MECHANICS ROW PARKING GARAGE PHASE 6 REPAIRS

AUBURN, MAINE



ENGINEER:

Thornton Tomasetti

DRAWING LIST:

- S1.0 GENERAL NOTES
- S1.1 GROUND LEVEL PLAN
- S1.2 LEVEL 1
- S1.3 LEVEL 2
- S1.4 LEVEL 3
- S1.5 LEVEL 4
- **S2.1 REPAIR SECTIONS AND DETAILS**
- S2.2 REPAIR SECTIONS AND DETAILS
- S2.3 REPAIR SECTIONS AND DETAILS

GENERAL NOTES:

- THE NOTES ON THESE DRAWINGS ARE NOT INTENDED TO REPLACE THE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THE GENERAL NOTES. INCONSISTENCIES BETWEEN THE DRAWINGS AND THE SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH THE AFFECTED WORK.
- 2. ALL WORK SHALL COMPLY WITH THE 2015 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC) AND 2015 INTERNATIONAL EXISTING BUILDING CODE (IEBC). THE SCOPE OF WORK OUTLINED HAS BEEN EVALUATED AS A REPAIR WITH LESS THAN SUBSTANTIAL STRUCTURAL DAMAGE PER THE IEBC.
 - ORIGINAL DESIGN LOADS (CODE): 50 PSF (BOCA 1990) CONTRACTOR IS RESPONSIBLE FOR ENSURING ALL EQUIPMENT USED DOES NOT EXCEED EXISTING BUILDING DESIGN LOADS.
- ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS.
- THE REPAIRS TO THIS STRUCTURE HAVE BEEN DESIGNED TO RE-ESTABLISH THE STRUCTURAL INTEGRITY OF THE STRUCTURE AFTER THE REPAIRS ARE COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE PROCEDURES AND SEQUENCE TO INSURE THE SAFETY OF THE BUILDING AND IT'S COMPONENTS DURING THE RESTORATION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, TEMPORARY PARTITIONS, VEHICLE AND PEDESTRIAN PROTECTION, GUYS OR TIE DOWNS. SUCH MATERIAL SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF PROJECT.
- SECTIONS AND DETAILS SHOWN SHALL BE CONSIDERED TYPICAL FOR SIMILAR CONDITIONS AS DETERMINED BY THE STRUCTURAL ENGINEER.
- THE CONTRACTOR SHALL SUBMIT COMPLETE SUBMITTALS (AS NOTED IN THE SPECIFICATIONS) FOR ALL PARTS OF THE WORK INCLUDING DESCRIPTION OF SHORING AND CONSTRUCTION METHODS AND SEQUENCING, WHERE APPLICABLE. NO PERFORMANCE OF THE WORK INCLUDING, BUT NOT LIMITED TO, DEMOLITION OF EXISTING STRUCTURE OR FABRICATION OR ERECTION OF NEW STRUCTURAL ELEMENTS, SHALL COMMENCE WITHOUT REVIEW OF THE SHOP DRAWINGS BY THE STRUCTURAL ENGINEER
- ALL APPLICABLE FEDERAL, STATE, AND MUNICIPAL REGULATIONS SHALL BE FOLLOWED, INCLUDING THE FEDERAL DEPARTMENT OF LABOR OCCUPATIONAL SAFETY AND HEALTH ACT.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO VEHICLES, PROPERTY AND PUBLIC CAUSED BY THEIR WORK.
- CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, LICENSES AND GOVERNMENT FEES AS REQUIRED. THE CONTRACTOR SHALL COMPLY WITH CODES, ORDINANCES, RULES, REGULATIONS, ORDERS AND OTHER LEGAL REQUIREMENTS OF THE PUBLIC AUTHORITY, WHICH BEAR ON THE PERFORMANCE OF THE WORK.
- 11. CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING THE PROJECT. A SCHEDULE FOR SPACES REQUIRED SHALL BE PRESENTED TO THE OWNER OR GARAGE MANAGER ONE WEEK IN ADVANCE AND UPDATED WEEKLY DURING THE PROJECT.
- THE EXISTING BUILDING SHALL REMAIN IN OPERATION FOR THE DURATION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CONTROLS NECESSARY TO ALLOW FOR THE BUILDING OPERATIONS.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN REQUIRED DUST BARRIERS, BARRICADES, PROTECTION AND WARNING LIGHTS IN GOOD WORKING CONDITION UNTIL COMPLETION OF WORK REQUIRING SUCH PROTECTION AND THEN REMOVE THE SAME. ALL SIGNS, BARRIERS, AND BARRICADES SHALL COMPLY WITH FEDERAL STATE AND LOCAL LAWS AND REGULATIONS. ALL DUST AND DEBRIS MUST BE CONTAINED WITHIN THE WORK AREA, PROVIDE DUST BARRIERS/CONTAINMENT AS REQUIRED.
- CONTRACTOR SHALL MAINTAIN PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIAL AND RUBBISH. PRECAUTIONS SHOULD BE TAKEN TO MINIMIZE DUST FROM ENTERING THE BUILDING. ALL DUST AND DEBRIS CREATED BY THE WORK WITHIN THE BUILDING SHALL BE REMOVED AND THE WORK AREAS CLEANED.
- CONTRACTOR SHALL DETERMINE THE NEED FOR ALL DISCONNECTION AND/OR TEMPORARY OR PERMANENT REROUTING OF EXISTING UTILITIES, INCLUDING ELECTRICAL AND PLUMBING AND COORDINATE WITH THE GARAGE OWNER/MANAGER.
- 16. IF WORK RESTRICTS ACCESS TO ANY MEANS OF EGRESS CONTRACTOR SHALL SUPPLY ALL TEMPORARY SIGNAGE, BARRIERS TO REDIRECT PATRONS TO THE NEAREST EXIT OR DOWN THE RAMP. A MINIMUM OF ONE STAIR TOWER MUST REMAIN COMPLETELY ACCESSIBLE DURING THE WORK. IF ACCESS TO THE ELEVATOR IS RESTRICTED AT ANY LEVEL PROVIDE SIGNAGE INDICATING NO ACCESSIBLE PARKING ON THAT LEVEL.
- 50 PARKING SPACES WILL BE AVAILABLE TO THE CONTRACTOR MONDAY THROUGH FRIDAY. ADDITIONAL PARKING SPACES ARE AVAILABLE ON THE WEEKEND OR AFTER NORMAL BUSINESS HOURS. CONTRACTOR TO PROVIDE ALL TRAFFIC CONTROL DURING CONSTRUCTION.

CONCRETE NOTES

- 1. CONCRETE WORK SHALL CONFORM TO "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318, LATEST EDITION)," AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301, LATEST EDITION)."
- 2. GENERAL CONTRACTOR, CONSTRUCTION MANAGER OR OWNER'S CLERK OF THE WORKS SHALL HAVE AVAILABLE ON SITE AT ALL TIMES A COPY OF ACI "FIELD REFERENCE MANUAL SP-15".
- 3. CONCRETE SHALL NOT BE PLACED IN WATER OR ON FROZEN GROUND.
- 4. REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 DEFORMED BARS AND SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH ACI 315, LATEST EDITION.
- 5. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 AND BE PROVIDED IN FLAT SHEETS.
- 6. MINIMUM CONCRETE PROTECTIVE COVERING FOR REINFORCEMENT, UNLESS NOTED OTHERWISE, SHALL BE AS FOLLOWS: A) CONCRETE SLABS: 1.5"
- 7. WELDING OF REINFORCEMENT IS NOT PERMITTED.

ABBREVIATIONS:

- CIP CAST IN PLACE CONCRETE
- CJ CONTROL/CONSTRUCTION JOINT
- DT PRECAST DOUBLE TEE
- EJ EXPANSION JOINT
- FD FLOOR DRAIN
- IT BM PRECAST INVERTED TEE BEAM
- LBS PRECAST LOAD BEARING SPANDREL
- LW PRECAST LITEWALL
- NLBS PRECAST NON LOAD BEARING SPANDREL
- PC PRECAST
- SOG SLAB ON GRADE
- SW PRECAST SHEAR WALL

REPAIR WORK CODES

XM - MISSING OVERHEAD CONNECTION

- XR RUSTED OVERHEAD CONNECTION
- XS JOINT SEALANT REPLACEMENT SPOT REPAIRS

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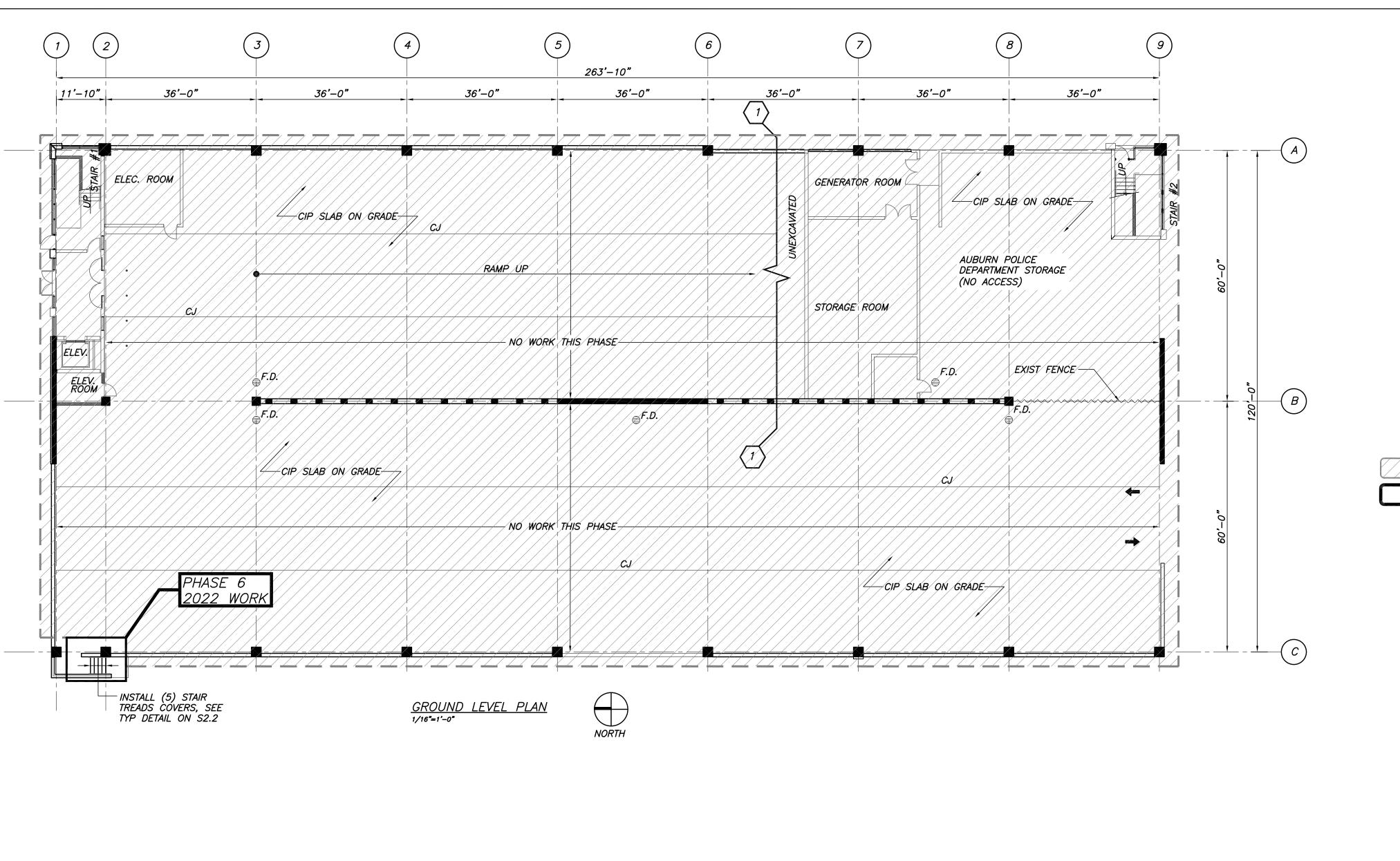
MECHANICS ROW PARKING

