

**PROGRESS PRINT**  
**NOT FOR CONSTRUCTION**

### CONSTRUCTION NOTES

- CODES AND STANDARDS: ALL STRUCTURAL REPAIR WORK SHALL BE PERFORMED WITH PERTINENT PROVISIONS OF THE FOLLOWING CODES AND STANDARDS:
- |               |  |
|---------------|--|
| a. ACI 301    | "SPECIFICATIONS FOR STRUCTURAL CONCRETE"                             |
| b. ACI 304R   | "GUIDE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"     |
| c. ACI 305R   | "HOT WEATHER CONCRETING"   |
| d. ACI 306.1  | "STANDARD SPECIFICATIONS FOR COLD WEATHER CONCRETING"                |
| e. ACI 309R   | "GUIDE FOR CONSOLIDATION OF CONCRETE"                                |
| f. ACI 311.1R | "ACI MANUAL OF CONCRETE INSPECTION"                                  |
| g. ACI 318-02 | "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE"                 |
| h. ACI 347    | "GUIDE TO FORMWORK FOR CONCRETE"                                     |
| i. ACI 506.2  | "SPECIFICATIONS OF SHOTCRETE"  |
| j. AISC       | "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"          |
| k. AISC       | "MANUAL OF STEEL CONSTRUCTION"                                       |
| l. AISC       | "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS" |
| m. AWS        | "STRUCTURAL WELDING CODE - STEEL"                                    |
2. ALL DETAILS, SECTIONS AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE, UNLESS OTHERWISE SHOWN.
3. THE ENGINEER SHALL HAVE AUTHORITY TO REJECT WORK WHICH DOES NOT CONFORM TO THE CONTRACT DOCUMENTS. THE ENGINEER AND OWNER WILL HAVE AUTHORITY TO REQUIRE SPECIAL INSPECTION OR TESTING OF THE WORK. HOWEVER, NEITHER THE ENGINEER'S AUTHORITY TO ACT UNDER THIS SUBPARAGRAPH NOR ANY DECISION MADE BY HIM IN GOOD FAITH TO EXERCISE OR NOT TO EXERCISE SUCH AUTHORITY, SHALL GIVE RISE TO ANY DUTY OR RESPONSIBILITY OF THE ENGINEER TO THE CONTRACTOR, ANY SUBCONTRACTOR, ANY OF THEIR AGENTS OR EMPLOYEES, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK.
4. THE CONTRACTOR SHALL MAINTAIN, ON ONE COMPLETE SET OF DRAWINGS (WHITE PRINTS) AND SPECIFICATIONS FURNISHED BY THE OWNER AT THE CONTRACTORS EXPENSE, AN ACCURATE RECORD OF THE INSTALLATION OF ALL MATERIALS AND SYSTEMS COVERED BY THE CONTRACT. THE "AS-BUILT" RECORD SHALL INDICATE THE EXACT LOCATION AND AMOUNT OF ALL REPAIR WORK. THE COMPLETED SET OF "AS-BUILT" DRAWINGS MUST BE DELIVERED TO THE OWNER AND ENGINEER AS SOON AS THE PROJECT IS FINISHED.
5. ANY EQUIPMENT GREATER THAN 6,000 LBS SHALL REQUIRE SPECIALIZED SHORING OF THE PARKING DECK. THE ENGINEER SHALL REVIEW AND APPROVE SHORING PRIOR TO STARTING WORK. ALL LOOSE CONCRETE ON THE UNDERSIDE OF THE PARKING DECK SHALL BE REMOVED PRIOR TO STARTING WORK. ALL NOISE AND DUST PRODUCING OPERATIONS ARE LIMITED TO THE OWNER'S SATISFACTION AND THE CITY OF GREAT FALLS CODE REQUIREMENTS.
6. THE NEW CONCRETE SHALL BE PLACED, CONSOLIDATED AND FINISHED TO MATCH EXISTING FINISH FLOOR ELEVATIONS. THE REPAIR AREAS MAY BE OPENED TO GARAGE OPERATION AFTER THE NEW CONCRETE HAS ACHIEVED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI. THE SHORING AND FALSEWORK SHALL BE LEFT IN-PLACE UNTIL THE NEW CONCRETE ACHIEVES AT LEAST 70% OF THE DESIGN COMPRESSIVE STRENGTH. THE CONTRACTOR SHALL COOPERATE WITH THE TESTING AGENCY REPRESENTATIVE DURING THE POURING AND INSPECT AND MAKE CYLINDERS OF NEW CONCRETE DELIVERED TO THE SITE.
7. CONCRETE TESTING WILL BE PERFORMED BY THE TESTING LABORATORY SELECTED BY THE OWNER IN ACCORDANCE WITH ACI 301 SUBSECTION 1.6. SEE THE SPECIFICATION FOR CONCRETE TEST REQUIREMENTS.

