

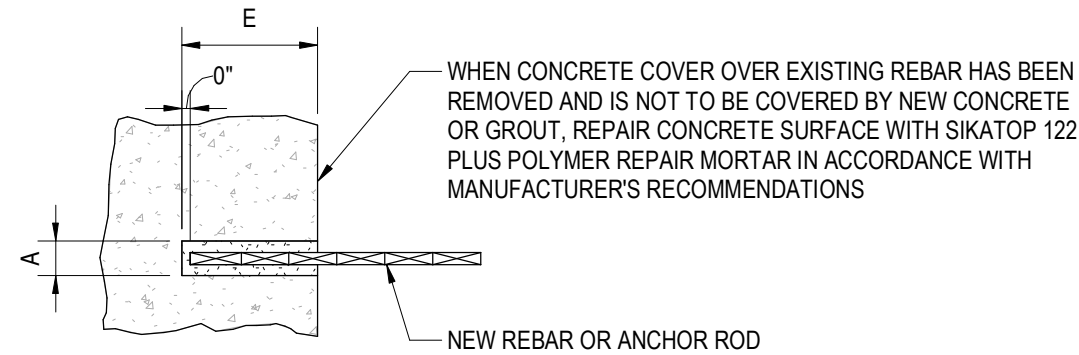
1. ALL THREADS SHALL BE UNC, CLASS 2A, UNO.
2. TOP OF RODS SHALL BE THREADED THE SMALLER OF 5d OR P, EXCEPT FOR POST-INSTALLED RODS. POST-INSTALLED ANCHOR RODS SHALL BE HILTI HAS-E-55 ANCHORS (MEETS ASTM F1554) UNLESS NOTED OTHERWISE.
3. P = PROJECTION ABOVE TOP OF CONCRETE. E = EMBEDMENT BELOW TOP OF CONCRETE.
4. ANCHOR RODS, NUTS, AND WASHERS SHALL CONFORM TO ASTM F1554, GRADE 55, HOT-DIP GALVANIZED, UNLESS NOTED OTHERWISE. HEAVY HEX NUTS SHALL CONFORM TO ASTM A563 AND HARDENED STEEL WASHERS SHALL CONFORM TO ASTM F436. HEAVY HEX NUTS AND HARDENED STEEL WASHERS SHALL BE GALVANIZED.
5. ANCHOR ROD ASSEMBLIES SHALL COME COMPLETE WITH HEAVY HEX HOLD-DOWN NUT AND TOP WASHER, UNLESS NOTED OTHERWISE. TOP WASHER SIZE PER TABLE 14-2, AISC 15TH EDITION.
6. ANCHOR RODS SHALL BE SECURELY HELD IN A RIGID TEMPLATE, PLUMBED, AND SET WITH THE REQUIRED THREAD PROJECTION. ANCHOR RODS SHALL BE SET TRUE TO THE POSITIONS SHOWN TO WITHIN 1/16 INCH, AND SET TO TRUE ELEVATION WITHIN 1/8 INCH.
7. CONCRETE COLD JOINTS ARE NOT PERMITTED WITHIN ANCHOR ROD TENSION EMBEDMENT LENGTH. FULL EMBEDMENT MUST BE IN MONOLITHIC POUR, UNLESS NOTED.
8. BOTTOM WASHERS SHALL BE WELDED TO NUT AT 2 POINTS, AND NUT WELDED TO ROD AT 2 POINTS.
9. WRAP THE SHAFT OF SLEEVED RODS IN TAPE FROM THE BOTTOM OF THE ANCHOR ROD SLEEVE TO THE TOP OF THE GROUT TO BREAK THE BOND BETWEEN THAT PORTION OF THE ROD AND THE GROUT.
10. PROVIDE HARDENED STEEL CIRCULAR OR SQUARE PLATE WASHER ABOVE EMBEDDED HEAVY HEX NUT FOR CAST-IN-PLACE ANCHOR RODS GREATER THAN 3/4" IN DIAMETER.
11. PLACE ANCHORING ADHESIVE IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. THE DEFAULT ANCHORING ADHESIVE SHALL BE HILTI HY-200-R, WHERE NOTED ON DESIGN DRAWINGS OR WHEN APPROVED BY THE ENGINEER, HILTI RE-500 V SHALL BE USED.