GARAGE PHASE 6 REPAIRS

GENERAL NOTES

AS NOTED

SHEET NUMBER





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<u>KEY</u>

F.D.⊜ FLOOR DRAIN

CONCRETE REPAIR

≠ DT TO DT SHEAR CONNECTION

== DT TO DT CHORD TIE CONNECTION

♦ DT TO SW/LW/IT BM/LB SPANDREL CONNECTION

△ DT TO SW/STAIR/NLB SPANDREL CONNECTION (UNDERSIDE OF DT)

= EXPOSED REINFORCEMENT REPAIR AT DT FLANGE

---- CRACK CHASE REPAIR

—— JOINT SEALANT REPLACEMENT

TRAFFIC MEMBRANE RECOAT

NOT IN CONTRACT

PHASE 6 REPAIR SCOPE OF WORK

EJ – EXPANSION JOINT

DT — PRECAST DOUBLE TEE

PC - PRECAST

LW - PRECAST LITEWALL

SW - PRECAST SHEARWALL

CJ - CONTROL/CONSTRUCTION JOINT

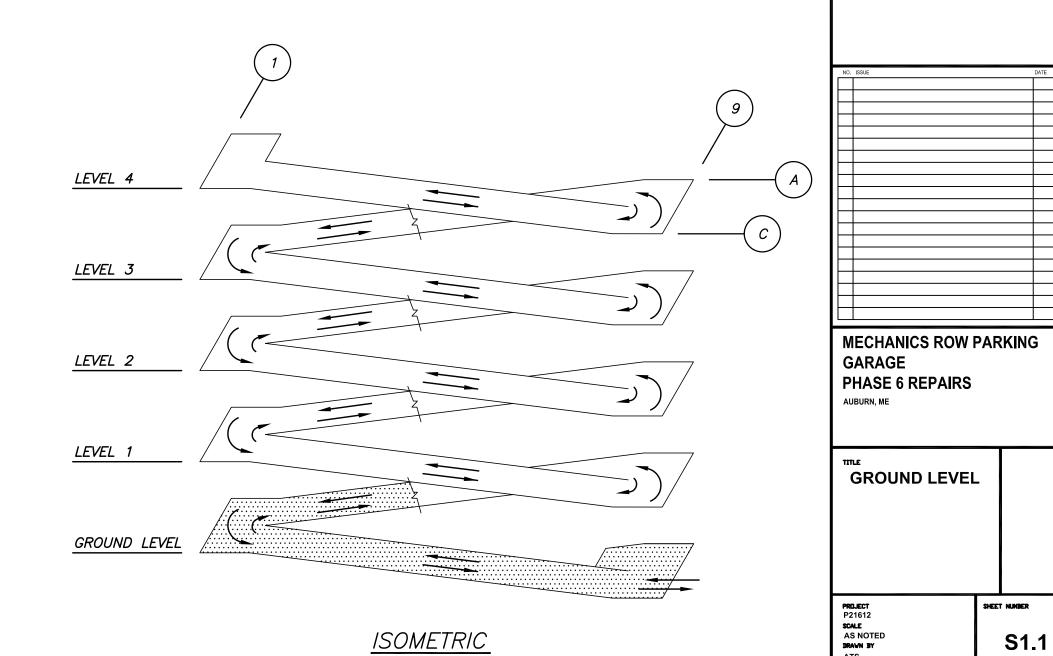