## REINFORCED CONCRETE NOTES

1. ALL REINFORCED CONCRETE WORK SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" ACI 318-02.
2. MATERIALS:
  - a. THE 28-DAY COMPRESSIVE STRENGTH OF NEW NORMAL WEIGHT CONCRETE SHALL BE A MINIMUM OF 5,000 PSI. THE CONCRETE SHALL BE FIBER REINFORCED IN ACCORDANCE WITH THE SPECIFICATIONS.
  - b. CONCRETE MIX DESIGN SHALL BE MADE BY AN APPROVAL LABORATORY FOR ALL CONCRETE AND SHALL BE SUBMITTED TO THE OWNER AND THE ENGINEER FOR APPROVAL BEFORE USE.
  - c. FINE AND COARSE AGGREGATE SHALL CONFORM TO ASTM C33.
  - d. PORTLAND CEMENT SHALL BE TYPE I OR III CONFORMING TO ASTM C150.
  - e. ALL NEW REINFORCING STEEL SHALL CONFORM TO ASTM A615 (60,000 PSI YIELD). A NEW SLAB REINFORCING STEEL SHALL BE EPOXY COATED REBAR.
  - f. AIR ENTRAINMENT FOR ALL CONCRETE SHALL BE 6%±1% OF THE VOLUME OF FRESHLY MIXED CONCRETE.
3. ALL DIMENSION SHOWN FOR LOCATION OF REINFORCING STEEL ARE TO THE FACE OF MAIN BARS AND DENOTE CLEAR MINIMUM COVER, UNLESS SPECIFICALLY NOTED. CONCRETE COVER TO NEW EPOXY COATED REINFORCING STEEL IN THE SUPPORTED SLABS AND BEAMS SHALL BE AS FOLLOWS:

TOP BARS.....	1 INCH
BOTTOM BARS.....	1 INCH
- ALL EXISTING REINFORCING STEEL (TOP AND BOTTOM) SHALL BE PROVIDED WITH A MINIMUM CONCRETE COVER OF 1".
4. UNLESS DIRECTED OTHERWISE BY THE ENGINEER, ALL CONCRETE REINFORCEMENT SHALL BE DETAILED, FABRICATED, LABELED SUPPORTED AND SPACED IN FORMS AND SECURED IN PLACE IN ACCORDANCE WITH THE PROCEDURES AND REQUIREMENTS OUTLINED IN THE LATEST EDITION OF THE "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315. BAR SUPPORTS IN CONTACT WITH EXPOSED SURFACES SHALL BE PLASTIC TIPPED.
5. SHOP DRAWINGS SHOWING REINFORCING DETAILS, INCLUDING STEEL SIZES, SPACING AND PLACEMENT SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION.
6. ALL REINFORCING SPLICES SHALL CONFORM TO THE REQUIREMENTS OF ACI 318, LATEST EDITION, BUT NO CASE SHALL BE LESS THAN 45 BAR DIAMETER UNLESS NOTED OTHERWISE. ALL WELDED WIRE FABRIC SHALL BE LAPPED TWO (2) FULL MESH PANELS AND TIED SECURELY WHERE REQUIRED. DOWELS SHALL MATCH SIZE AND NUMBER OF MAIN REINFORCING, UNLESS NOTED OTHERWISE.
7. FORMS FOR SLAB/BEAM SOFFITS IF USED, SHALL BE TIGHT LEAKPROOF AND PROVIDE THE NECESSARY RIGIDITY TO SUPPORT THE IMPOSED LOADS WITHOUT ANY SETTLEMENT OR DEFORMATION.
8. THE FLOOR SLAB SHALL BE FINISHED AS NOTED IN THE SPECIFICATION. THE NEW FLOOR SLAB SHALL BE ROUGHENED IN AREAS WHERE NEW CURBS OR TOPPINGS ARE TO BE PLACED.