## 1 ANCHOR ROD ASSEMBLY & EPOXY ADHESIVE

SCALE = 1" = 1'-0"

| DRILLED HOLE DIMENSIONS AND TEST LOADS |                    |                 |                                |                    |                 |
|--|--------------------|-----------------|--------------------------------|--------------------|-----------------|
| REBAR (GRADE 60)                       |                    |                 | EU ANCHOR RODS (HAS-E-55, HDG) |                    |                 |
| SIZE                                   | DRILLED HOLE (AxE) | TEST LOAD (Lbs) | DIAMETER                       | DRILLED HOLE (AxE) | TEST LOAD (Lbs) |
| #3                                     | 1 1/2" x 4 1/2"    | 3900            | 3/8"Ø                          | 7/16" x 4"         | 3300            |
| #4                                     | 5/8" x 6"          | 6800            | 1/2"Ø                          | 9/16" x 5"         | 5200            |
| #5                                     | 3/4" x 7 1/2"      | 9500            | 5/8"Ø                          | 3/4" x 6"          | 6800            |
| #6                                     | 7/8" x 9"          | 12500           | 3/4"Ø                          | 7/8" x 7"          | 8600            |
| #7                                     | 1" x 10 1/2"       | 15800           | 7/8"Ø                          | 1" x 9"            | 12500           |
| #8                                     | 1 1/8" x 12"       | 19300           | 1"Ø                            | 1 1/8" x 11"       | 16900           |
| #9                                     | 1 1/4" x 13 1/2"   | 19300           |                                |                    |                 |
| #10                                    | 1 1/2" x 15"       | 19300           | 1 1/4"Ø                        | 1 3/8" x 16"       | 19300           |

\* CONFIRM HOLE SIZE WITH MANUFACTURER'S PRINTED  
INSTALLATION INSTRUCTIONS, SEE NOTE 3 BELOW.