CIP - CAST IN PLACE CONCRETE

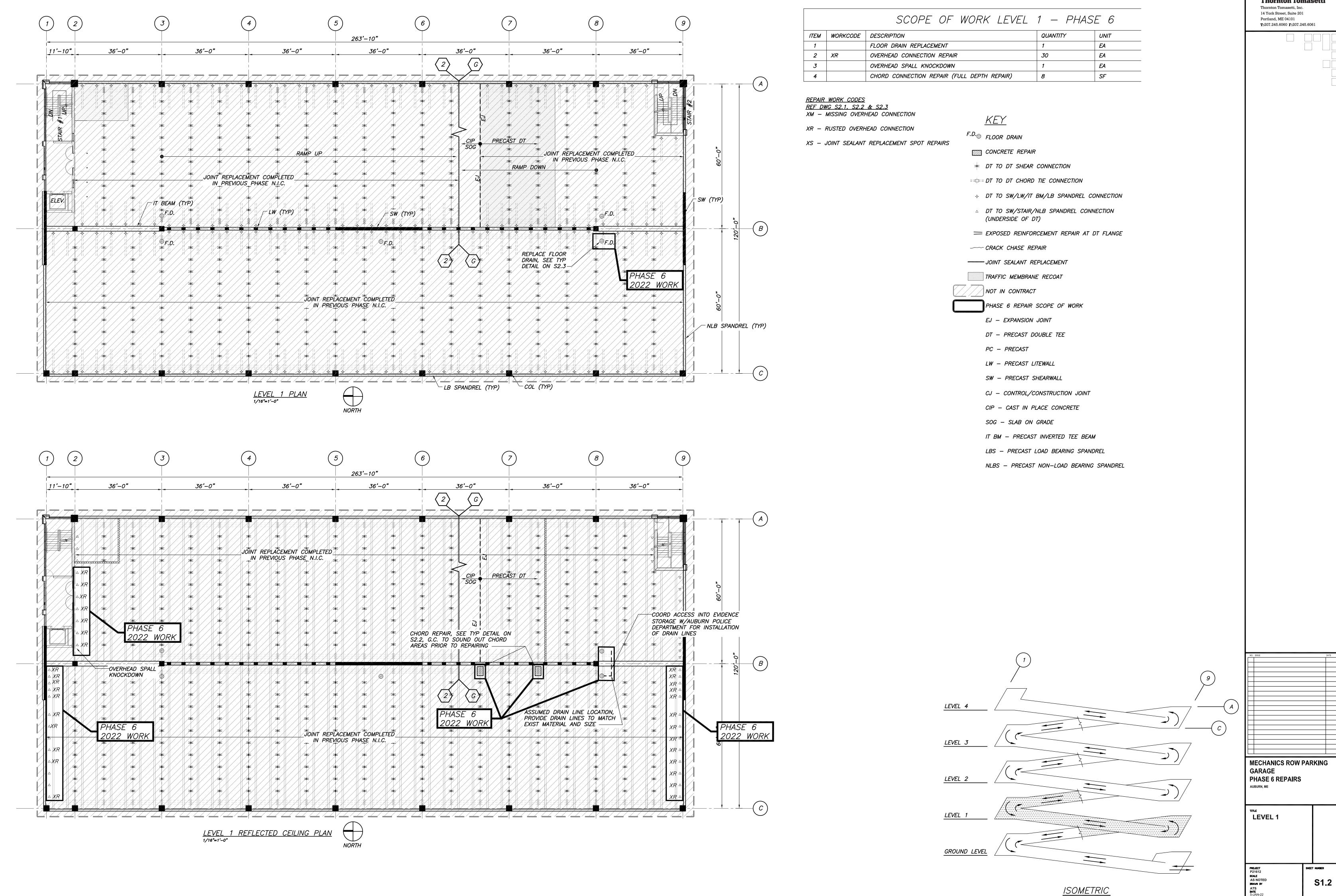
SOG - SLAB ON GRADE

IT BM — PRECAST INVERTED TEE BEAM

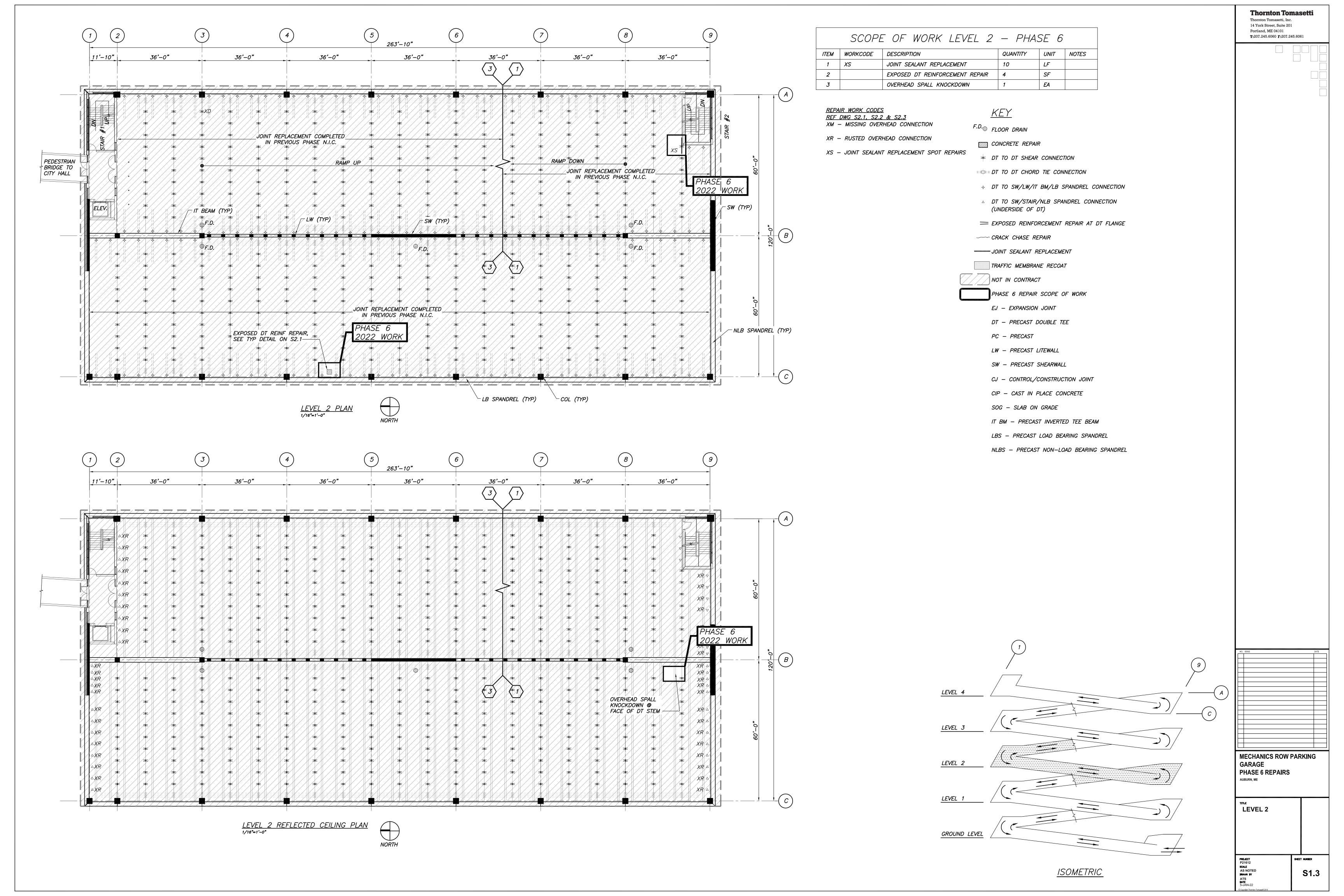
LBS — PRECAST LOAD BEARING SPANDREL

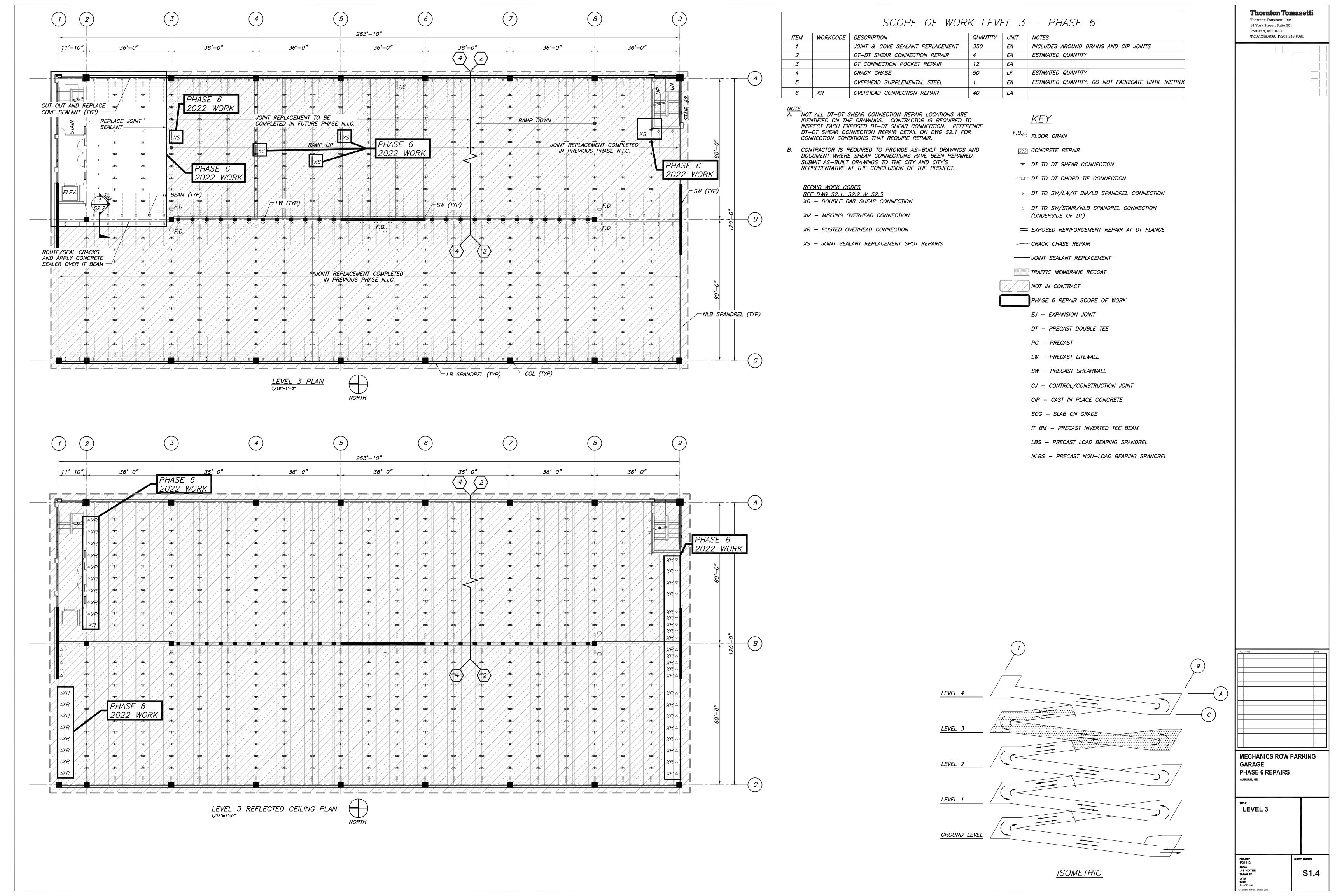
NLBS — PRECAST NON—LOAD BEARING SPANDREL

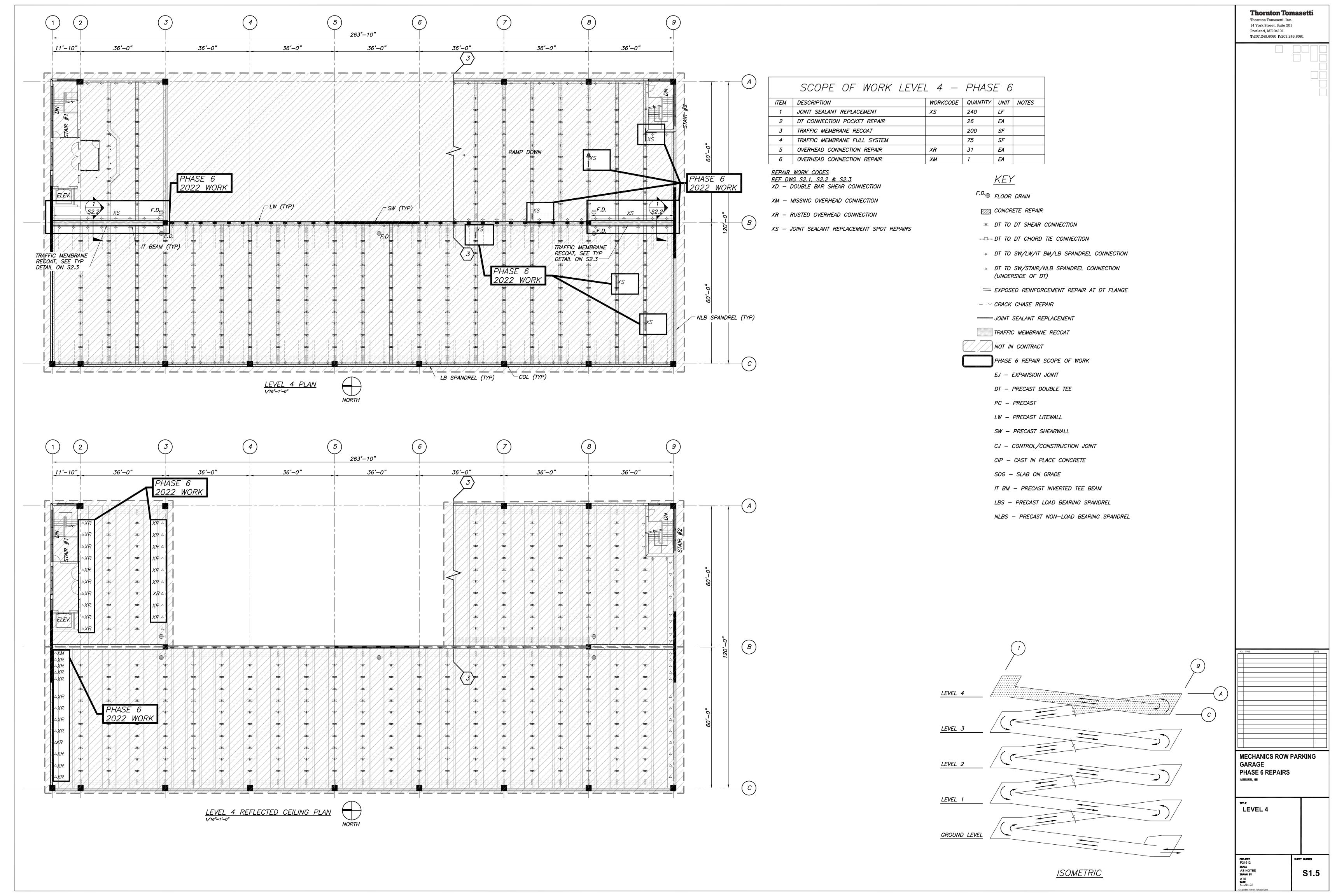


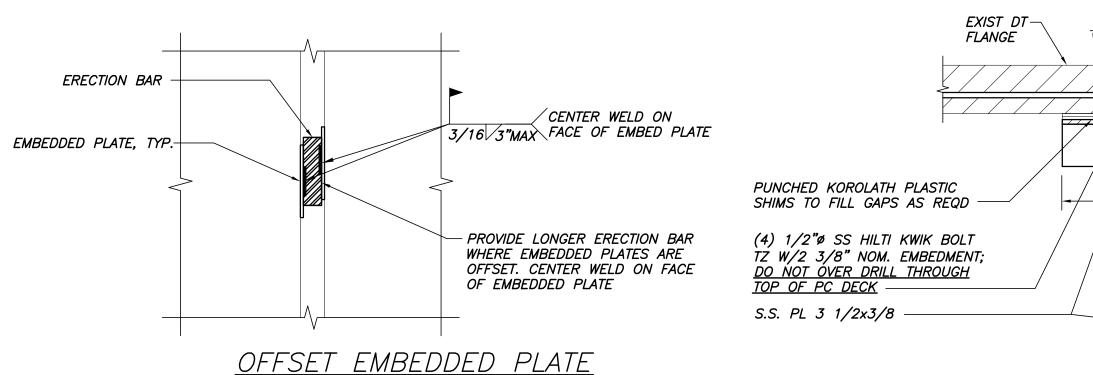


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/ CENTER WELD ON FACE

3/16 3"MAX OF EMBED PLATE

<u>OVERHEAD SUPPLEMENTAL</u> STEEL CONNECTION REPAIR

1. INSPECT EXISTING DT—DT SHEAR CONNECTIONS. NOTIFY ENGINEER OF CONDITION AND ALLOW ENGINEER TO INSPECT PRIOR TO INSTALLATION OF SEALANT.

