



**LEGEND**

**FEATURES EXISTING**

- Spot Elevation
- Contour Elevation
- Fence (Barbed, Field, Hog)
- Fence (Chain Link)
- Fence (Wood)
- Fence (Silt)
- Tree Line
- Tree Stump
- Deciduous Tree \ \ Shrub
- Coniferous Tree \ \ Shrub
- Communication
- Overhead Communication
- Fiber Optic
- Underground Electric
- Overhead Electric
- Gas Main with Size
- High Pressure Gas Main with Size
- Water Main with Size
- Sanitary Sewer with Size
- Duct Bank
- Sanitary Sewer with Size
- Sanitary Manhole
- Storm Sewer with Size
- Storm Manhole
- Single Storm Sewer Intake
- Double Storm Sewer Intake

(\*) Denotes the survey quality service level for utilities

- Fire Hydrant
- Fire Hydrant on Building
- Water Main Valve
- Water Service Valve
- Well
- Utility Pole
- Guy Anchor
- Utility Pole with Light
- Utility Pole with Transformer
- Street Light
- Yard Light
- Electric Box
- Electric Transformer
- Traffic Sign
- Communication Pedestal
- Communication Manhole
- Communication Handhole
- Fiber Optic Manhole
- Fiber Optic Handhole
- Gas Valve
- Gas Manhole
- Gas Apparatus
- Fence Post or Guard Post
- Underground Storage Tank
- Above Ground Storage Tank
- Sign
- Satellite Dish
- Mailbox
- Sprinkler Head
- Irrigation Control Valve
- Test Hole Location for SUE w/ID

**GENERAL NOTES**

1. NOTIFY UTILITY PROVIDERS PRIOR TO BEGINNING ANY CONSTRUCTION ACTIVITIES AND COORDINATE WITH UTILITY PROVIDERS AS NECESSARY DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXISTENCE, EXACT LOCATION, AND DEPTH OF ALL UTILITIES. PROTECT ALL UTILITY LINES AND STRUCTURES NOT SHOWN FOR REMOVAL OR MODIFICATION. ANY DAMAGES TO UTILITY ITEMS NOT SHOWN FOR REMOVAL OR MODIFICATION SHALL BE REPAIRED TO THE UTILITY OWNER'S SPECIFICATIONS AT THE CONTRACTOR'S EXPENSE.
2. CONSTRUCTION OF ALL STREET AND UTILITY IMPROVEMENTS SHALL CONFORM TO THE IOWA STATEWIDE URBAN DESIGN AND SPECIFICATIONS (SUDAS) AND THE SOILS REPORTS PREPARED BY OTHERS.
3. LENGTH OF UTILITIES SHOWN ON PLANS ARE DIMENSIONED FROM CENTERLINE OF STRUCTURE TO CENTERLINE OF STRUCTURE.
4. ALL TRAFFIC CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH REQUIREMENTS SET FORTH IN THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). WHEN CONSTRUCTION ACTIVITIES OBSTRUCT PORTIONS OF THE ROADWAY APPROPRIATE SIGNAGE AND BARRICADES SHALL BE USED.
5. NOTIFY OWNER, ENGINEER, AND COUNCIL BLUFFS PUBLIC WORKS (FOR WORK ALONG VALLEY VIEW DRIVE) AT LEAST 48 HOURS PRIOR TO BEGINNING WORK.
6. CONSTRUCT MANHOLES AND APPURTENANCES AS WORK PROGRESSES. BACKFILL WITH SUITABLE MATERIAL AND COMPACT TO 95% MAXIMUM DENSITY.
7. IN THE EVENT OF A DISCREPANCY BETWEEN THE QUANTITY ESTIMATES AND THE DETAILED PLANS, THE DETAILED PLANS SHALL GOVERN.
8. ALL FIELD TILES ENCOUNTERED DURING CONSTRUCTION SHALL BE RECONNECTED AND NOTED ACCORDINGLY ON THE AS-BUILT DOCUMENTS.
9. DIMENSIONS, BUILDING LOCATION, UTILITIES AND GRADING OF THIS SITE ARE BASED ON AVAILABLE INFORMATION AT THE TIME OF DESIGN. DEVIATIONS MAY BE NECESSARY IN THE FIELD. ANY SUCH CHANGES OR CONFLICTS BETWEEN THIS PLAN AND FIELD CONDITIONS ARE TO BE REPORTED TO THE ARCHITECT/ENGINEER PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT VERIFICATION OF ALL SITE IMPROVEMENTS PRIOR TO CONSTRUCTION.
10. CONTRACTOR TO LOAD AND TRANSPORT ALL MATERIALS CONSIDERED TO BE UNDESIRABLE TO BE INCORPORATED INTO THE PROJECT TO AN APPROVED OFF-SITE WASTE SITE.
11. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ARE FINISHED GRADES AND/OR TOP OF PAVING SLAB (GUTTER), UNLESS OTHERWISE NOTED.
12. THE CONTRACTOR IS RESPONSIBLE FOR CLEANING DIRT AND DEBRIS FROM NEIGHBORING STREETS, DRIVEWAYS, AND SIDEWALKS CAUSED BY CONSTRUCTION ACTIVITIES IN A TIMELY MANNER.
13. THE ADJUSTMENT OF ANY EXISTING UTILITY APPURTENANCES TO FINAL GRADE IS CONSIDERED INCIDENTAL TO THE SITE WORK.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING EROSION CONTROL MEASURES AS NECESSARY. CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR MAINTAINING ANY EXISTING EROSION CONTROL MEASURES ON SITE AT THE TIME OF CONSTRUCTION. GRADING AND SOIL EROSION CONTROL CODE REQUIREMENTS SHALL BE MET BY CONTRACTOR. A GRADING PERMIT IS REQUIRED FOR THIS PROJECT.
15. CONTRACTOR TO COORDINATE NATURAL GAS, ELECTRICAL, TELEPHONE AND ANY OTHER FRANCHISE UTILITY SERVICES WITH UTILITY SERVICE PROVIDER, CITY OF COUNCIL BLUFFS, AND THE OWNER PRIOR TO CONSTRUCTION.
16. CONTRACTOR TO VERIFY ALL UTILITY CROSSINGS AND MAINTAIN MINIMUM 18" VERTICAL AND HORIZONTAL CLEARANCE BETWEEN UTILITIES. CONTRACTOR TO COORDINATE UTILITY ROUTING TO BUILDING AND VERIFY CONNECTION LOCATIONS AND INVERTS PRIOR TO CONSTRUCTION.

