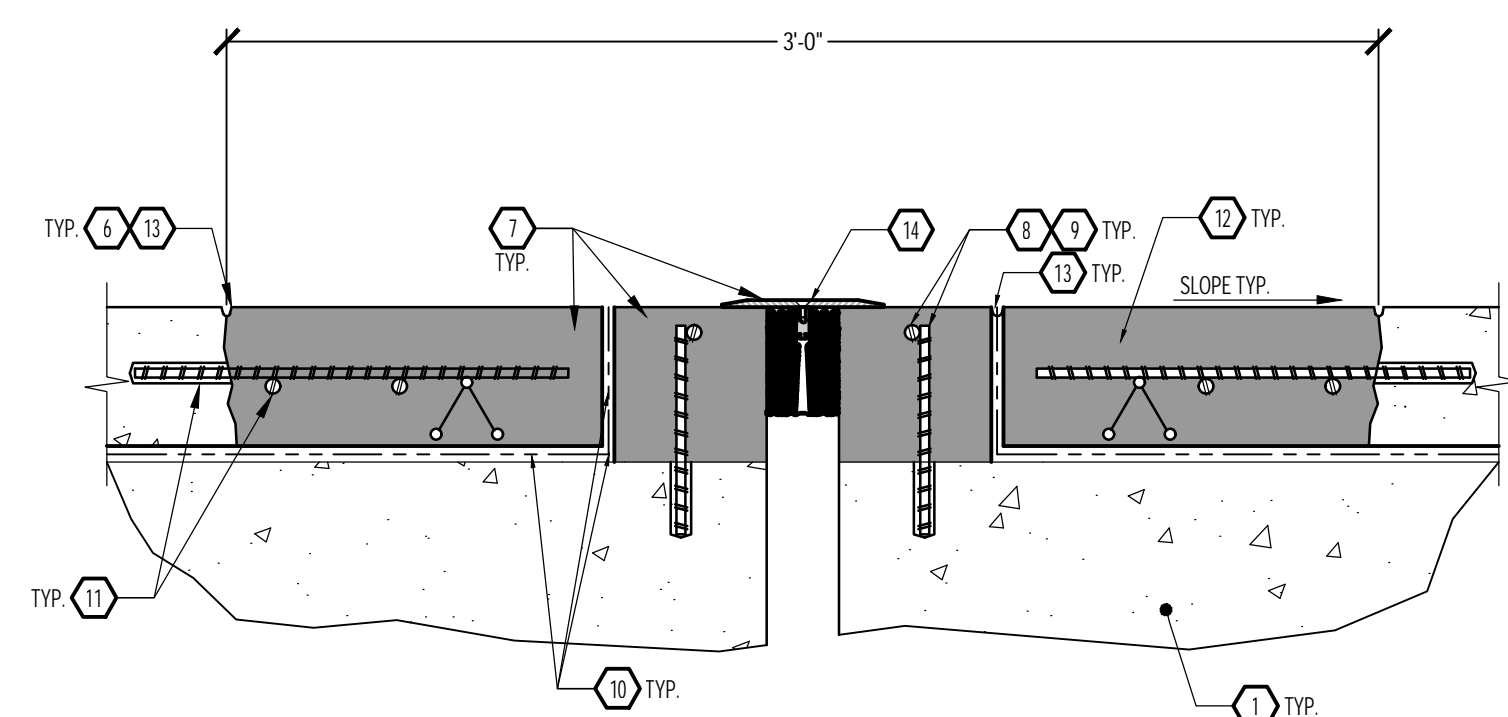


3
 SOUTH EAST UPPER SUITE LEVEL CONCOURSE
PARTIAL PLAN
 3/32" = 1'-0"

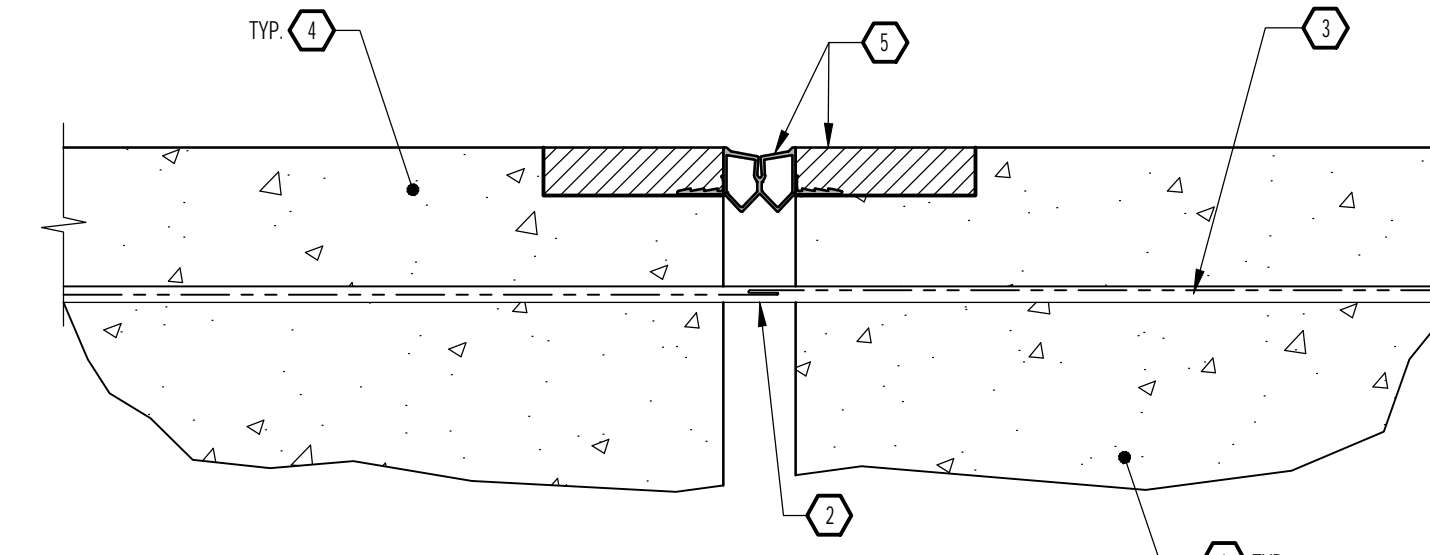


A
KEY PLAN
 PROJECT NORTH

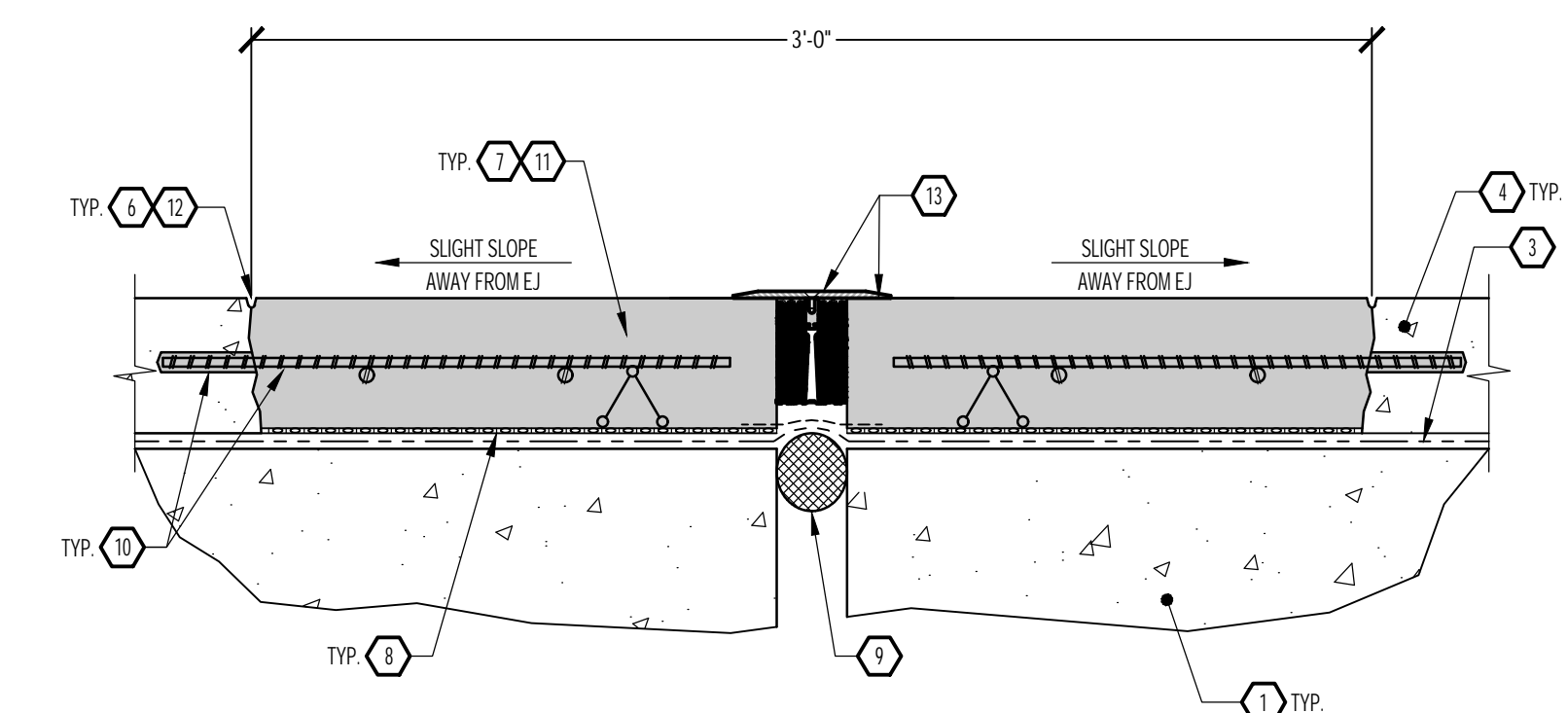
DRAWN BY:	P.A. Bellman
ENGINEER:	K. E. Dugan
CHECKED BY:	C.W. Przywara
M&T Bank Stadium Expansion Joint Systems Repair Package	
MSA Project No. 19-021	
DRAWING TITLE:	UPPER & UPPER SUITE LEVELS CONCOURSE PARTIAL PLANS
JOB NUMBER:	18556.00
DATE:	APRIL 2019
DRAWING NUMBER:	201



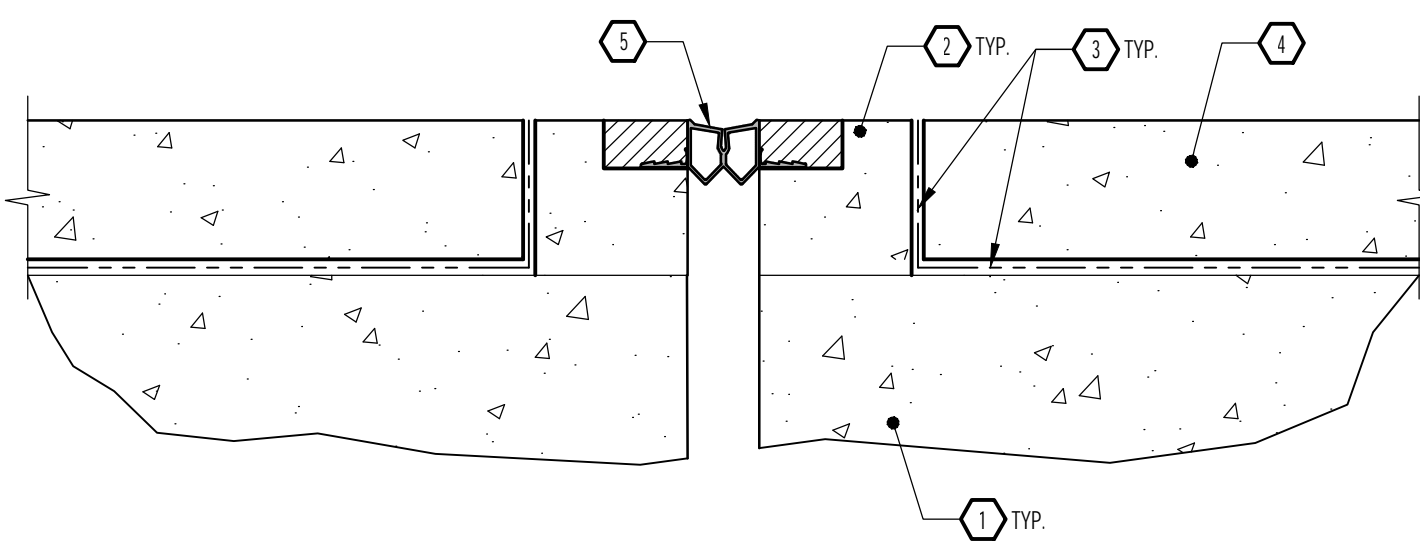
- 1 1/2" DEEP SAWCUT PARALLEL TO EXPANSION JOINT.
- 2 REMOVE EXISTING TOPPING SLAB. POUR STRIP CURB AND SURFACE EXPANSION JOINT SYSTEM AND DISCARD.
- 3 DRILL AND EPOXY SET 3/8" DIAMETER STAINLESS STEEL ALL THREAD RODS AT 1'-0" CENTERS 3" DEEP INTO STRUCTURAL SLAB. WIRE A CONTINUOUS #4 EPOXY COATED REBAR TO ALL THREAD WITH 1 1/2" COVER TO SURFACE. REFER TO SPECIFICATION SECTION 030100.
- 4 FORM AND CAST NEW POUR STRIP CURB. REFER TO SPECIFICATION SECTION 030100.
- 5 REPLACE EXISTING SUBSURFACE WATERPROOFING SYSTEM. INSTALL NEW WATERPROOFING SYSTEM TURN UP WITH COVE AT HORIZONTAL TO VERTICAL TRANSITION AFTER NEW POUR STRIP IS FULLY CURED. REFER TO DETAIL 4 ON DRAWING 901.