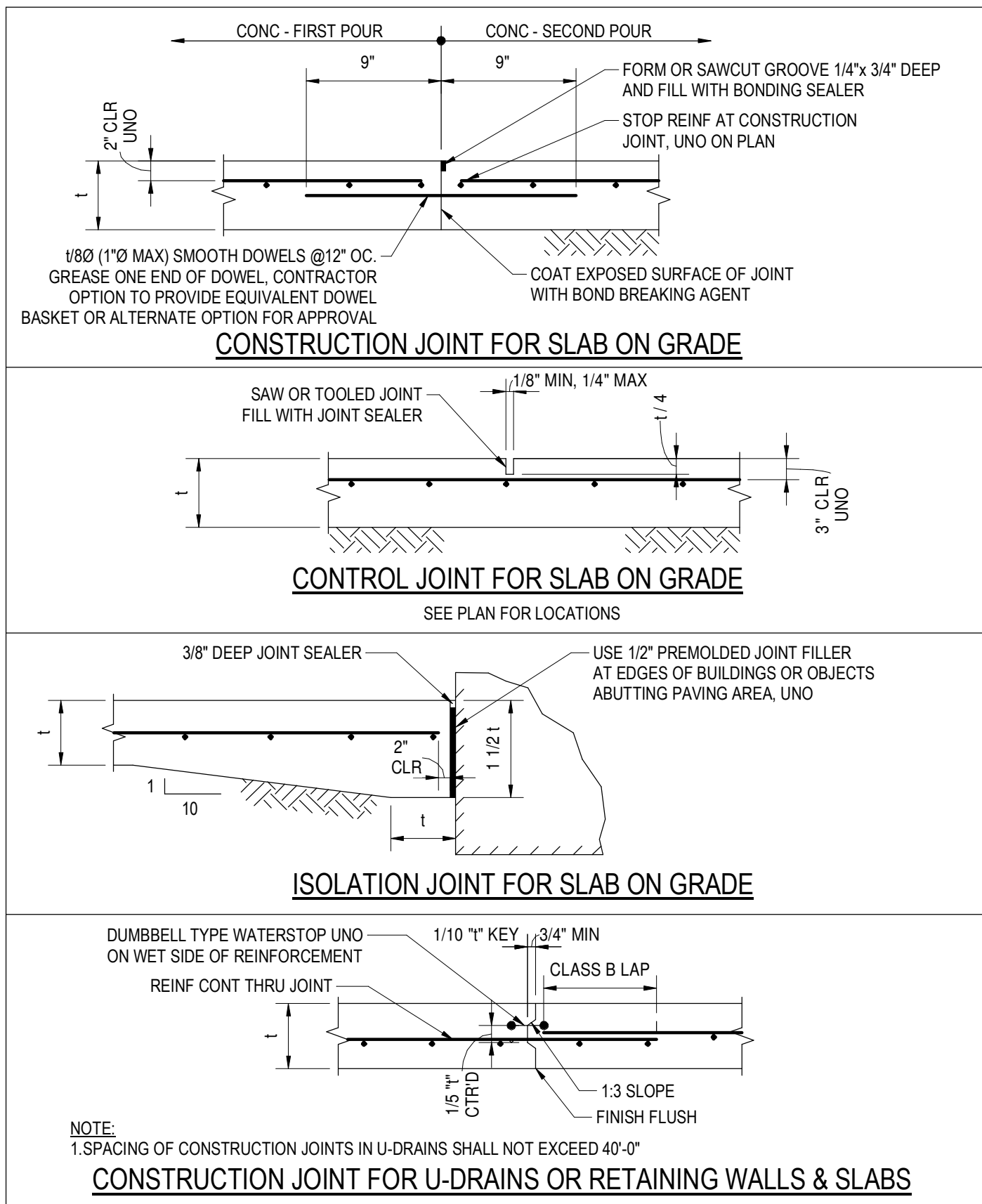
## NOTES

**ADHESIVE ANCHOR RODS & REBAR INTO CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE ICC-EVALUATION SERVICES REPORT REQUIREMENTS WITH SPECIAL INSPECTION AS FOLLOWS:**

1. LOCATE EXISTING REBAR USING NON-DESTRUCTIVE MEANS. ADJUST POSITION OF NEW ROD OR REBAR [WITH APPROVAL FROM ENGINEER OF RECORD] AS REQUIRED TO AVOID CUTTING EXISTING REBAR. WHERE EXISTING REBAR INTERFERES WITH NEW ROD OR REBAR LOCATIONS, CONSULT ENGINEER FOR RESOLUTION.
2. ADHESIVE ANCHORS SHALL ONLY BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT THE TIME OF ANCHOR INSTALLATION, UNLESS SPECIFICALLY REVIEWED AND APPROVED BY THE ENGINEER.
3. HOLE SIZE AND TEST LOAD ARE GIVEN FOR TYPE EU ANCHOR RODS ONLY. HOLE SIZE MUST BE INCREASED AS REQUIRED TO ACCOMMODATE TYPE EZ ANCHOR RODS WITH SPECIFIED EMBEDMENT. TEST LOADS FOR TYPE EZ ANCHOR RODS SHALL BE IN ACCORDANCE WITH SCHEDULE ABOVE UNLESS NOTED OTHERWISE WHERE ROD IS SPECIFIED ON THE DRAWINGS.
4. HOLE SIZE AND TEST LOAD ARE GIVEN FOR REBAR FOR THE SCHEDULED EMBEDMENTS ABOVE. WHERE LARGER REBAR EMBEDMENTS ARE SPECIFIED ON THE DRAWINGS AND TESTING IS NOTED AS REQUIRED, TEST LOADS GIVEN ON THE DRAWING SHALL CONTROL OVER THIS DETAIL.
5. SELECT & DRILL HOLE SIZE FROM SCHEDULE ABOVE. CONFIRM HOLE SIZE WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND ICC-ESR REPORT PRIOR TO PERFORMING WORK.
6. CLEAN HOLES PER MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS USING A WIRE BRUSH, COMPRESSED AIR, AND/OR VACUUM AS SPECIFIED.
7. PLACE ANCHORING ADHESIVE IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS. THE DEFAULT ANCHORING ADHESIVE SHALL BE HILTI HY-200-R. WHERE NOTED ON DESIGN DRAWINGS OR WHEN APPROVED BY THE ENGINEER, HILTI RE-300 VS SHALL BE USED.
8. ALLOW ADHESIVE TO CURE IN ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS.
9. WHERE INSPECTION IS MISSED AT AN ANCHOR INSTALLATION, CONTRACTOR SHALL HAVE AN INDEPENDENT TESTING AGENCY TEST THE ANCHOR INSTALLATION AS FOLLOWS:
  - ALL ANCHORS TO BE TESTED MUST HAVE A MINIMUM CLEAR DISTANCE OF 18" IN ANY DIRECTION FROM A VERTICAL CONCRETE EDGE. TEST THE FIRST 10 PRODUCTION ANCHOR ROD INSTALLATIONS AND A REPRESENTATIVE 5% OF THE REMAINING ANCHOR ROD INSTALLATIONS TO SUSTAIN TEST LOAD SHOWN ABOVE. IF THERE IS AN INSUFFICIENT QUANTITY OF APPROPRIATE PRODUCTION ANCHORS AVAILABLE TO FULFILL THESE REQUIREMENTS, A SACRIFICIAL ANCHOR SHALL BE INSTALLED AND TESTED. LOADS SHALL BE APPLIED USING A CALIBRATED HYDRAULIC RAM. REBAR SHALL ONLY REQUIRE TESTING WHERE SPECIFICALLY NOTED ON THE DRAWINGS. ADDITIONAL TESTING OR HIGHER TEST LOADS SPECIFICALLY NOTED ON THE DRAWINGS SHALL CONTROL OVER TESTING RESULTS AND LOADS IN THIS DETAIL.
    - A. WRITTEN TEST RESULTS SHALL BE SUPPLIED TO THE ENGINEER.
    - B. FAILURES WILL REQUIRE ADDITIONAL TESTING, TO BE DETERMINED BY ENGINEER.
10. NUTS FOR ANCHOR RODS SHALL BE TIGHTENED TO A MAXIMUM INSTALLATION TORQUE IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS. THE THREADS OF THE ANCHOR RODS SHALL NOT BE LUBRICATED UNLESS PERMITTED BY THE MANUFACTURER'S PRINTED INSTRUCTIONS.
11. SPECIFIC NOTES ON A PLAN OR DETAIL, WHEN IN CONFLICT WITH THE ABOVE NOTES, SHALL HAVE PRIORITY FOR THAT ITEM ONLY.