## STRUCTURAL STEEL NOTES

1. CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST AISC PRACTICES.
2. ALL NEW STRUCTURAL STEEL SHALL BE ASTM A992 OR A36.
3. STRUCTURAL STEEL WELDING SHALL BE PERFORMED BY A CERTIFIED WELDER. USE E70XX ELECTRODES. ALL WELDING SHALL BE IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, LATEST EDITION AND STANDARD CODE OF ARC AND GAS WELDING IN BUILDING CONSTRUCTION OF AMERICAN WELDING SOCIETY.

THE FOLLOWING GENERAL NOTES SHALL APPLY UNLESS NOTED OTHERWISE ON PLANS

1. ALL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL, STATE AND NATIONAL BUILDING CODES.
2. DO NOT SCALE DIMENSIONS FROM DRAWINGS.
3. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL DIMENSIONS SHOWN ON PLANS WITH EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
4. CONTRACTOR SHALL REPORT IMMEDIATELY TO THE ENGINEER ANY DISCREPANCIES OR INCORRECT INFORMATION WITH THE DRAWINGS BASED ON EXISTING CONDITIONS. AFTER REPORTING THE DISCREPANCIES VERBALLY, A WRITTEN REPORT SHOULD FOLLOW. CONTRACTOR SHALL BE DIRECTED BY THE ENGINEER REGARDING THE ABOVE MATTER.
5. THE CONTRACTOR SHALL PROVIDE METHODS AND EQUIPMENT FOR PROTECTING THE PARKING STRUCTURE, ALL MATERIALS AND PERSONNEL FROM FIRE DAMAGE PRIOR TO STARTING WORK. METHODS AND EQUIPMENT ARE SUBJECT TO APPROVAL BY THE LOCAL FIRE DEPARTMENT. THE CONTRACTOR SHALL SUBMIT THE METHODS AND EQUIPMENT IN WRITING AND OBTAIN THE OWNER AND ENGINEER'S APPROVAL PRIOR TO STARTING WORK. FIRE PROTECTION AND PREVENTION DURING THE CONSTRUCTION PERIOD SHALL BE STATE OF MONTANA AND LOCAL REQUIREMENTS.
6. THE CONTRACTOR SHALL COMPLY WITH ALL SAFETY AND HEALTH LAWS AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, PROVISIONS AND REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND/OR THE CONSTRUCTION SAFETY ACT OF 1969, AS AMENDED (WHICHEVER IS APPLICABLE) AND WITH ALL OTHER FEDERAL, APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS, AND ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION AND SAFETY OF PERSONS OR PROPERTY OR TO PROTECT THEM FROM DAMAGE, INJURY OR LOSS. HE SHALL ERECT AND MAINTAIN, AS REQUIRED BY EXISTING CONDITIONS AND PROGRESS OF THE WORK, ALL REASONABLE SAFEGUARDS FOR SAFETY AND PROTECTION, INCLUDING POSTING DANGER SIGNS AND OTHER WARNING AGAINST HAZARDS, PROMULGATING SAFETY REGULATIONS AND NOTIFYING THE OWNER AND BROOKS (I) ON THE PARKING FACILITY CONTRACTOR TO APPROVE THAT EACH OF HIS SUBCONTRACTORS ALSO CONFORM TO ALL HEALTH AND SAFETY LAWS AND REGULATIONS. THE CONTRACTOR SHALL AT ALL TIMES HAVE AN OSHA CERTIFIED "COMPETENT PERSON" ON THE JOB AND AN INDIVIDUAL TRAINED AND CERTIFIED IN FIRST AID BY THE AMERICAN RED CROSS.
7. THE CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING, SHEETING REQUIRED FOR SAFETY AND PROPER EXECUTION OF THE WORK.
8. THE CONTRACTOR SHALL NOT ATTEMPT TO DEMOLISH ANY EXISTING CONCRETE SLAB OF THE GARAGE PRIOR TO INSTALLATION OF PROPER SHORING MEMBERS APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL NOT ATTEMPT TO BRING ANY VEHICLE OR EQUIPMENT INTO THE PARKING FACILITY PRIOR TO INSTALLATION OF PROPER SHORING MEMBERS APPROVED BY THE ENGINEER AND OF WHICH THE REQUIREMENTS ARE SHOWN ON PLANS. ANY VEHICLE AND/OR EQUIPMENT TO BE BROUGHT ON OR TO THE QUALITY OF THE MATERIALS ENCOUNTERED AND ONLY THE CONTRACTOR IS SOLELY RESPONSIBLE TO PREPARE SHOP DRAWINGS FOR THE SHORING MEMBERS AND TO SUBMIT THEM TO THE ENGINEER FOR APPROVAL.