-EXIST FAILED/BROKEN EMBEDDED

−*S.S. PL3/8x8x1'−6";*

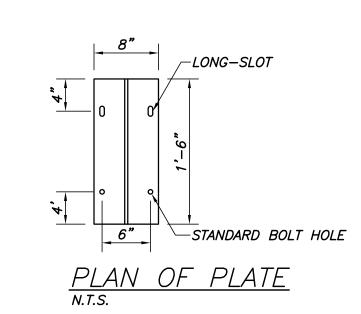
BOLTS IN SLOTS

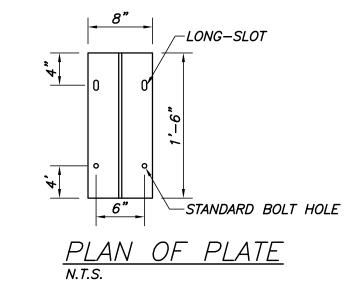
PROVIDE LONG-SLOTS FOR

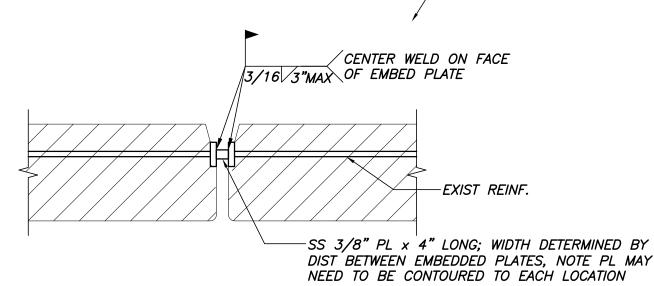
BOLTS 1 END ONLY; CENTER

_PLATE TO BE REMOVED

- 2. CONTRACTOR TO DOCUMENT LOCATIONS WHERE SUPPLEMENTAL STEEL IS TO BE INSTALLED.
- 3. INSTALL REPLACEMENT CONNECTION AS DETAILED ABOVE. ANCHOR BOLTS TO AVOID EXISTING REINFORCING. NOTIFY OWNER IF ELECTRICAL CONDUIT OR OTHER ELEMENTS ARE OBSTRUCTING INSTALLATION.
- 4. IF THE ELEVATION OF THE TWO DTs ARE DIFFERENT, PROVIDE PUNCHED PLASTIC SHIMS CENTERED OVER BOLT. PROVIDE LONGER ANCHOR BOLTS TO ACQUIRE 2 3/8" EMBEDMENT.







DT-DT SHEAR CONNECTION REPAIR

ALIGNED EMBEDDED PLATE

PREPARATION/INSPECTION: CUT SEALANT FROM JOINT AND ALLOW ENGINEER TO INSPECT CONNECTION. CONTRACTOR IS REQUIRED TO PROVIDE AS-BUILT DRAWINGS INDICATING WHERE SHEAR CONNECTIONS HAVE BEEN REPAIRED.

CONNECTION CONDITIONS THAT REQUIRE REPAIR: NOTE: NOT ALL REPAIR LOCATIONS ARE IDENTIFIED ON THE DRAWINGS.

- XD DOUBLE ERECTION BAR
- XM MISSING ERECTION BAR ANY BROKEN OR LOOSE ERECTION BARS.
- UNDERSIZED ERECTION BAR (OVER 1/16" GAP BETWEEN ERECTION BAR AND EMBEDDED STEEL)

- REMOVE ERECTION BAR AND WELDS FROM EMBEDDED PLATE WITH GRINDER. AVOID GOUGING THE EMBEDDED CONNECTOR. <u>DO NOT</u> USE A TORCH. CENTER WELD AND ERECTION BAR BETWEEN EMBEDDED PLATES.
- DO NOT OVER WELD; 3" MAXIMUM WELD LENGTH. DO NOT WELD WITHIN 3/4" OF THE EMBEDDED PLATE END.
- WHERE EMBEDDED PLATES DO NOT ALIGN, PROVIDE LONGER ERECTION BAR. USE A304 STAINLESS STEEL ERECTION BAR AND USE WELDING ELECTRODE
- USE PROPER ERECTION BAR WIDTH AS DETERMINED BY WIDTH BETWEEN EMBEDDED PLATES..
- A MAXIMUM GAP OF 1/16" BETWEEN THE ERECTION BAR AND EMBEDDED PLATE ALLOWED. AFTER WELDING THE REPLACEMENT PLATE, CLEAN WELDED AREA BY REMOVING WELD SLAG WITH STIFF WIRE BRUSH, GRINDING ANY WELD SPLATTER AND SHARP
- SURFACE TEXTURES SMOOTH, ABRASIVE BLASTING AND WIPING WITH SOLVENT TO BE SURE NO OIL, DUST OR GREASE REMAINS. 9. DO NOT INSTALL SEALANT IN JOINT UNTIL ENGINEER OR OWNERS REPRESENTATIVE
- HAS INSPECTED THE CONNECTIONS. 10. EACH DT-DT CONNECTION WIDTH VARIES. EACH JUMPER PLATE MAY NEED TO BE CONTOURED SPECIFICALLY TO THE EXISTING CONDITION.

SPANDREL OR STAIR WALL -EXIST PC DT EXIST EMBED PL IN DT; CLEAN, PREP AND COAT EXIST JUMPER PL: CLEAN, PREP AND COAT EXIST EMBED PL; CLEAN, PREP AND COAT

DT-SPANDREL, SHEAR AND STAIR WALL OVERHEAD CONNECTION REPAIR (XR)

EXIST PC SHEAR WALL,

DT-SPANDREL, SHEAR AND STAIR WALL CONNECTION REPAIR NOTES PREPARATION/INSPECTION:

INSPECT EXISTING PL'S AND WELDS. NOTIFY ENGINEER IF THERE IS ANY VISIBLE DAMAGE. IF REPLACEMENT IS REQUIRED, REFERENCE "TYPICAL DT CONNECTION JUMPER PLATE REPLACEMENT DETAIL", THIS DWG.

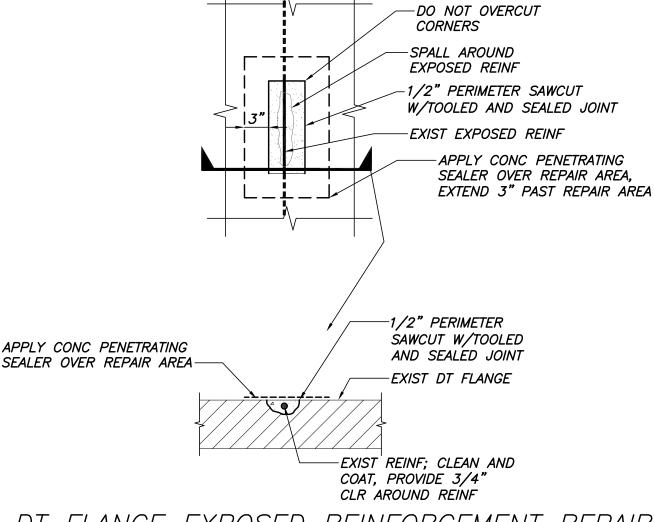
CLEAN ALL STEEL SURFACES REMOVING ALL RUST, SCALE AND DETERIORATED COATING TO SSPC-SP3 (POWER TOOL CLEAN). 5. IMMEDIATELY COAT ALL EXPOSED STEEL SURFACES WITH (2)

COATS OF ZINC-RICH COLD GALVANIZING COATING PER MANUFACTURERS RECOMMENDATIONS. APPLY AT MINIMUM DRY FILM BUILD OF 1.5 MILS PER COAT.

IT BEAM, LITE WALL OR SHEAR WALL --EXIST EMBEDDED PLATE 1/4 \prec 3 SIDES REMOVE EXIST PL AND REPLACE WITH PL TO MATCH EXIST

TYPICAL DT CONNECTION JUMPER PLATE REPLACEMENT DETAIL (XM)

- PLATE REPLACEMENT NOTES: GRIND THE WELDS AROUND THE JUMPER PLATE. AVOID GOUGING THE EMBEDDED STEEL.
- GRIND THE WELDING SURFACE OF THE EMBEDDED ANGLE SMOOTH TO REMOVE THE REMNANT OF THE WELD.
- ABRASIVE BLAST THE HORIZONTAL AND VERTICAL SURFACES OF THE EMBEDDED ANGLE AND ALL SURFACES OF THE
- REPLACEMENT PLATE TO SSPC-SP3, (POWER TOOL CLEAN) 4. AFTER WELDING THE REPLACEMENT PLATE, CLEAN WELDED AREA BY REMOVING WELD SLAG WITH STIFF WIRE BRUSH, GRINDING ANY WELD SPLATTER AND SHARP SURFACE TEXTURES SMOOTH, ABRASIVE BLASTING AND WIPING WITH SOLVENT TO BE SURE NO
- OIL, DUST OR GREASE REMAINS. IMMEDIATELY COAT ALL EXPOSED STEEL SURFACES WITH (2) COATS OF ZINC-RICH COLD GALVANIZING COATING PER MANUFACTURERS RECOMMENDATIONS. APPLY AT MINIMUM DRY
- FILM BUILD OF 1.5 MILS PER COAT. REFERENCE CONNECTION REPAIR DETAIL FOR CONCRETE REPAIRS AND SEALANT INSTALLATION.



DT FLANGE EXPOSED REINFORCEMENT REPAIR

- PREPARATION/INSPECTION:

 1. SOUND OUT DETERIORATED CONCRETE.
- PROVIDE 1/2" DEEP SAWCUT ALONG PERIMETER OF REMOVAL AREA.
- REMOVE DETERIORATED CONCRETE UNTIL SOUND CONCRETE IS REACHED. EXTENTS OF EXISTING FLANGE REINFORCEMENT IS UNKNOWN. PROTECT EXISTING REINFORCEMENT AGAINST DAMAGE DURING DEMOLITION INCLUDING WELDED WIRE REINFORCEMENT.

REINFORCEMENT.