- 6 DRILL 4" DEEP HOLES IN TOPPING SLAB AT 1'-6" CENTERS AT EACH SIDE OF EXCAVATION. CLEAN OUT HOLE AND SET 2'-0" LONG #4 REBAR IN HOLE WITH EPOXY. WIRE TWO (2) TRANSVERSE #4 REBAR TO UNDERSIDE OF DOWELS. REFER TO SPECIFICATION SECTION 030100.
- 7 PREPARE SURFACES AND PROVIDE REPLACEMENT CONCRETE. REFER TO SPECIFICATION SECTION 030100. SLOPE CONCRETE SLIGHTLY AWAY FROM EXPANSION JOINT OPENING. TOOL TRANSVERSE JOINTS AT 4'-0" CENTERS. IN ALIGNMENT ON BOTH SIDES OF EXPANSION JOINT. PROVIDE BLOCKOUT FOR NEW SURFACE EXPANSION JOINT SYSTEM.
- 8 TOOL JOINT AT PERIMETER OF CONCRETE. AFTER ADEQUATE CURE OF NEW CONCRETE, PREPARE SURFACES AND PROVIDE NEW SEALANT. REFER TO DETAIL 6, DRAWING 902.
- 9 AFTER ADEQUATE CURE, REMOVE BLOCKOUT FORMING MATERIAL. SANDBLAST BLOCKOUT AND INSTALL NEW EMSEAL SJS EXPANSION JOINT SYSTEM. REFER TO DETAIL 1, DRAWING 903.



- 1 EXISTING STRUCTURAL SLAB.
- 2 WELL-DEFINED SUBSURFACE WATERPROOFING SYSTEM OVER EXPANSION JOINT.
- 3 EXISTING SUBSURFACE WATERPROOFING SYSTEM.
- 4 EXISTING 3" TO 4" CONCRETE TOPPING SLAB.
- 5 EXISTING SURFACE WINGED SEAL EXPANSION JOINT SYSTEM.