9. WHEN THE PLANS INCLUDE INFORMATION PERTAINING TO SURFACE OBSERVATION, MATERIAL TESTING AND OTHER PRELIMINARY INVESTIGATIONS, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION, EXTENT OR QUALITY OF THE MATERIALS ENCOUNTERED AND IS ONLY INCLUDED FOR CONVENIENCE OF THE BIDDER. THE OWNER/ENGINEER ASSUMES NO RESPONSIBILITY WHATEVER IN RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION, AND THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED, THAT THE CONDITIONS INDICATED ARE REPRESENTATIVE OF THOSE EXISTING THROUGHOUT THE WORK, OR THAT UNANTICIPATED DEVELOPMENTS MAY NOT OCCUR. SAID INFORMATION SHALL NOT BE CONSIDERED BY THE PARTIES AS A BASIS FOR THE CONTRACT AWARD AMOUNT.
10. ANY EXTRA WORK BEYOND THE SCHEDULED QUANTITIES REQUIRING ADDITIONAL COST TO THE OWNER SHALL BE APPROVED BY THE OWNER PRIOR TO TAKING SUCH ACTION. CLAIMS FOR EXTRA WORK WHICH HAVE NOT BEEN AUTHORIZED IN WRITING BY THE OWNER AND APPROVED BY THE ENGINEER WILL BE REJECTED AND THE CONTRACTOR SHALL NOT BE ENTITLED TO PAYMENT. THE CONTRACTOR SHALL PROMPTLY SUBMIT THE PROPOSAL FOR EXTRA WORK, IN WRITING, AS ADDITIONAL WORK IS DISCOVERED.
11. THE PLANS MAY BE SUPPLEMENTED BY STANDARD AND WORKING DRAWINGS AS ARE NECESSARY TO ADEQUATELY DESCRIBE THE WORK. IN THE EVENT, IN THE SOLE JUDGMENT OF THE ENGINEER, A CHANGE BECOMES NECESSARY IN THE BEST INTERESTS OF THE PROJECT, DUE TO CIRCUMSTANCES NOT KNOWN UNTIL THE BID DOCUMENTS WERE SUBMITTED TO THE OWNER OR ARISING THEREAFTER, THE ENGINEER MAY RECOMMEND THAT THE WORK BE NECESSARY AND INCREASE OR DECREASE THE QUANTITIES OF WORK TO BE PERFORMED IN ACCORDANCE WITH SUCH CHANGES. THE OWNER SHALL BE INFORMED WITH A COPY OF ALL SUBMITTALS AND CORRESPONDENCE AS THE CHANGES MAY OCCUR.
12. EXECUTION OF THE WORK SHALL INVOLVE CONSIDERATION FOR ALLOWING THE OWNER TO CONTINUE OPERATIONS OF THE PARKING GARAGE IN THE AREAS OUTSIDE THE REPAIR AREA AND SHORING AREA FOR EACH PHASE PRIOR TO THE AWARD OF THE CONTRACT, THE CONSTRUCTION SCHEDULE PREPARED BY THE CONTRACTOR SHALL BE SUBMITTED TO THE OWNER AND COORDINATED WITH THE FACILITY MANAGEMENT. OWNER'S APPROVAL OF THE PROPOSED SCHEDULE SHALL PRECEDE THE CONTRACT AWARD.
13. THE CONTRACTOR SHALL REVIEW ALL EXISTING CONDITIONS TO DETERMINE ALL SERVICES (ELECTRIC AND PLUMBING) AFFECTED BY THE REPAIR WORK, IF ANY. HE SHOULD MAKE NECESSARY TEMPORARY CONNECTIONS TO MAINTAIN EXISTING SERVICES TO ALL AREAS OF THE PARKING GARAGE OR OTHER AREAS (NOT IN CONTRACT) AFFECTED BY THE WORK. THE CONTRACTOR SHALL SUBMIT THE METHODS AND SCHEDULE OF CONNECTIONS FOR THE OWNER'S APPROVAL PRIOR TO COMMENCEMENT.
14. AS THE WORK PROGRESSES, THE CONTRACTOR SHALL PRODUCE "AS-BUILT" DRAWINGS FOR THE INSTALLATION OF ALL REPAIR ITEMS UNDER THE CONTRACT. THE ENGINEER WILL PROVIDE THE GENERAL CONTRACTOR WITH A SET OF REPRODUCIBLES FOR THIS PURPOSE. THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE AS-BUILT DRAWINGS UPDATED ACCORDING TO THE JOB PROGRESS, FOR EACH PAY-REQUEST BY THE CONTRACTOR, THE OWNER AND ENGINEER SHALL RECEIVE A COPY OF THE UPDATED AS-BUILT DRAWINGS.