EXTEND REPAIR UNTIL NO RUST OR SCALE IS OBSERVED ON THE

- CLEAN ALL STEEL SURFACES REMOVING ALL RUST, SCALE AND DETERIORATED COATING TO SSPC-SP3 (POWER TOOL CLEAN).
- ALL NON-STAINLESS STÈEL REINFORCEMENT SHALL BE PRIMED OR EPOXY COATED WITH A PRODUCT COMPATIBLE WITH THE CONCRETE REPAIR MATERIAL. REPAIR AREA SHALL BE COMPLETED WITH A PRE-PACKAGED MATERIAL WITH
- SHRINKING COMPENSATING AND CORROSION INHIBITING ADDITIVES. PROVIDE TOOLED JOINT AROUND REPAIR PERIMETER AREA AND SEAL WITH
- MATERIAL SHALL BE PLACED AS PER SPECIFICATIONS AND PER MANUFACTURERS
- RECOMMENDATIONS.
- FORM WORK, SHORING AND TEMPORARY PROTECTION SHALL REMAIN IN-PLACE
- UNTIL MATERIAL ACHIEVES A MINIMUM STRENGTH OF f'c=4,000 PSI MIN.
- CURE REPAIR ACCORDING TO PRE-PACKAGED CONCRETE MANUFACTURER. APPLY CONCRETE PENETRATING SEALER OVER REPAIR AREA, EXTEND 3" PAST EXTENTS OF REPAIR.

-GRIND 1/4" CHAMFER (TYP) -REMOVE DETERIORATED GROUT, IF SOUND LEAVE IN PLACE -EXIST EMBED PL IN DT; CLEAN, PREP AND COAT IF *EXPOSED* -EXIST JUMPER PL: CLEAN, PREP AND COAT *IF EXPOSED* -EXIST EMBED PL; CLEAN, PREP AND COAT IF EXPOSED DURING CIP TOPPING REPAIR -EXIST DT STEM

-CUT OUT AND REPLACE

JOINT SEALANT/POCKET

DT-IT BEAM CONNECTION POCKET REPAIR

DT-IT BEAM CONNECTION REPAIR NOTES

RECOMMENDATIONS.

/EXIST IT

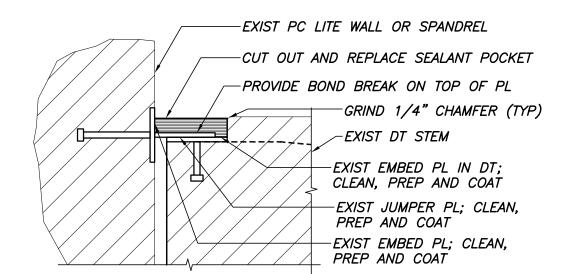
BOND BREAKER OVER

EXIST CIP TOPPING-

- PREPARATION/INSPECTION: REMOVE ALL EXISTING SEALANT FROM JOINT AND CONNECTION
- INSPECT EXISTING PL'S AND WELDS. NOTIFY ENGINEER IF THERE IS ANY VISIBLE DAMAGE. IF REPLACEMENT IS REQUIRED, REFERENCE SIMILAR DETAIL "TYPICAL DT CONNECTION JUMPER PLATE REPLACEMENT DETAIL", THIS DWG.
- 3. INSPECT ALL CONCRETE SURFACES PRIOR TO APPLICATION OF PRIMERS/ADHESIVES TO INSURE PROPER PREPARATION AND
- SURFACE DRYING. 4. GRIND END OF DT AND CIP TOPPING AND ALL EDGES OF THE CONNECTION POCKET.

CLEAN ALL PL SURFACES REMOVING ALL RUST, SCALE AND

- DETERIORATED COATING TO SSPC-SP3 (POWER TOOL CLEAN). IMMEDIATELY COAT ALL EXPOSED STEEL SURFACES WITH (2) COATS OF ZRC COLD GALVANIZING PER MANUFACTURERS
- INSTALL BOND BREAKER OVER CONNECTION PL. INSTALL SEALANT, REFERENCE TYPICAL DETAIL DWG S2.3 FOR



DT-SPANDREL AND LITEWALL CONNECTION POCKET REPAIR

DT-SPANDREL & LITEWALL CONNECTION REPAIR NOTES

- PREPARATION/INSPECTION:

 1. REMOVE ALL EXISTING SEALANT FROM JOINT AND CONNECTION
- 2. INSPECT EXISTING PL'S AND WELDS. NOTIFY ENGINEER IF THERE IS ANY VISIBLE DAMAGE. IF REPLACEMENT IS REQUIRED, REFERENCE "TYPICAL DT CONNECTION JUMPER PLATE REPLACEMENT DETAIL", THIS DWG.
- GRIND END OF DT AND ALL EDGES OF THE CONNECTION POCKET.

CLEAN ALL PL SURFACES REMOVING ALL RUST, SCALE AND DETERIORATED COATING TO SSPC-SP3 (POWER TOOL CLEAN).

- IMMEDIATELY COAT ALL EXPOSED STEEL SURFACES WITH (2) COATS OF ZRC COLD GALVANIZING PER MANUFACTURERS RECOMMENDATIONS.
- INSTALL BOND BREAKER OVER CONNECTION PL. FOR DEEPER POCKETS INSTALL GROUT CAP OVER CONNECTION TO WITHIN
- 1/2" OF TOP SURFACE. 4. INSTALL SEALANT, REFERENCE TYPICAL DETAIL DWG S2.3 FOR

MECHANICS ROW PARKING

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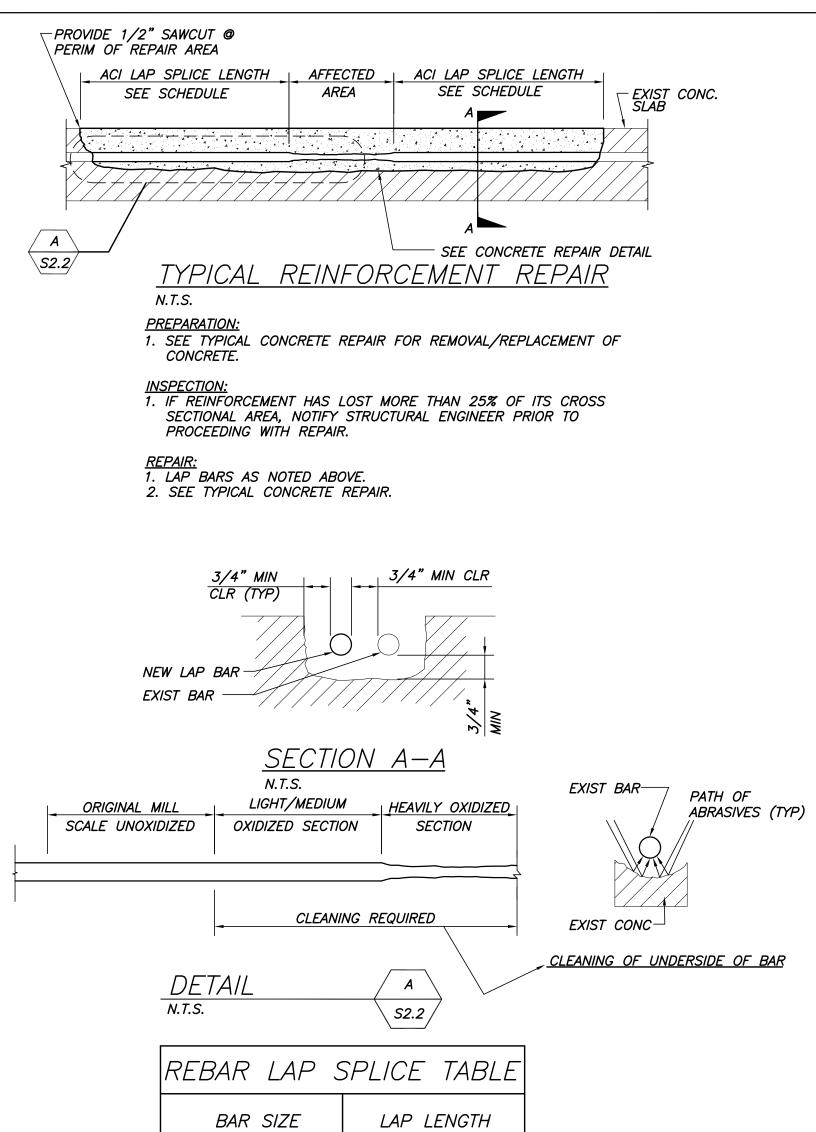
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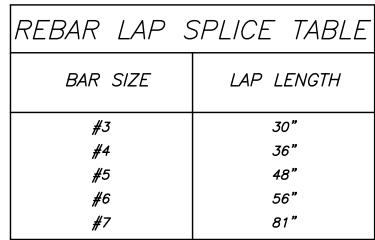
GARAGE PHASE 6 REPAIRS AUBURN, ME

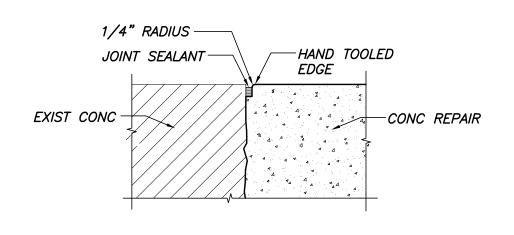
REPAIR SECTIONS **AND DETAILS** SHEET NUMBER

AS NOTED BRAWN BY

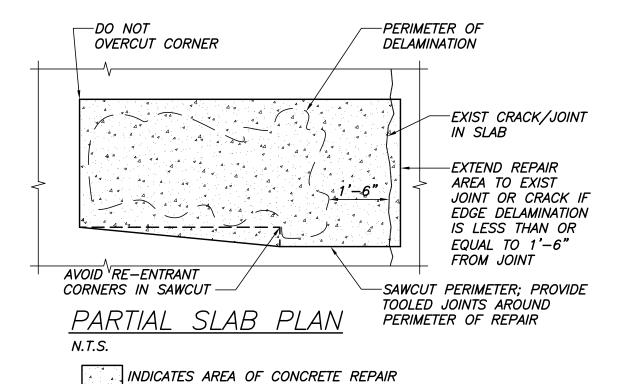
S2.1







TYPICAL TOOLED JOINT DETAIL



SLAB REPAIR NOTES

- 1. ALL PRECAST DECK REPAIRS ARE ASSUMED TO BE FULL DEPTH AND CIP REPAIRS ARE ASSUMED TO BE TO 3" DEEP, UNLESS NOTED
- 2. DUST AND MOISTURE PROTECTION SHALL BE PROVIDED AT AND BELOW THE LEVELS OF REPAIR.
- 3. AT CIP TOPPING REMOVING TOPPING COMPLETELY DOWN TO PC SUBSTRATE.