- 1 1/2" DEEP SAWCUT PARALLEL TO EXPANSION JOINT.
- 2 REMOVE EXISTING TOPPING SLAB CONCRETE AND SURFACE EXPANSION JOINT SYSTEM AND DISCARD.
- 3 EXPOSE EXISTING SUBSURFACE WATERPROOFING SYSTEM FOR OWNER INSPECTION. REPAIR AS DIRECTED ON T&M BASIS. LEAVE 6" BONDED AND INTACT EXISTING MEMBRANE WITHIN EXCAVATION TO LAP NEW MEMBRANE.
- 4 IF DIRECTED, INSTALL OVERSIZED BACKER ROD, THEN INSTALL UNCURED NEOPRENE SHEET FLASHING SYSTEM EMBEDDED IN NEW WATERPROOFING SYSTEM PER MANUFACTURER'S RECOMMENDATIONS ON T&M BASIS. DISCONTINUE DRAINAGE BOARD AT BOTH SIDES OF EXPANSION JOINT. BUT INSTALL AND SPOT ADHERE A 12" WIDE STRIP OF FILTER FABRIC ACROSS EXPANSION JOINT. REFER TO SPECIFICATION SECTION 071400.
- 5 DRILL 4" DEEP HOLES IN TOPPING SLAB AT 2'-0" CENTERS AT EACH SIDE OF EXCAVATION. CLEAN OUT HOLE AND SET 2'-0" LONG #4 REBAR IN HOLE WITH EPOXY. WIRE TWO (2) TRANSVERSE #4 REBAR TO UNDERSIDE OF DOWELS. REFER TO SPECIFICATION SECTION 030100.
- 6 PREPARE SURFACES AND PROVIDE REPLACEMENT CONCRETE. REFER TO SPECIFICATION SECTION 030100. SLOPE CONCRETE SLIGHTLY AWAY FROM EXPANSION JOINT OPENING. TOOL TRANSVERSE JOINTS AT 4'-0" CENTERS. IN ALIGNMENT ON BOTH SIDES OF EXPANSION JOINT. PROVIDE BLOCKOUT FOR NEW SURFACE EXPANSION JOINT SYSTEM.
- 7 TOOL JOINT AT PERIMETER OF CONCRETE. AFTER ADEQUATE CURE OF NEW CONCRETE, PREPARE SURFACES AND PROVIDE NEW SEALANT. REFER TO DETAIL 6, DRAWING 902.
- 8 AFTER ADEQUATE CURE, REMOVE BLOCKOUT FORMING MATERIAL. SANDBLAST BLOCKOUT AND INSTALL NEW EMSEAL SJS EXPANSION JOINT SYSTEM. REFER TO DETAIL 1, DRAWING 903.



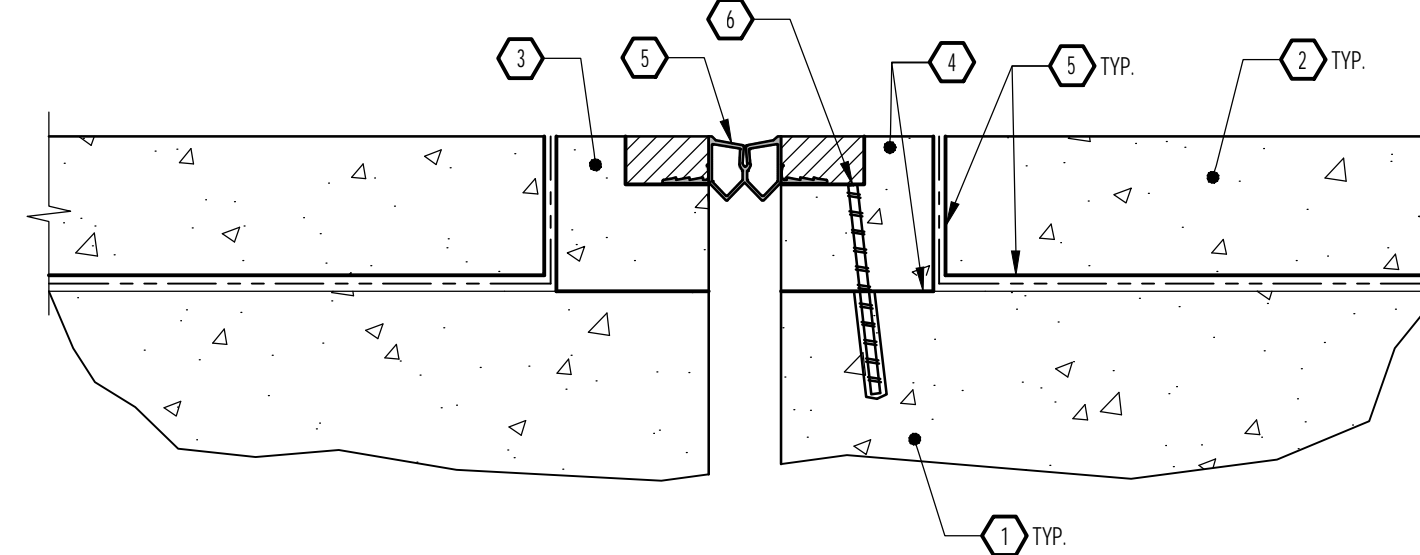
- 1 EXISTING STRUCTURAL SLAB.
- 2 EXISTING POUR STRIP CURB ALONG EXPANSION JOINT.
- 3 EXISTING SUBSURFACE WATERPROOFING SYSTEM.
- 4 EXISTING 3" TO 4" CONCRETE TOPPING SLAB.
- 5 EXISTING SURFACE WINGED SEAL EXPANSION JOINT SYSTEM.

1A
 901
 EXISTING MAIN LEVEL EXPANSION JOINT CONDITIONS
DETAIL
 NO SCALE

1B
 901
 MAIN LEVEL CONCOURSE POUR STRIP CURB AND TOPPING SLAB REPAIR AT EXPANSION JOINT
DETAIL
 NO SCALE

2A
 901
 EXISTING UPPER LEVEL EXPANSION JOINT CONDITIONS
DETAIL
 NO SCALE

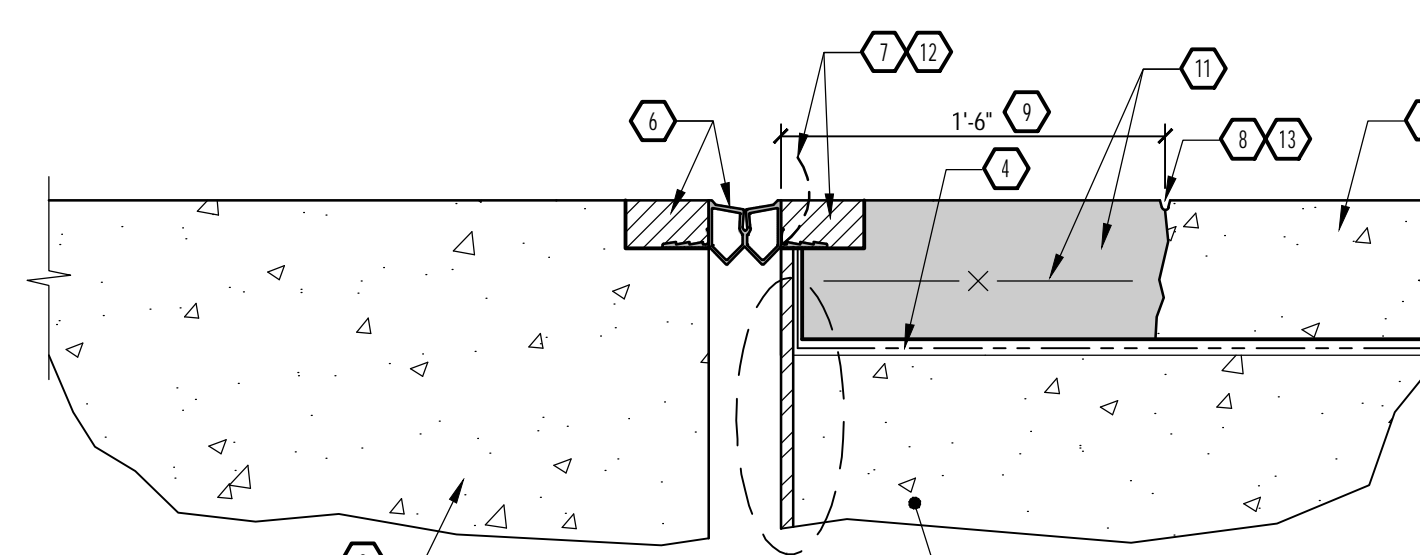
2B
 901
 UPPER LEVEL CONCOURSE TOPPING STRIP REPAIR AT EXPANSION JOINT
DETAIL
 NO SCALE



- 1 EXISTING STRUCTURAL SLAB.
- 2 EXISTING TOPPING SLAB.
- 3 EXISTING BONDED POUR STRIP CURB. NO WORK.
- 4 EXISTING DEBONDED POUR STRIP CURB. CONFIRM LOCATIONS WITH ENGINEER.
- 5 EXISTING WINGED SEAL EXPANSION JOINT SYSTEM. REMOVE AND DISCARD.
- 6 DRILL AND EPOXY SET 3/8" DIAMETER STAINLESS STEEL ALL THREAD RODS AT 1'-0" CENTERS 3" DEEP INTO STRUCTURAL SLAB. REFER TO SPECIFICATION SECTION 030100.