# REPAIR AND PREVENTIVE MAINTENANCE OF THE NORTH PARKING STRUCTURE GREAT FALLS, MONTANA

DESMAN

A DIVISION OF DESMAN, INC.  
NEW YORK CHICAGO WASHINGTON, D.C. BOSTON CLEVELAND HARTFORD LAS VEGAS




I S S U E		
NO.	DESCRIPTION	DATE
DRAWING TITLE		
CONSTRUCTION NOTES		
DRAWING NO.		
R-0		
SCALE:	AS NOTED	
DATE:	FEBRUARY, 2013	
PROJECT NO.	60-112125	
DESIGN GK	DRAWN EV	CH'KD. GK







**LEGEND:**

- CJ — CONSTRUCTION JOINT
- EJ — EXPANSION JOINT
-  — DELAMINATED CONCRETE FLOOR
-  — DELAMINATED SOFFIT
- SC — SOFFIT CRACK
- FC — FLOOR CRACK
-  — SCALING AREA
- FD ⊗ — FLOOR DRAIN

Copyright © 2008 Deeman, Inc. All rights reserved. No part of these documents may be reproduced in any form or by any means without permission from Deeman Inc.



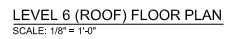
**PROGRESS PRINT**  
**NOT FOR CONSTRUCTION**

Copyright © 2008 Deere & Co. All rights reserved. No part of these documents may be reproduced in any form or by any means without permission from Deere & Co.











**PROGRESS PRINT**  
**NOT FOR CONSTRUCTION**

Copyright © 2008 Deeman, Inc. All rights reserved. No part of these documents may be reproduced in any form or by any means without permission from Deeman Inc.



**LEGEND:**

-  - CONSTRUCTION JOINT
-  - EXPANSION JOINT
-  - DELAMINATED CONCRETE FLOOR
-  - DELAMINATED SOFFIT
- SC  - SOFFIT CRACK
- FC  - FLOOR CRACK
-  - SCALING AREA
- FD  - FLOOR DRAIN

**PROGRESS PRINT**  
**NOT FOR CONSTRUCTION**

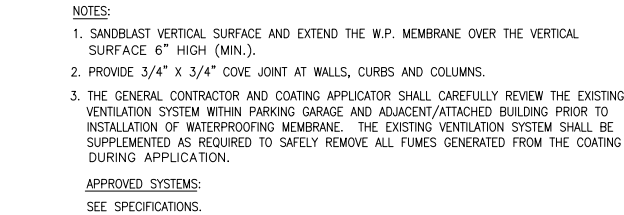
Copyright © 2008 Deeman, Inc. All rights reserved. No part of these documents may be reproduced in any form or by any means without permission from Deeman Inc.



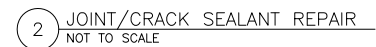




**PROGRESS PRINT**  
**NOT FOR CONSTRUCTION**



1 TRAFFIC BEARING WATERPROOFING MEMBRANE SYSTEM INSTALLATION  
SCALE: NONE



Copyright © 2008 Deeman, Inc. All rights reserved. No part of these documents may be reproduced in any form or by any means without permission from Deeman Inc.

**DESMAN**  
ASSOCIATES

A DIVISION OF DESMAN, INC.  
NEW YORK CHICAGO WASHINGTON, D.C. BOSTON CLEVELAND HARTFORD LAS VEGAS

REPAIR AND PREVENTIVE MAINTENANCE  
OF THE  
NORTH PARKING STRUCTURE  
GREAT FALLS, MONTANA

I S S U E		
NO. DESCRIPTION DATE		
DRAWING TITLE		
REPAIR DETAILS		
DRAWING NO.		
R-9		
SCALE: AS NOTED		
DATE: FEBRUARY, 2013		
PROJECT NO. 60-12125		
DESIGN GK	DRAWN EV	CH'KD. GK