CONCRETE REMOVAL:

- REFERENCES: ICRI 03730, 03732, ACI 546R.
- AT EACH REPAIR AREA, REMOVE SMALL AREA OF CONCRETE TO CONFIRM DEPTH OF REINFORCEMENT PRIOR TO CUTTING.
- 3. SAW CUT PERIMETER OF REPAIR AREA TO A DEPTH OF 1/2". REFERENCE PARTIAL SLAB PLAN THIS SHEET FOR ADDITIONAL INFORMATION. NOTE THAT PERIMETER MAY NEED TO BE EXTENDED TO CREATE A RECTANGULAR AREA.
- 4. REMOVE ALL DETERIORATED, DELAMINATED AND UNSOUND CONCRETE. CONCRETE SHALL BE REMOVED BY A METHOD THAT LIMITS THE DAMAGE TO SURROUNDING SOUND CONCRETE AND WITH MINIMAL DAMAGE TO EXISTING PRECAST/PRESTRESSED UNITS. REMOVAL METHOD SHALL BE SUBMITTED FOR REVIEW.
- 5. CONTINUOUS MATERIAL REMOVAL SHALL CONTINUE UNTIL AGGREGATE PARTICLES ARE BEING BROKEN RATHER THAN BEING REMOVED FROM THE CEMENT MATRIX.
- 6. USE OF MECHANICAL IMPACT CHIPPING HAMMERS SHALL BE LIMITED TO 30Ib WITH A 15Ib RECOMMENDED. ALL NECESSARY PRECAUTIONS MUST BE TAKEN TO AVOID MICRO CRACKING (BRUISING) OF THE PRECAST/PRESTRESSED UNITS.

- **PREPARATION:** 1. REMOVE ALL RUST AND SCALE.
- 2. ALL EXPOSED REINFORCEMENT SHALL BE PRIMED OR EPOXY COATED
- WITH A PRODUCT COMPATIBLE WITH THE CONCRETE REPAIR MATERIAL. 3. PRIOR TO PROCEEDING WITH REPAIR, INSPECT ALL CONCRETE
- SURFACES. INSTALLATION OF REPAIR MATERIAL INDICATES ACCEPTANCE OF ALL SUBSTRATE CONDITIONS.
- 4. INSTALL GALVANIC ANODE AT LOCATIONS SHOWN ON DRAWINGS. ATTACH ANODE TO CLEAN REINFORCING STEEL. LOCATE THE ANODE ON THE SIDE OR BENEATH THE REINFORCING STEEL PROVIDING MINIMUM 3/4" COVER AND 1/4" CLEARANCE TO SUBSTRATE CONCRETE.
- 5. APPLY POLYMER ADHESIVE/BONDING AGENT TO ALL CONCRETE SURFACES.
- 6. REPAIR MATERIAL FOR LARGE AREAS (TOTAL PLACEMENTS OVER 1

YARD) COMPRESSIVE STRENGTH (f'c) = 5,000 PSI (MIN)AIR CONTENT $= 6 1/2 \pm 2\%$ WATER/CEMENT RATIO (W/C) = 0.40 (MAX)

7. REPAIR MATERIAL FOR SMALL PLACEMENTS (PLACEMENT LESS THAN 1 YARD) SHALL BE A ONE-COMPONENT, EARLY STRENGTH GAINING, CEMENTITIOUS REPAIR MATERIAL WITH THE FOLLOWING PROPERTIES (REFERENCE SPECIFICATIONS FOR ADDITIONAL INFORMATION):

= 3/8" MIN

COMPRESSIVE STRENGTH: = 5,000 PSI (MIN) **ADMIXTURES:**

SHRINKAGE REDUCER

AGGREGATE

= AS PER MANUFACTURER CORROSION INHIBITOR = AS PER MANUFACTURER

CONCRETE CURING:

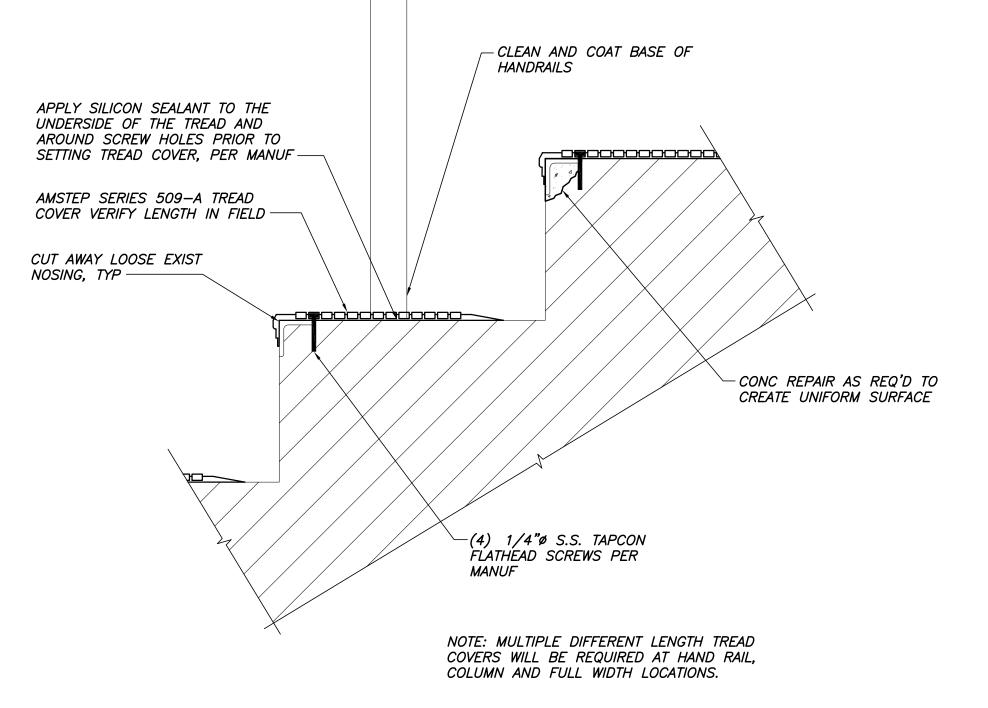
1. WET CURE FOR MINIMUM OF 3 DAYS (72 HOURS). REFERENCE THE SPECIFICATIONS FOR FURTHER CURING INFORMATION.

TYPICAL CHORD CONNECTION REPAIR

PREPARATION/INSPECTION:

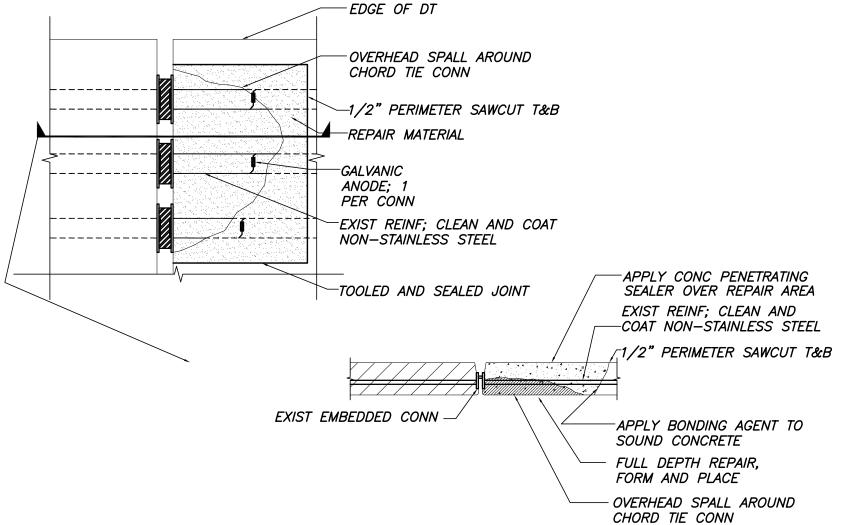
- SOUND OUT DETERIORATED CONCRETE.
- PROVIDE 1/2" DEEP SAWCUT ALONG PERIMETER OF REMOVAL AREA AT TOP AND BOTTOM OF PRECAST FLANGE. REMOVE DETERIORATED CONCRETE UNTIL SOUND CONCRETE IS REACHED AND CORROSION ON REINFORCEMENT IS
- 4. ALLOW ENGINEER TO REVIEW EXPOSED CONDITION PRIOR TO FORMWORK BEING INSTALLED.

- CLEAN ALL STEEL SURFACES REMOVING ALL RUST, SCALE AND DETERIORATED COATING TO SSPC—SP3 (POWER
- TOOL CLEAN). ALL NON—STAINLESS STEEL REINFORCEMENT SHALL BE PRIMED OR EPOXY COATED WITH A PRODUCT COMPATIBLE
- WITH THE CONCRETE REPAIR MATERIAL. FORM WORK SHALL BE DESIGNED AND CONSTRUCTED TO SUPPORT THE REPAIR MATERIALS AND VEHICLE LOADS
- IF REQD. FORMS SHALL BE CONSTRUCTED TO FIT TIGHTLY AGAINST EXISTING CONCRETE SURFACES.
- REPAIR AREA SHALL BE COMPLETED WITH A PRE—PACKAGED MATERIAL WITH SHRINKING COMPENSATING AND CORROSION INHIBITING ADDITIVES.
- PROVIDE TOOLED JOINT AROUND REPAIR PERIMETER AREA AND SEAL WITH SEALANT.
- MATERIAL SHALL BE PLACED AS PER SPECIFICATIONS AND PER MANUFACTURERS RECOMMENDATIONS. FORM WORK, SHORING AND TEMPORARY PROTECTION SHALL REMAIN IN—PLACE UNTIL MATERIAL ACHIEVES A
- MINIMUM STRENGTH OF f'c=4,000 PSI MIN.



TREAD COVER DETAIL

- I. SEAL JOINT BETWEEN EXISTING PAN NOSING AND CONCRETE TREAD PRIOR TO INSTALLING TREAD COVER.
- 2. COLOR: BLACK WITH YELLOW SITE LINE. 3. MANUFACTURER: AMSTEP PRODUCTS LLC (OR PRE-APPROVED EQUAL) WWW.AMSTEP.COM.



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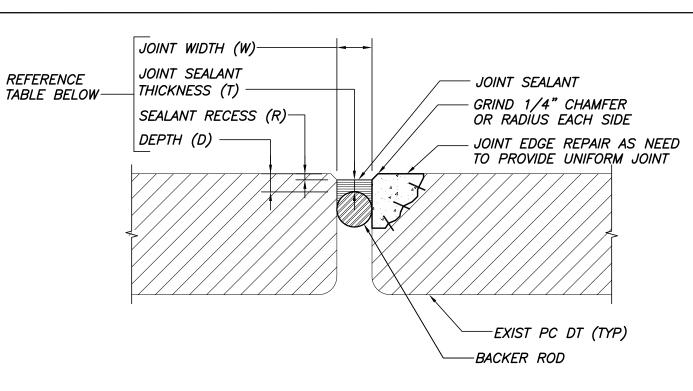
Portland, ME 04101

MECHANICS ROW PARKING GARAGE PHASE 6 REPAIRS

REPAIR SECTIONS AND DETAILS

AS NOTED

SHEET NUMBER



TYPICAL JOINT SEALANT REPLACEMENT DETAIL

JOINT SEALANT NOTES

- **SEALANT REMOVAL:**
- REMOVE ALL TRACES OF EXISTING JOINT SEALANT. 2. REMOVE ALL EXISTING BACKER/BOND BREAKER MATERIAL

- 1. SOUND ALL EXISTING CONCRETE ON EDGES OF EXISTING JOINTS. REMOVE ALL EXISTING DELAMINATED CONCRETE FOUND AND AS NOTED ON DRAWINGS. KEEP RECORDS OF CONCRETE REMOVED, INCLUDING AREA (SF).
- 2. REPAIR ALL EXISTING CONCRETE AS PER DETAILS. ALLOW REPAIR TO PROPERLY CURE PRIOR TO INSTALLING JOINT SEALANT. COORDINATE REQUIREMENTS WITH SEALANT MANUFACTURER'S
- 3. JOINT DIMENSIONS: EXISTING PREPARED JOINTS SHALL CONFORM TO TABLE.