3
 901
 DEBONDED POUR STRIP CURB REPAIR
DETAIL
 NO SCALE

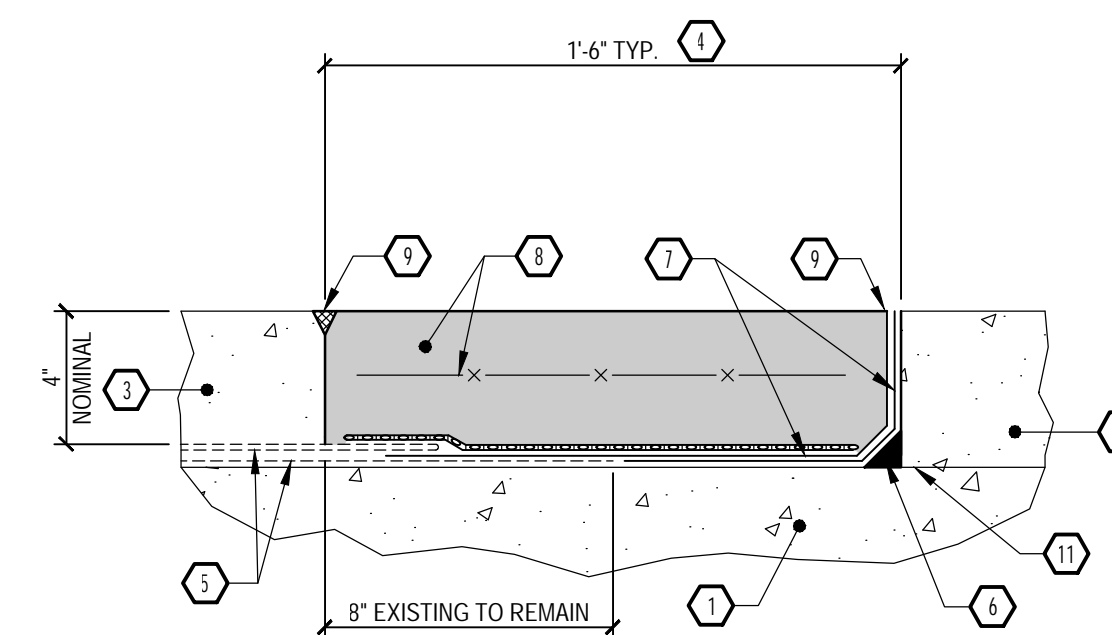
PAY UNIT PER DRILLED ANCHOR LOCATION



- 1 EXISTING CONCRETE SLAB.
- 2 EXISTING CONCRETE SLAB ON METAL DECK.
- 3 EXISTING 3" TO 4" TOPPING SLAB.
- 4 EXISTING SUBSURFACE WATERPROOFING SYSTEM.
- 5 ILL-DEFINED TERMINATION DETAIL TO BE VERIFIED.
- 6 EXISTING SURFACE WINGED SEAL EXPANSION JOINT SYSTEM.
- 7 CAREFULLY CHIP/REMOVE 2'-0" LENGTH OF NOSING WITHOUT DAMAGING WING OF EXISTING SLAB. PULL WING UP AND OUT OF WORK AREA.
- 8 1/2" DEEP SAWCUT PARALLEL TO EXPANSION JOINT 4'-0" LONG CENTERED AT THE NOSING REMOVAL PER NOTE 7.
- 9 REMOVE AND DISCARD TOPPING SLAB.
- 10 EXPOSE DETAIL FOR ENGINEER REVIEW. PERFORM ANY DIRECTED SUBSURFACE WATERPROOFING SYSTEM REPAIRS ON T&M BASIS. REFER TO SPECIFICATION SECTION 071400.
- 11 PROVIDE MESH REINFORCING AND NEW CONCRETE PATCH MATERIAL TYPE A OR C. REFER TO SPECIFICATION SECTION 030100.
- 12 AFTER ADEQUATE CURE OF NEW CONCRETE PATCH MATERIAL, REINSTALL WING AND NOSING. REFER TO SPECIFICATION SECTION 079000.
- 13 AFTER ADEQUATE CURE OF NEW CONCRETE PATCH MATERIAL, PREPARE AND PROVIDE SEALANT. REFER TO DETAIL 6, DRAWING 902.

6
 901
 UPPER SUITE LEVEL CONCOURSE SUBSURFACE WATERPROOFING SYSTEM EXCAVATION
DETAIL
 NO SCALE

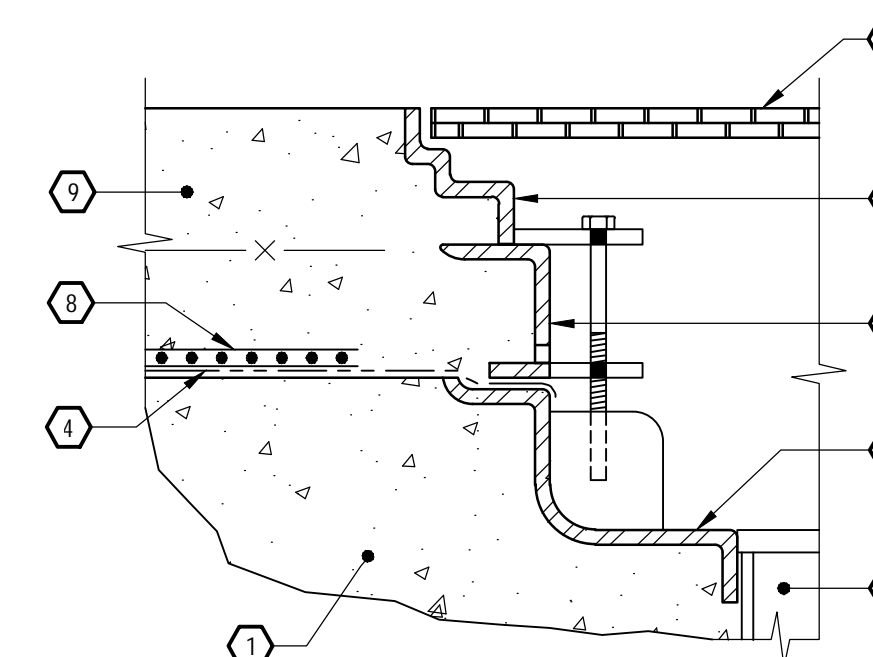
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 NOT FOR BIDDING PURPOSES



- 1 EXISTING CONCRETE SLAB.
- 2 EXISTING POUR STRIP CURB TO REMAIN.
- 3 EXISTING CONCRETE TOPPING SLAB OVER SUBSURFACE WATERPROOFING MEMBRANE TO REMAIN. DO NOT DAMAGE.
- 4 SAWCUT PARALLEL TO RAISED CURB AND CHIP/REMOVE 1'-6" WIDTH OF TOPPING SLAB FOR 3' LENGTH AS DIRECTED BY ENGINEER TO EXPOSE SUBSURFACE WATERPROOFING SYSTEM FOR REVIEWS.
- 5 EXISTING SUBSURFACE WATERPROOFING SYSTEM TO REMAIN. LEAVE MINIMUM 4" BONDED AND INTACT EXISTING MEMBRANE WITHIN EXCAVATION TO LAP NEW MEMBRANE. LEAVE 3" MINIMUM EXISTING PROTECTION BOARD.
- 6 PREPARE CONCRETE SURFACES AND PROVIDE NEW COVE AT HORIZONTAL-TO-VERTICAL TRANSITION. REFER TO SPECIFICATION SECTION 071400.
- 7 PREPARE CONCRETE SURFACES. BLOW CLEAN AND INSTALL NEW WATERPROOFING SYSTEM. LAP ONTO PREPARED EXISTING MEMBRANE AT MINIMUM 5". INSTALL NEW DRAINAGE MAT OVER EXISTING PROTECTION BOARD. MINIMUM 3". REFER TO SPECIFICATION SECTION 071400.
- 8 PROVIDE MESH REINFORCING AND NEW CONCRETE PATCH MATERIAL TYPE A OR C. REFER TO SPECIFICATIONS SECTION 030100.
- 9 AFTER ADEQUATE CURE OF NEW CONCRETE PATCH MATERIALS, PREPARE AND PROVIDE NEW SEALANT. REFER TO DETAIL 6, DRAWING 902.