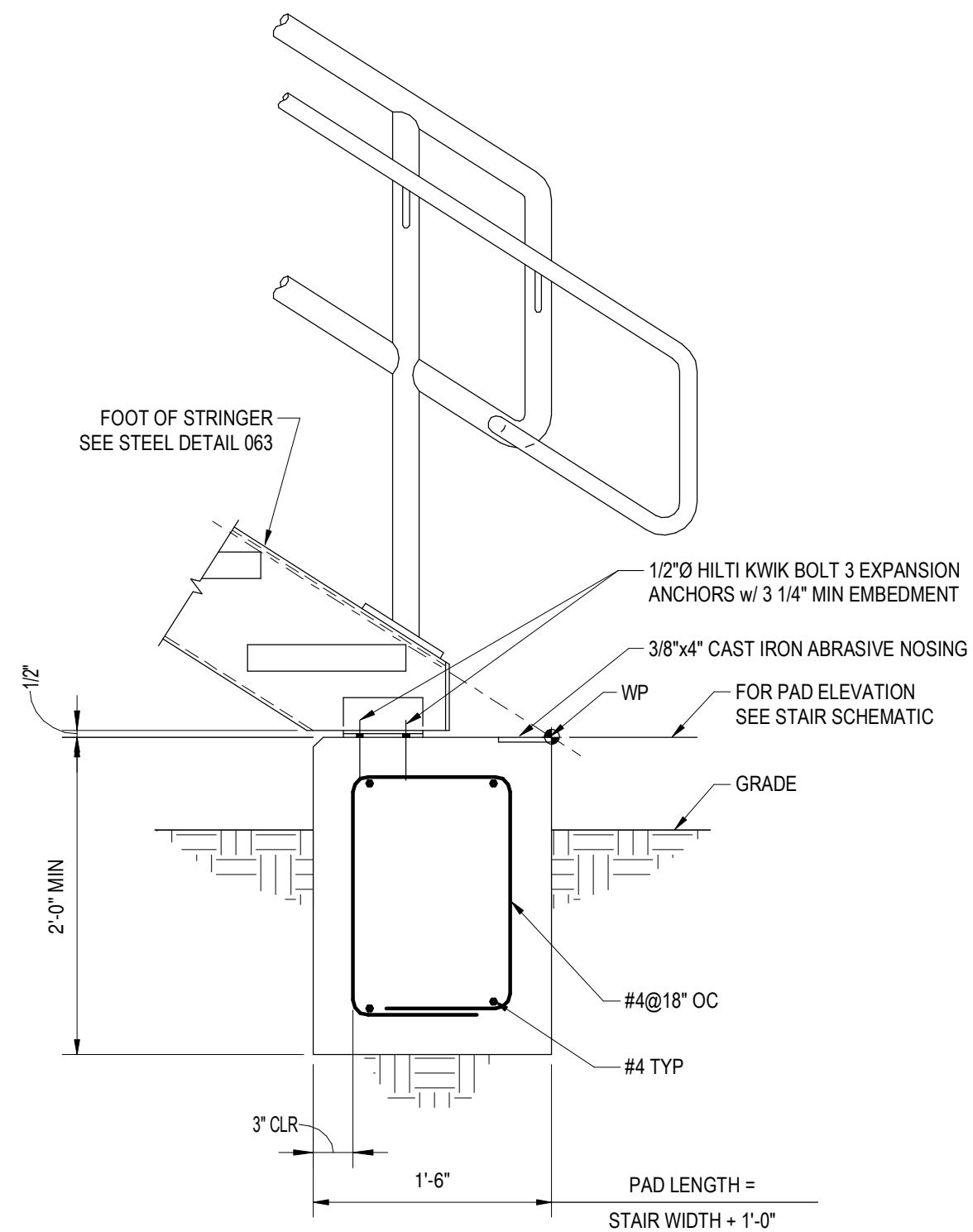
## 2 ADHESIVE ANCHOR RODS AND REBAR IN CONCRETE

SCALE = 12" = 1'-0"



### 3 JOINTS IN SLABS AND WALLS

SCALE = 12" = 1'-0"



4 STAIR LANDING PAD AT GRADE

SCALE = 1" = 1'-0"