JOINT DIMENSIONS				
W	D	R	T	PRIMER
<1"	5/8"	1/8"	W/2*	REQ'D
1"-1 1/2"	7/8"	1/8"	1/2"	REQ'D
1 1/2"-2"	1 1/4"	1/4"	1/2"	REQ'D
>2" NOTIFY ENGINEER				

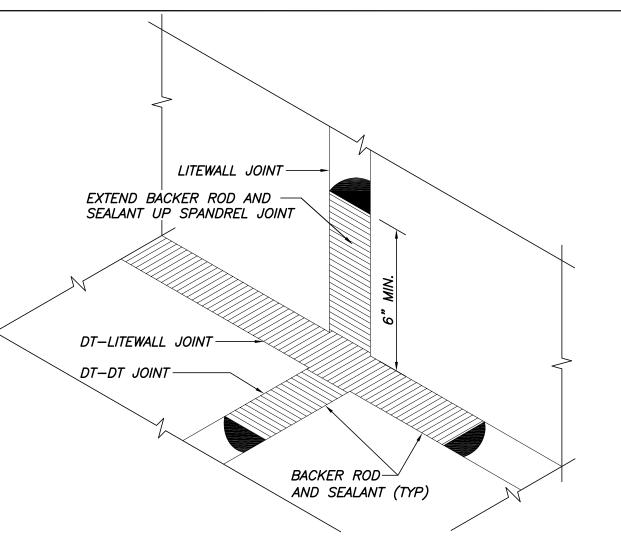
- 4. GRIND EDGE OF EXISTING CONCRETE AND REPAIRS TO 1/4"± CHAMFER OR RADIUS.
- ALL JOINT SURFACES MUST BE STRUCTURALLY SOUND, FULLY CURED, CLEAN, FREE OF DIRT, MOISTURE, LOOSE PARTICLES, OIL, GREASE, ASPHALT, TAR, PAINT, WAX, RUST, WATERPROOFING, CURING AND PARTING COMPOUNDS AND MEMBRANE MATERIALS.
- 6. CLEAN BY GRINDING, SANDBLASTING OR WIRE BRUSHING TO EXPOSE A SOUND SURFACE FREE OF CONTAMINATION AND LAITANCE.
- 7. ALL JOINTS SHALL BE FREE OF MOISTURE AND/OR FROST.
- 8. DT-DT CONNECTIONS EXPOSED DURING THE PREPARATION OF THE JOINT SUBSTRATE SHALL BE REPAIRED PER DETAILS ON S2.1.

- APPLICATION OF PRIMER IS A REQUIREMENT.
- PREPARE AND ALLOW FOR PRIMER TO CURE PROPERLY, PRIOR TO INSTALLING SEALANT.
- 3. PROVIDE A PRIMER APPROVED BY SEALANT MANUFACTURER 4. INSTALLATION SHALL CONFORM TO MANUFACTURERS REQUIREMENTS.

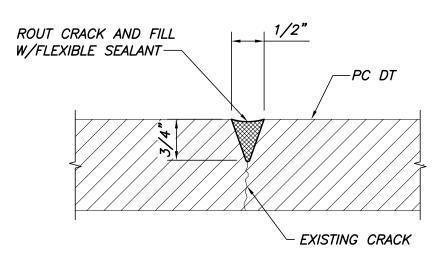
SEALANT INSTALLATION

- INSPECT ALL SURFACES PRIOR TO INSTALLING SEALANT. INSTALLATION OF SEALANT IMPLIES ACCEPTANCE OF SUBSTRATE CONDITIONS.
- 2. SUBSTRATE TEMPERATURE SHALL BE BETWEEN 40°F TO 70°F. INSTALLATION OF SEALANT OUTSIDE THIS RANGE SHALL BE PERMITTED ONLY IF WRITTEN INSTALLATION PROCEDURES ARE SUBMITTED FROM SEALANT MANUFACTURER WITH ASSURANCE THAT THIS INSTALLATION WILL NOT VOID MATERIAL & INSTALLATION WARRANTY.
- INSTALL BACKER ROD AND BOND BREAKER TAPE OVER DT-DT FLANGE CONNECTIONS IF REQUIRED.
- 4. REFER TO MANUFACTURERS DATA SHEETS AND MATERIAL SAFETY DATA SHEETS FOR ANY NECESSARY PRECAUTIONS REGARDING EXPOSURE TO ALL MATERIALS.
- 5. MULTIPLE COMPONENT PRODUCTS SHALL BE MIXED IN STRICT ACCORDANCE WITH SEALANT MANUFACTURERS RECOMMENDATIONS. MIX ONLY AS MUCH SEALANT AS CAN BE INSTALLED WITHIN SPECIFIED POT-LIFE OF THE MATERIAL.
- 6. SELECT PROPER NOZZLE FOR JOINT BEING GUNNED AND HOLD GUN AT 45° ANGLE FROM JOINT. PLACE NOZZLE INTO BOTTOM OF JOINT AND FILL ENTIRE JOINT. KEEPING NOZZLE DEEP IN SEALANT. CONTINUE WITH STEADY FLOW OF SEALANT PRECEDING THE NOZZLE TO AVOID AIR ENTRAPMENT.
- 7. TOOL JOINTS AS REQUIRED WITH A DRY TOOL FREE OF TOOLING AIDS. PROVIDE A CONCAVE SHAPE
- WITH RECESS AS NOTED IN THE TABLE ABOVE
- 8. INSTALL SEALANT EVENLY AND RECESS BELOW SURFACE PER TABLE. <u>DO NOT OVERFILL JOINT.</u> 9. CURING: ALL JOINTS MUST BE PROTECTED FROM TRAFFIC AND TOTAL WATER IMMERSION FOR THE
- DURATION OF THE MANUFACTURER'S SPECIFIED CURE TIME. CONTRACTOR SHALL SUPPLY ALL NECESSARY PROTECTION AGAINST MOISTURE AND ALLOW UNINTERRUPTED TRAFFIC FLOW THROUGH THE GARAGE.
- 10. CLEAN UP SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS AND ALL GOVERNMENTAL REGULATIONS.
- 11. WATER TEST EACH SEALANT JOINT SURFACE FOR LEAKS FOR A MINIMUM OF 4 HOURS ENSURING FULL COVERAGE OF JOINT SURFACE. REPAIR AND REPEAT WATER TESTS AT LEAKING JOINTS UNTIL SEALANT JOINT INSTALLATION IS WATERTIGHT.

1. A MOCKUP OF A TYPICAL JOINT SHALL BE COMPLETED PRIOR TO COMMENCING WORK. MOCKUP SHALL BE REVIEWED BY SEALANT MANUFACTURER, SEALANT INSTALLER, ENGINEER AND OWNER. PROVIDE 1/2 JOINT MOCKUP. CONTRACTOR SHALL ALLOW ENGINEER TO PERFORM ADHESION TESTING AS NEEDED. (REFERENCE SPECIFICATIONS).



DT-SPANDREL JOINT INTERSECTION



TYPICAL CRACK/CONTROL JOINT REPAIR DETAIL

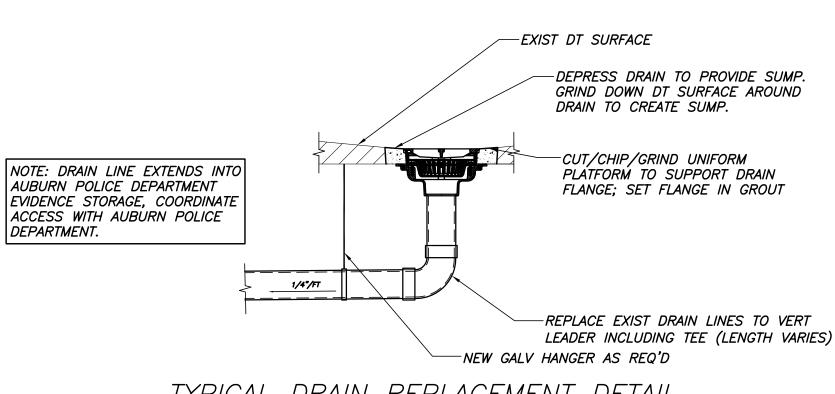
N.T.S

CRACK REPAIR NOTES

- <u>PREPARATION:</u> CENTER ROUTED GROOVE ON CRACK.
- 2. REMOVE ALL LOOSE AND DETERIORATED MATERIAL
- 3. ALL JOINT SURFACES MUST BE CLEAN. SOUND. AND FROST FREE. JOINT WALLS MUST BE FREE OF OILS. GREASE. CURING COMPOUND RESIDUES AND ANY OTHER FOREIGN MATTER THAT MIGHT PREVENT BOND. THIS SHOULD BE ACCOMPLISHED BY BLAST CLEANING OR EQUIVALENT
- 4. CONFORM TO ALL MANUFACTURERS PREPARATION REQUIREMENTS.
- 5. JOINT PREPARATION SHALL BE CONFIRMED BY SEALANT INSTALLER. INSTALLATION OF SEALANT SHALL IMPLY PROPER JOINT PREPARATION.

CRACK SEALANT INSTALLATION:

1. INSTALLATION SHALL CONFORM TO MANUFACTURERS REQUIREMENTS.



TYPICAL DRAIN REPLACEMENT DETAIL

NOTES: 1. PROVIDE NEW DECK DRAIN CAST IRON ZURN Z610 WITH SEDIMENT BUCKET TO MATCH EXISTING. INSTALL DRAIN AT EXISTING DRAIN LOCATION.

- 2. REPLACE EXISTING CAST IRON DRAIN LINE TO MATCH EXISTING DIAMETER AND SLOPE AT 1/4"/FT MIN. ASSUME 12 LINEAR FEET OF DRAIN LINE REPLACEMENT.
- 3. EXTEND NEW DRAIN LINES TO THE NEAREST VERTICAL LEADERS. PROVIDE ALL NECESSARY HANGERS, CLEANOUTS, SUPPORT AND CONNECTORS TO EXISTING DRAIN LINES TO MATCH EXISTING LAYOUT. COORDINATE ACCESS TO EVIDENCE STORAGE WITH AUBURN POLICE DEPARTMENT.