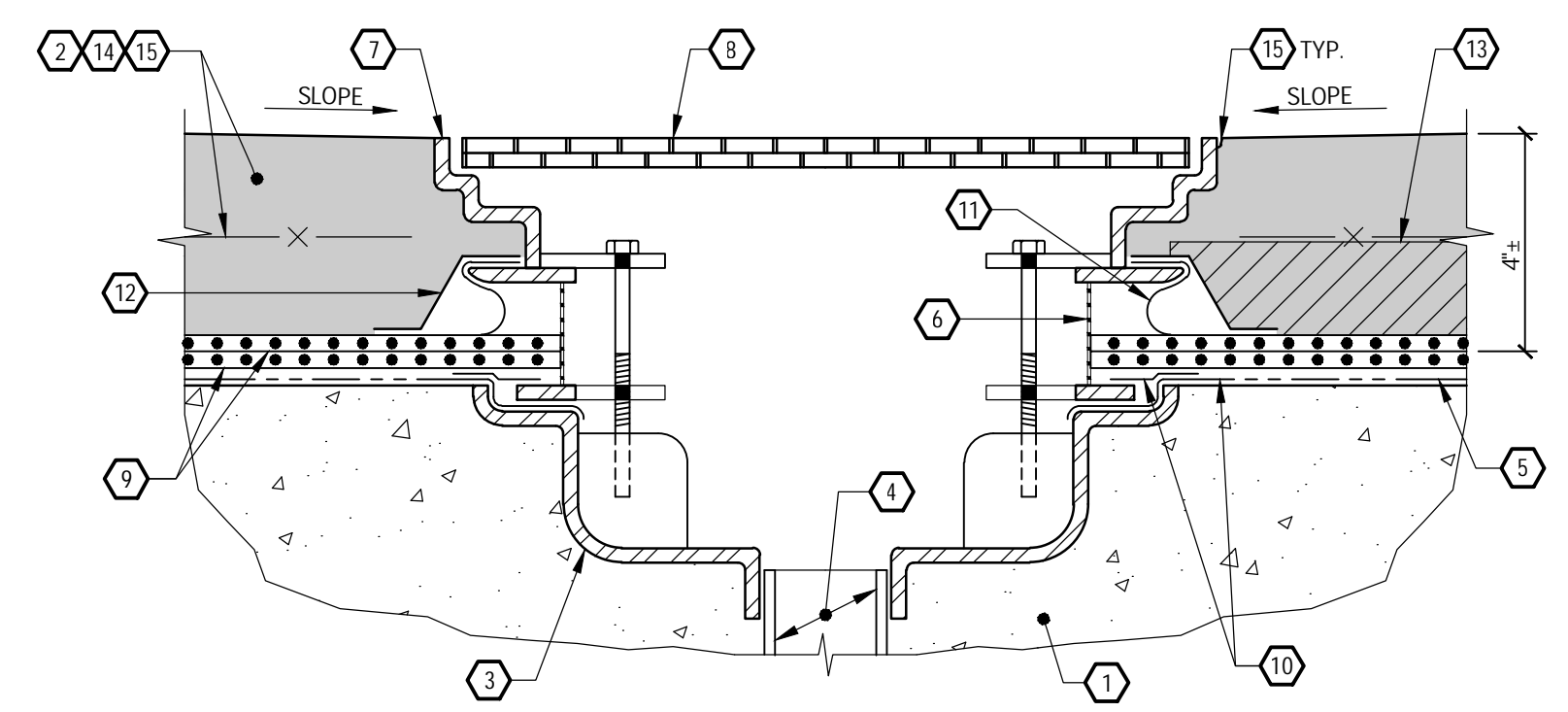
4
 901
 CONCRETE AND SUBSURFACE MEMBRANE REPAIRS AT POUR STRIP CURB
DETAIL
 NO SCALE

PAY UNIT PER LOCATION (3' LENGTH)
 AND SUBSURFACE WATERPROOFING SYSTEM REPAIRS



- 1 EXISTING STRUCTURAL SLAB.
- 2 EXISTING DRAIN BODY CAST INTO STRUCTURAL SLAB.
- 3 EXISTING DRAIN PIPE.
- 4 EXISTING SUBSURFACE WATERPROOFING MEMBRANE. MEMBRANE TERMINATES ON DRAIN BODY.
- 5 EXISTING DRAIN CLAMPING RING.
- 6 EXISTING DRAIN GRATE CLAMPING RING.
- 7 EXISTING DRAIN GRATE.
- 8 EXISTING DRAINAGE MAT TYPICALLY TERMINATED PRIOR TO DRAIN ASSEMBLY.
- 9 CONCRETE TOPPING SLAB WITH WELDED WIRE MESH REINFORCING CAST TIGHT TO DRAIN ASSEMBLY.

5A
 901
 EXISTING DRAIN CONDITION
DETAIL
 NO SCALE



- 1 EXISTING STRUCTURAL SLAB.
- 2 EXISTING TOPPING SLAB AND REINFORCING TO BE REMOVED IN 4'-0" x 4'-0" SQUARE CENTERED ON DRAIN. ORIENT SIDES OF SAWCUT PARALLEL TO EXISTING BUILDING FEATURES. REINFORCING SHALL BE CUT-OUT, SALVAGED, AND REINSTALLED PRIOR TO PLACING NEW CONCRETE PATCH MATERIAL.
- 3 EXISTING DRAIN BODY CAST INTO STRUCTURAL SLAB.
- 4 EXISTING DRAIN PIPE. INSTALL PLUMBER'S PLUG DURING WORK ONLY AT OCCUPIED WORK AREAS. REMOVE PLUG EACH EVENING PRIOR TO LEAVING SITE.
- 5 EXISTING SUBSURFACE WATERPROOFING MEMBRANE. MEMBRANE TERMINATES ON DRAIN BODY. DO NOT DAMAGE.
- 6 EXISTING DRAIN RING WITH PERFORATED METAL SCREEN.
- 7 EXISTING DRAIN GRATE CLAMPING RING. REMOVE RING ONLY IF NEEDED TO FACILITATE REPAIRS. STORE AND REINSTALL AT COMPLETION OF WORK. REPLACE BOLTS WITH LONGER GALVANIZED BOLTS AS NECESSARY.
- 8 EXISTING DRAIN GRATE. REMOVE GRATE. STORE AND REINSTALL AT COMPLETION OF WORK.
- 9 NEATLY CUT-BACK EXISTING DRAINAGE MAT TO ACCOMMODATE FLASHING DETAIL PER NOTE 10. PROVIDE NEW DRAINAGE MAT INSTALLED TIGHT TO PERFORATED METAL SCREEN. PROVIDE SECOND LAYER OF DRAINAGE MAT TIGHT TO PERFORATED SCREEN AND EXTEND 12" MINIMUM BEYOND EDGES OF PERFORATED SCREEN.
- 10 CAREFULLY CLEAN EXISTING MEMBRANE AND INSTALL NEW MEMBRANE SYSTEM AT INTERFACE OF LOWER BOWL AND EXISTING MEMBRANE SYSTEM. TOUCH-UP ANY OTHER AREAS WHERE EXISTING MEMBRANE WAS DAMAGED DURING DEMOLITION USING SAME MATERIAL.
- 11 PROVIDE NEW WOVEN FILTER FABRIC FROM NEW DRAINAGE MAT EXTENDING UP AND OVER EXPOSED PORTIONS OF PERFORATED SCREEN AND FASTEN TO UPPER CASTING OF DRAIN BODY.
- 12 PROVIDE BOND-BREAKER TAPE OR OTHER MATERIAL TO ACT AS POUR STOP OF NEW CONCRETE PLACEMENT AND TO PREVENT CONCRETE FROM CONTACTING PERFORATED METAL SCREEN WHEN CASTING NEW TOPPING SLAB.
- 13 WHERE APPROPRIATE, INSTALL NEW 2" THICK RIGID INSULATION TO MATCH EXISTING.
- 14 PROVIDE MESH REINFORCING AND NEW CONCRETE PATCH MATERIAL TYPE A OR TYPE C. CAST TIGHT TO DRAIN ASSEMBLY. REFER TO SPECIFICATION SECTION 030100.
- 15 TOOL NEW JOINTS IN CONCRETE AT DRAIN CASTING PERIMETER AND PERIMETER OF EXCAVATION REPAIR. AFTER ADEQUATE CURING, PREPARE JOINTS, PRIME, AND INSTALL NEW SEALANT SIMILAR TO DETAIL 6 ON DRAWING 902.

5B
 901
 CONCOURSE DRAIN REPAIR
DETAIL
 NO SCALE

PAY UNIT PER LOCATION

ISSUES

ISSUES

REVISIONS

DRAWN BY: P.A. Bellman
 ENGINEER: K. Dugan
 CHECKED BY: C.W. Przywara

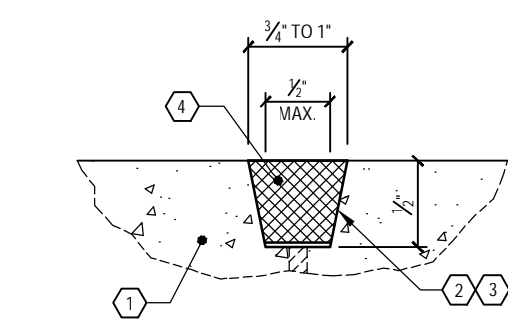
M&T Bank Stadium
 Expansion Joints
 Restoration Trials

MSA
 Project No. 19-021

DRAWING TITLE: CONCRETE AND SUBSURFACE MEMBRANE REPAIR DETAILS

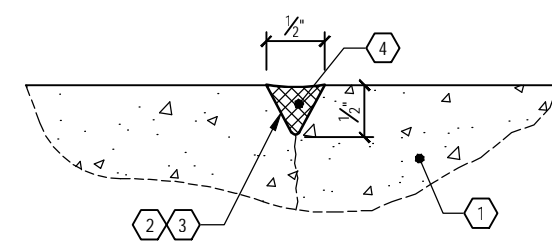
JOB NUMBER: 18556.00
 DATE: APRIL 2019
 DRAWING NUMBER:

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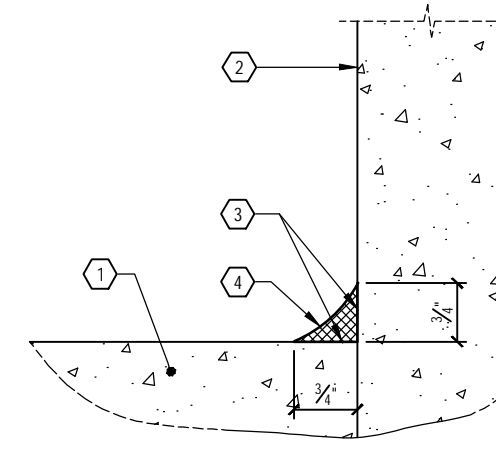
- ① EXISTING CONCRETE TOPPING SLAB.
- ② CUT OUT ALL EXISTING JOINT SEALANTS IF PRESENT, THEN GRIND SURFACES TO REMOVE SEALANT RESIDUE AND SLOPE SIDE SURFACES AS SHOWN. PROVIDE A MINIMUM WIDTH TO DEPTH RATIO OF 1-1/2.
- ③ PREPARE ALL SURFACES INTENDED FOR NEW SEALANT. REFER TO SPECIFICATION SECTION 079200.
- ④ PRIME SUBSTRATE AND PROVIDE NEW SEALANT. INSTALL SEALANT CONCAVE WITH ADJOINING SURFACE. REFER TO SPECIFICATION SECTION 079200.

1
902
**TYPICAL CONSTRUCTION JOINT
 DETAIL**
 NO SCALE



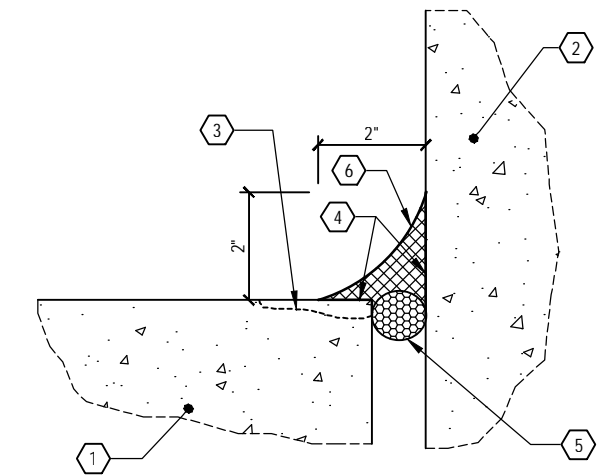
- ① EXISTING CONCRETE TOPPING SLAB.
- ② ROUT CRACKS PER SPECIFICATION SECTION 079200 IN A "V" CONFIGURATION, MINIMUM OF 1/2" WIDE X 1/2" DEEP, OR WHEN THE 1/2" DIMENSION IS INSUFFICIENT, USE A MINIMUM WIDTH TO DEPTH RATIO OF 1.
- ③ PREPARE ALL SURFACES INTENDED FOR NEW SEALANT. REFER TO SPECIFICATION SECTION 079200.
- ④ PRIME SUBSTRATE AND PROVIDE NEW SEALANT. INSTALL SEALANT CONCAVE WITH ADJOINING SURFACE. REFER TO SPECIFICATION SECTION 079200.

2
902
**TYPICAL RANDOM CRACK
 DETAIL**
 NO SCALE



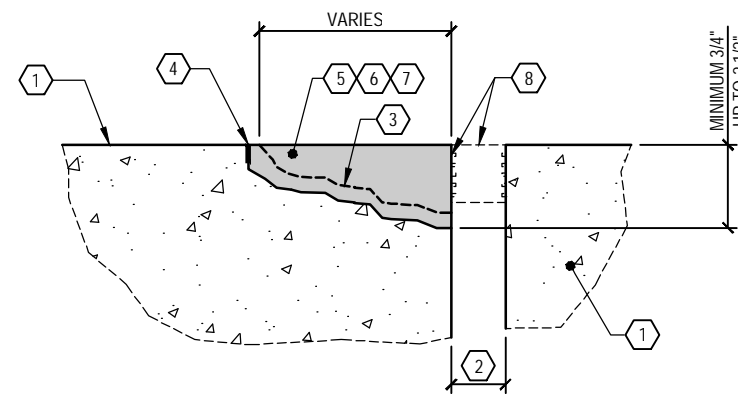
- ① EXISTING CONCRETE SLAB.
- ② EXISTING WALL, CURB OR ANY OTHER VERTICAL PROJECTION.
- ③ PREPARE ALL SURFACES INTENDED FOR NEW SEALANT. INSTALL SEALANT CONCAVE WITH ADJOINING SURFACE. REFER TO SPECIFICATION SECTION 079200.
- ④ COVE SEALANT. PROVIDE MINIMUM 1/2" THROAT. INSTALL PER DIMENSIONS UNLESS NOTED OTHERWISE. REFER TO SPECIFICATION SECTION 079200.

3
902
**TYPICAL COVE SEALANT
 DETAIL**
 NO SCALE



- ① EXISTING CONCRETE SLAB.
- ② EXISTING WALL.
- ③ CONCRETE REPAIRS IF NECESSARY. REFER TO DETAIL 2 ON DRAWING 3.0.
- ④ PREPARE ALL SURFACES INTENDED FOR NEW SEALANT. INSTALL SEALANT CONCAVE WITH ADJOINING SURFACE. REFER TO SPECIFICATION SECTION 079200.
- ⑤ OVERSIZED BACKER ROD.
- ⑥ OVERSIZED COVE SEALANT. INSTALL PER DIMENSIONS UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION SECTION 079200.