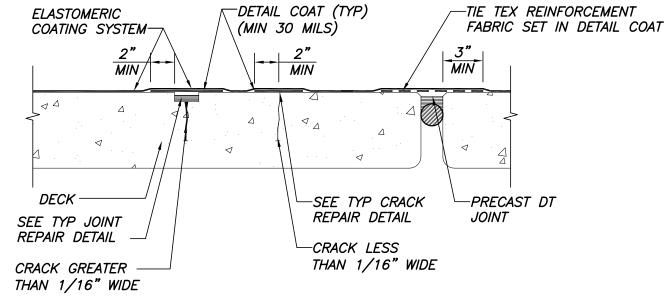
TOP COAT-2ND WEAR COURSE W/AGGREGATE WEARING COURSE W/AGGREGATE -BASE COAT PRIMER-

TYPICAL HD MEMBRANE DETAIL

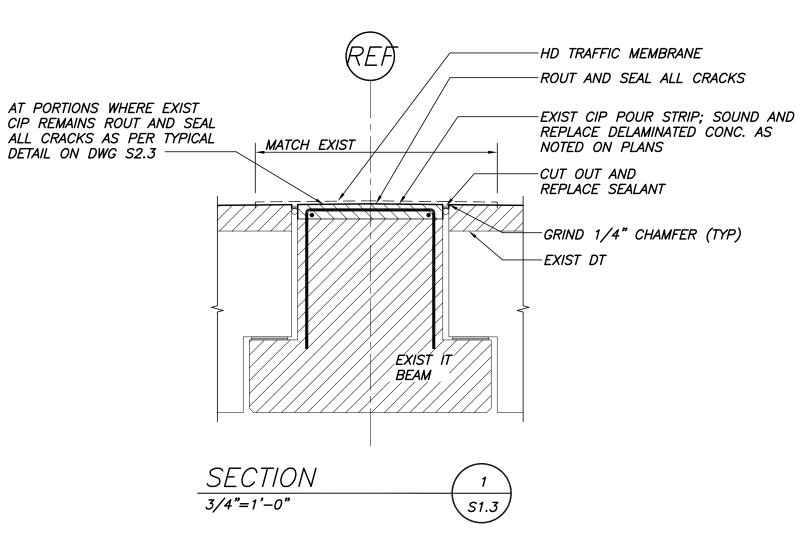
HD TRAFFIC MEMBRANE NOTES:

1. PRODUCT: NEOGARD AUTO—GARD FC

- PRIMER: THOROUGHLY MIX AND APPLY PRIMER AT RATE OF 300
- BASE COAT: THOROUGHLY MIX FC7500/FC7960 BASE COAT MATERIAL AND APPLY AT RATE OF 80 SF/GAL (MIN. 20 MILS
- WEAR COAT: THOROUGHLY MIX FC7510/FC7961 WEAR COAT AND APPLY AT RATE OF 200 SF/GAL (MIN. 8 MILS DRY) AND IMMEDIATELY BROADCAST AGGREGATE EVENLY INTO WET COATING AT A RATE OF 10 TO 15LBS/100SF. WHEN CURED REMOVE
- 5. 2ND WEAR COAT: THOROUGHLY MIX FC7510/FC7961 WEAR COAT AND APPLY AT RATE OF 133 SF/GAL (MIN. 12 MILS DRY) AND IMMEDIATELY BROADCAST AGGREGATE EVENLY INTO WET COATING AT A RATE OF 10 TO 15LBS/100SF. WHEN CURED REMOVE EXCESS.
- TOP COAT: THOROUGHLY MIX FC7510/FC7961 TOP COAT AND
- APPLY AT A RATE OF 133 SF/GAL (MIN. 12 MILS DRY). SYSTEM COATING THICKNESS OF 52 DRY MILS MINIMUM
- EXCLUSIVE OF PRIMER AND AGGREGATE. 8. AFTER COMPLETION OF APPLICATION, DO NOT ALLOW TRAFFIC ON COATED SURFACES FOR A PERIOD OF AT LEAST 24 HOURS AT 75°F. AND 50% R.H., OR UNTIL COMPLETELY CURED.



TYP MEMBRANE JOINT/CRACK DETAIL N.T.S.



IT BEAM REPAIR NOTES: REMOVE ALL EXISTING TRAFFIC MEMBRANE FROM CONCRETE

- PREPARE BARE CONCRETE PER SPECIFICATIONS AND
- MANUFACTURER REQUIREMENTS.
- PROVIDE SAW CUT MEMBRANE TERMINATION JOINT. CUT OUT AND REPLACE SEALANT IN CONNECTION POCKET.
- REFER DWG S2.1. 5. AT SIM SECTION, NO TRAFFIC MEMBRANE APPLICATION.

MEMBRANE NOTES

JOB CONDITIONS:

1. DO NOT PROCEED WITH APPLICATION OF MATERIALS WHEN DECK TEMPERATURE IS LESS THAN 40 DEGREES F.

2. DO NOT APPLY MATERIALS UNLESS SURFACE TO RECEIVE COATING IS CLEAN AND DRY.

1. SUBMIT SAMPLE WARRANTY THAT STATES THAT THE MATERIAL AND LABOR/WORKMANSHIP INVOLVED IN THIS APPLICATION WILL BE WARRANTED FOR 5 YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION BY THE INSTALLER AND NEOGARD. WARRANTY REQUIRED PRIOR TO FINAL PAYMENT.

CODES AND QUALITY CONTROL:

- 1. COMPLY WITH PROVISIONS OF THE FOLLOWING EXCEPT AS OTHERWISE INDICTED:
 - A. ICRI GUIDELINES NO. 03732 "SELECTING AND SPECIFYING CONCRETE SURFACE PREPARATION FOR SEALERS, COATINGS AND POLYMER OVERLAYS"
 - B. CODE OF FEDERAL REGULATIONS, PART 1926 PER OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA),
- DEPARTMENT OF LABOR (LATEST EDITION). C. NEOGARD CONSTRUCTION PRODUCTS, "RECOAT GUIDELINES
- STANDARD AND FAST CURE COATING SYSTEMS.
- D. REQUIREMENT OF REGULATORY AGENCIES: MATERIALS USED IN THE VEHICULAR TRAFFIC COATING SYSTEM SHALL MEET EXISTING FEDERAL, STATE, AND LOCAL VOC REGULATIONS.

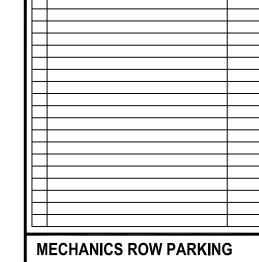
SYSTEM DESCRIPTION:

1. AUTO-GARD FC AND SHALL BE A COMPLETE SYSTEM OF COMPATIBLE MATERIALS SUPPLIED BY NEOGARD TO CREATE A SEAMLESS WATERPROOF MEMBRANE.

- 1. CLEANING: SURFACES CONTAMINATED WITH OIL OR GREASE SHALL BE VIGOROUSLY SCRUBBED WITH A POWER BROOM AND A STRONG NON-SUDSING DETERGENT. THOROUGHLY WASH, CLEAN, AND DRY. AREAS WHERE OIL OR OTHER CONTAMINANTS PENETRATE DEEP INTO THE CONCRETE MAY REQUIRE REMOVAL BY MECHANICAL
- 2. SHOT BLASTING: REQUIRED SURFACE PREPARATION METHOD FOR REMEDIAL CONSTRUCTION, IS ALSO THE PREFERRED METHOD FOR NEW CONSTRUCTION. MECHANICALLY PREPARE SURFACE BY SHOT BLASTING TO INDUSTRY STANDARD SURFACE TEXTURE (ICRI'S CSP3-4).
- 3. CRACKS AND COLD JOINTS: VISIBLE HAIRLINE CRACKS (UP TO 1/6") IN CONCRETE AND COLD JOINTS SHALL BE CLEANED, PRIMED AS REQUIRED AND TREATED WITH FC7500/FC7960 POLYURETHANE COATING A MINIMUM DISTANCE OF 2" ON EACH SIDE OF CRACK TO YIELD A TOTAL THICKNESS OF 30 DRY MILS. LARGE MOVING CRACKS SHALL BE ROUTED AND SEALED WITH 70991 SEALANT OR FC7500/FC7960 POLYURETHANE COATING MATERIAL. NON MOVING CRACKS TO BE FILLED WITH 70718/70719 FLEXIBLE EPOXY. WHERE SEALANT IS USED IT SHALL BE APPLIED TO INSIDE AREA OF CRACK ONLY, NOT APPLIED TO DECK SURFACE. DETAIL SEALED CRACKS WITH FC7500/FC7960 POLYURETHANE COATING A DISTANCE OF 2" ON EACH SIDE OF CRACK TO YIELD A TOTAL THICKNESS OF 30 DRY MILS.
- 4. CONTROL JOINTS: SEAL SECONDARY CONTROL JOINTS WITH 70718/70719 FLEXIBLE EPOXY. DETAIL SEALED JOINTS WITH FC7500/FC7960 POLYURETHANE COATING A DISTANCE OF 2" ON EACH SIDE OF CRACK TO YIELD A TOTAL THICKNESS OF 30 DRY
- 5. FLASHING TAPE: INSTALL 86218 FLASHING TAPE WHERE REQUIRED BY MANUFACTURER PRIOR TO THE APPLICATION OF COATING.
- 6. SURFACE CONDITIONS: SURFACE SHALL BE CLEAN AND DRY PRIOR TO COATING.

APPLICATION:

- 1. PRIMER: APPLY PRIMER AT A MINIMUM RATE OF 300 SF/GAL TO ALL CONCRETE AND EXISTING MEMBRANE SURFACES. WITHIN 24 HOURS OF APPLICATION OF PRIMER BASE COAT OR WEARING COURSE MUST BE APPLIED. IF BASE COAT CANNOT BE APPLIED WITHIN 24 HOURS, RE-PRIME.
- 2. REFERENCE DETAILS FOR APPLICATION RATES AND MIL THICKNESS OF BASE COAT AND WEARING COURSES.
- 3. BASE COAT: EXTEND BASE COAT OVER CRACKS AND JOINTS WHICH HAVE RECEIVED DETAIL TREATMENT.
- 4. WEARING COURSE: APPLY WEARING COURSE AND IMMEDIATELY BROADCAST SELECTED AGGREGATE, EVENLY DISTRIBUTED INTO WET COATING. FOR HEAVY DUTY APPLICATIONS REPEAT THIS STEP.



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GARAGE PHASE 6 REPAIRS AUBURN, ME

REPAIR SECTIONS **AND DETAILS**

AS NOTED

S2.3

SHEET NUMBER