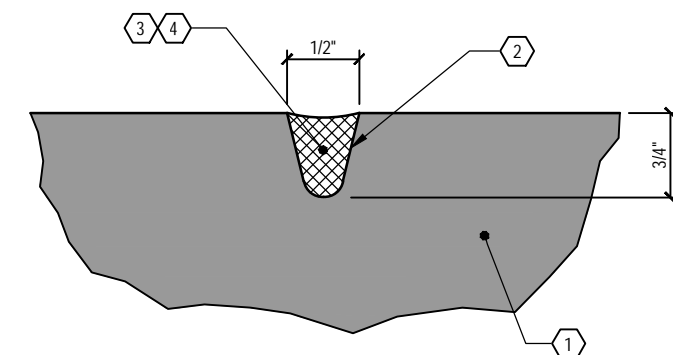
4
902
**OVERSIZE PERIMETER WALL COVE
 DETAIL**
 NO SCALE



- ① EXISTING CONCRETE TOPPING SLAB FLOOR.
- ② POTENTIAL EXISTING JOINT OPENING OR CONSTRUCTION JOINT.
- ③ EXISTING DELAMINATION PLANE.
- ④ GRIND OR SAWCUT 3/4" VERTICAL EDGE AT PERIMETER OF DETERIORATED CONCRETE.
- ⑤ REMOVE ALL SOUND AND UNSOUND CONCRETE WITHIN SAWCUT AREA. REFER TO SPECIFICATION SECTION 030100.
- ⑥ PREPARE CAVITY SURFACES AND BLOWOUT WITH OIL AND WATER FREE COMPRESSED AIR JUST PRIOR TO REPAIR MATERIAL INSTALLATION. REFER TO SPECIFICATION SECTION 030100.
- ⑦ PROVIDE CONCRETE REPAIR MATERIAL. REFER TO SPECIFICATION SECTION 030100.
- ⑧ WHERE REPAIR EXISTS AT EXPANSION JOINT OPENING, AFTER ADEQUATE CURE OF REPAIR MATERIAL PREPARE VERTICAL SURFACE FOR NEW JOINT SEAL INSTALLATION. REFER TO DETAILS ON DRAWING 903.

5
902
**CONCRETE JOINT EDGE REPAIR
 DETAIL**
 NO SCALE

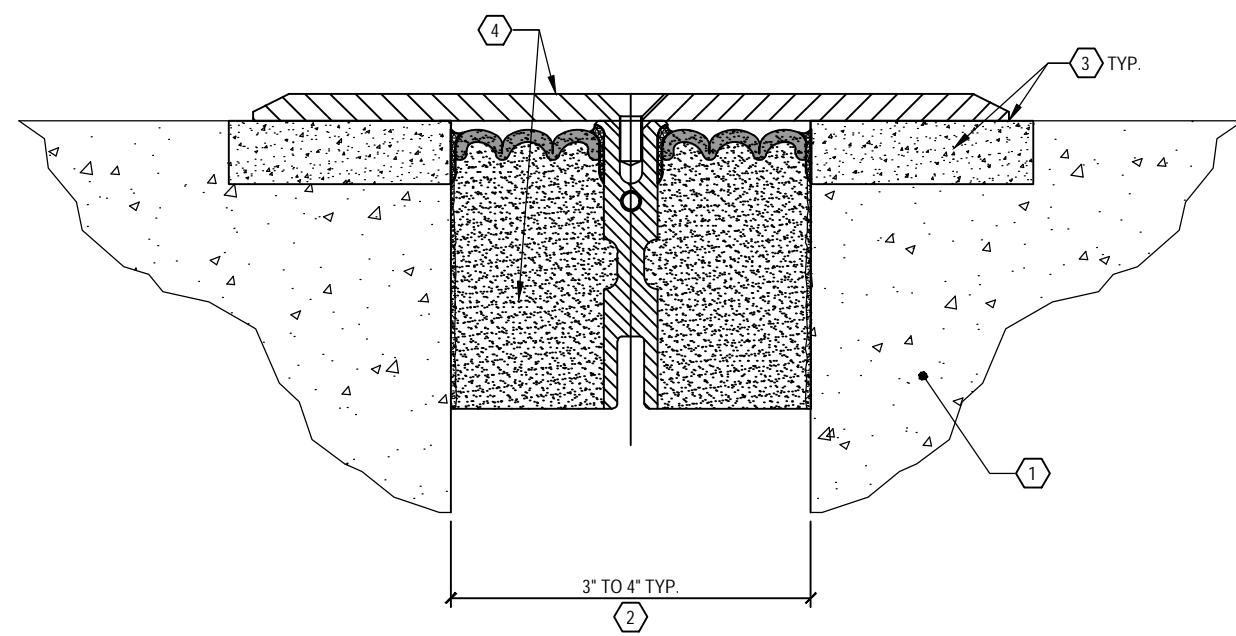
PAY UNIT PER LINEAR FOOT



- ① NEW CONCRETE REPAIR AREA.
- ② NEW CONTROL JOINT TOOLED IN NEWLY PLACED CONCRETE. REFER TO SPECIFICATION SECTION 030100.
- ③ TO REMOVE DUST, LIGHTLY GRIND SIDE FACES OF JOINT AND BLOW OUT GROOVE WITH COMPRESSED AIR IMMEDIATELY PRIOR TO PRIMER INSTALLATION.
- ④ PRIME SUBSTRATE AND PROVIDE NEW SEALANT INSTALLED FLUSH WITH ADJOINING SURFACES BENEATH MEMBRANE, AND CONCAVE ELSEWHERE. REFER TO SPECIFICATION SECTION 079200.

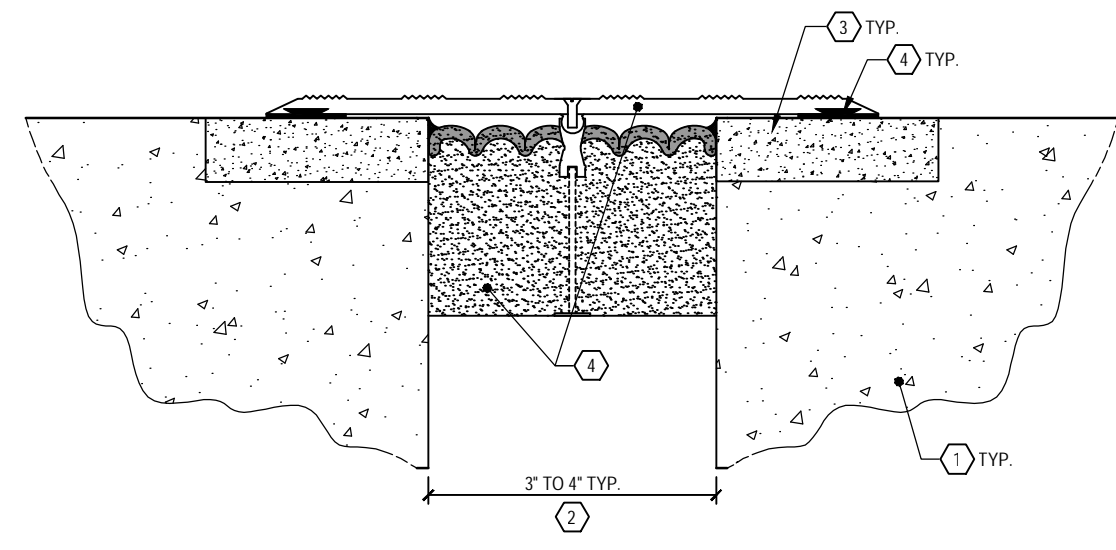
6
902
**TOOLED JOINT
 DETAIL**
 NO SCALE

ISSUE	
DATE	
DESCRIPTION	
DRAWN BY:	P.A. Bellman
ENGINEER:	K. Dugan
CHECKED BY:	C.W. Przywara
M&T Bank Stadium Expansion Joints Restoration Trials	
MSA Project No. 19-021	
DRAWING TITLE SEALANT DETAILS	
JOB NUMBER	DATE
18556 00	APRIL 2019
DRAWING NUMBER 902	



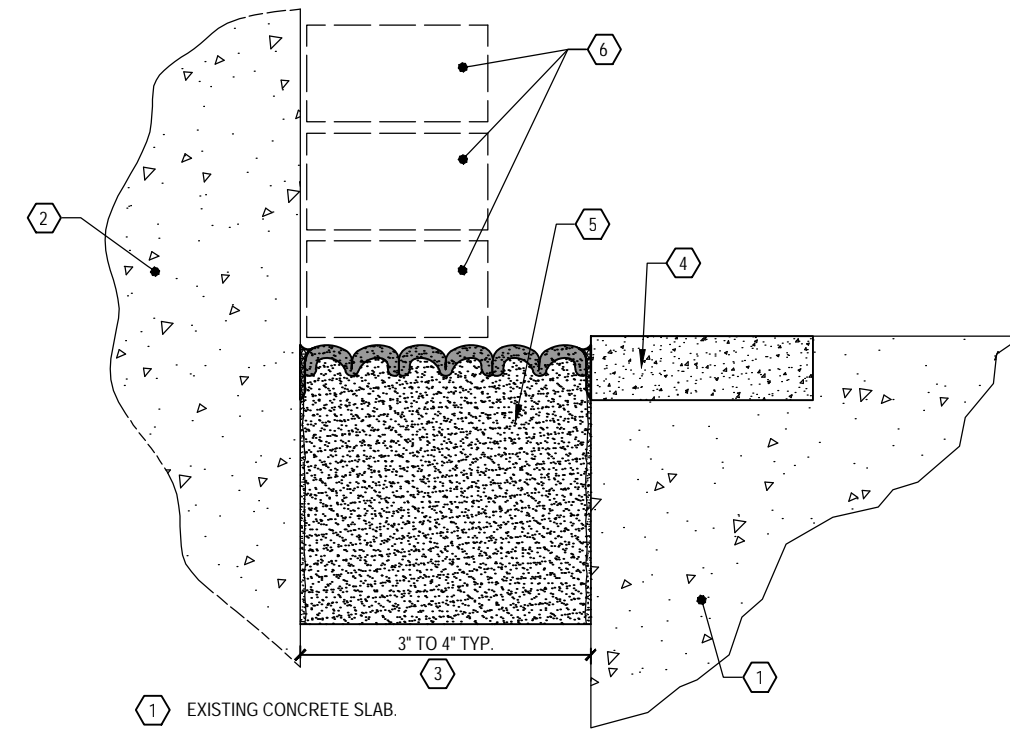
- 1 EXISTING CONCRETE SLAB OR BONDED POUR STRIP CURB.
- 2 EXISTING JOINT THROAT WIDTH, CONTRACTOR TO FIELD VERIFY PRIOR TO BID AND CONSULT WITH MANUFACTURER TO ENSURE PROPER EXPANSION JOINT SIZE SELECTION.
- 3 PREPARE BLOCK OUT AND INSTALL NEW NOSING MATERIAL TO PROVIDE EVEN BEARING OF NEW COVER PLATE SYSTEM. REFER TO SPECIFICATION SECTION 079000.
- 4 PROVIDE NEW COMPRESSIBLE EXPANSION JOINT SYSTEM WITH INTEGRAL COVER PLATE. REFER TO SPECIFICATION SECTION 079000.

NEW EMSEAL SJS CONCOURSE SYSTEM
1
DETAIL
903 NO SCALE



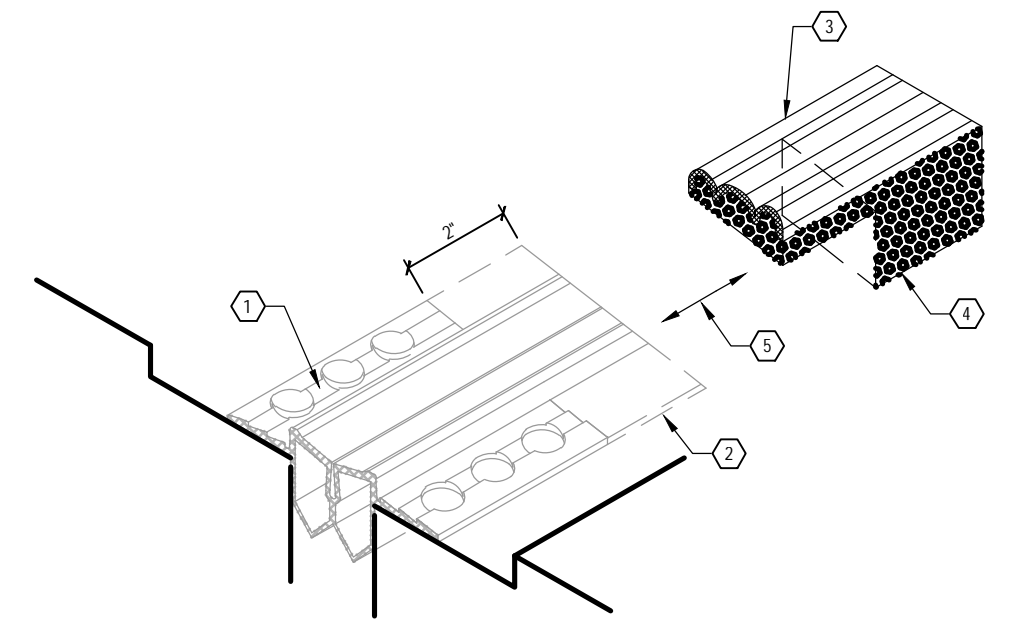
- 1 EXISTING CONCRETE SLAB
- 2 EXISTING JOINT THROAT WIDTH, CONTRACTOR TO FIELD VERIFY PRIOR TO BID AND CONSULT WITH MANUFACTURER TO ENSURE PROPER EXPANSION JOINT SIZE SELECTION.
- 3 PREPARE BLOCKOUT AND INSTALL NEW NOSING MATERIAL. REFER TO SPECIFICATION SECTION 079000.
- 4 PROVIDE NEW COMPRESSIBLE EXPANSION JOINT SYSTEM WITH HEAVY DUTY COVER PLATE. REFER TO SPECIFICATION SECTION 079000.
- 5 ANTI VIBRATION DAMPERS. ADJUST THICKNESS OF DAMPER OR GRIND NEW NOSING SURFACE TO ASSURE PLATE SITS FLUSH.

NEW WILLSEAL CONCOURSE SYSTEM
2
DETAIL
903 NO SCALE



- 1 EXISTING CONCRETE SLAB.
- 2 EXISTING CONCRETE COLUMN.
- 3 EXISTING JOINT THROAT WIDTH. CONTRACTOR TO FIELD VERIFY PRIOR TO BID AND CONSULT WITH MANUFACTURER TO ENSURE PROPER EXPANSION JOINT SIZE SELECTION.
- 4 PREPARE BLOCKOUT AND INSTALL NEW NOSING MATERIAL. REFER TO SPECIFICATION SECTION 079000.
- 5 PROVIDE NEW COMPRESSIBLE EXPANSION JOINT SYSTEM. REFER TO SPECIFICATION SECTION 079000.
- 6 EXISTING BRICK WRAP AT NEW CONCOURSE COLUMNS. TEMPORARILY REMOVE LOWER COURSES OF BRICK TO ACCOMMODATE NEW EXPANSION JOINT INSTALLATION. SUPPORTING BRICK WRAP ABOVE AS NECESSARY. SALVAGE BRICK. REINSTALL TO MATCH ORIGINAL CONDITION AFTERWARDS.

NEW EMSEAL OR WILLSEAL SYSTEM AT COLUMN
3
DETAIL
903 NO SCALE



- 1 EXISTING WINGED COMPRESSION SEAL.
- 2 REMOVE 2" OF WINGS OF COMPRESSION SEAL.
- 3 NEW COMPRESSIBLE SEAL JOINT AT WALL. REFER TO DETAIL 4B, DRAWING 903.
- 4 REMOVE 2" OF END OF COMPRESSIBLE SEAL WHILE SEAL IS STILL IN FACTORY WRAP. DO NOT REMOVE TOP 1/4" OF SEAL AND FACTORY SILICONE CAP.
- 5 PREPARE SURFACES AND INSTALL NEW COMPRESSIBLE SEAL TO OVERLAP EXISTING COMPRESSION SEAL AT CUT WINGS. SEAL TOP SURFACE INTERFACE WITH SILICONE. REFER TO SPECIFICATION SECTION 079000.

SPLICE BETWEEN EXISTING WINGED SEAL & NEW COMPRESSIBLE SEAL
4
DETAIL
903 NO SCALE

ISSUE:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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