**PROPERTY ADDRESS**

IOWA SCHOOL FOR THE DEAF  
POWERHOUSE PARKING LOT  
3501 HARRY LANGDON BLVD.  
COUNCIL BLUFFS, IA 51503

**ZONING**

R-1

**PARKING REQUIREMENTS**

33 SPACES + 2 ADA SPACES  
= 35 TOTAL SPACES PROVIDED

**BID ITEMS**

NO.	ITEM	UNITS	QUANTITY
1	SITE GRADING -CUT TO WASTE	CY	195
2	SAW CONCRETE - FULL DEPTH	LF	394
3	PAVEMENT REMOVAL	SY	1491
4	REMOVAL OF SIDEWALK	SY	11
5	REMOVAL OF CONCRETE STEPS	SF	40
6	REMOVAL OF FENCE, CHAIN LINK	LF	165
7	REMOVE AND REINSTALL SIGN AS PER PLAN	EA	1
8	REMOVE PIPE	LF	90
9	REMOVE HEADWALL INLET	EA	1
10	8" HDPE	LF	6
11	12" HDPE	LF	127
12	INTAKE SW-501	EA	1
13	12" X 8" HDPE TEE	EA	1
14	8" INLINE DRAIN W/ DOME GRATE	EA	1
15	12" FLARED END SECTION	EA	1
16	SUBGRADE PREPARATION, 6" DEPTH	SY	140
17	SUBGRADE PREPARATION, 12" DEPTH	SY	1358
18	PAVEMENT, PCC, 4"	SY	133
19	PAVEMENT, PCC, 6"	SY	1358
20	SIDEWALK, PCC, 4"	SY	7
21	DETECTABLE WARNING PANEL	SF	8
22	ASPHALT WITH 6" CURB	SF	148
23	WHEEL STOPS	EA	35
24	PAVEMENT MARKINGS, PAINTED	LF	1000
25	SYMBOLS & LEGENDS, PAINTED	EA	2
26	FENCE, CHAIN LINK, 48 IN. HEIGHT	LF	165
27	FENCING, TEMPORARY CONSTRUCTION	LF	330
28	INSTALL TYPE A SIGN (R7-8)	EA	2
29	SEEDING - SUDAS TYPE 1 SEED MIX	AC	0.09
30	TURF REINFORCEMENT MATTING	SY	5
31	EROSION CONTROL FABRIC WITH 6" CRUSHED LIMESTONE	SY	45
32	INLET PROTECTION	EA	2
33	SCOUR STOP 6' X4' MAT	EA	1
34	MOBILIZATION	LS	1
<b>STRUCTURAL SCOPE OF WORK</b>			
35	OVERHEAD TUNNEL CONCRETE REPAIRS (REGULAR REPAIR)	SF	250
36	VERTICAL CONCRETE REPAIRS (SHALLOW REPAIR)	SF	10
37	VERTICAL PARGE COAT REPAIRS (SHALLOW REPAIR)	SF	60
38	TUNNEL MASONRY BLOCK REPAIR	SF	10
39	NEW RETAINING WALL	CY	30
40	4" SUBDRAIN WITH GRANULAR FILL	LF	180
41	DAMP PROOFING X 30"	LF	180
42	CLEAN AND PAINT EXISTING STEEL BEAMS	LF	50
43	SHORE, REMOVE AND REPLACE STEEL BEAMS	LS	1

**UTILITY CONTACT INFORMATION**

UTILITY CONTACT FOR MAPPING INFORMATION SHOWN AS RECEIVED FROM THE IOWA ONE CALL DESIGN REQUEST SYSTEM, TICKET NUMBER 552503015.

(BTC) BRED A TELEPHONE CORPORATION  
Company name : BRED A TELEPHONE CORPORATION Design contact: Mike Ludwig  
Phone: 7126732311  
Email: mludwig@westianet.com

(CBF) COUNCIL BLUFFS WATER WORKS  
Company name : COUNCIL BLUFFS WATER WORKS Design contact: Brian Cady  
Phone: 7123281006  
Email: bcady@cbwaterworks.com

(CBS) COUNCIL BLUFFS SEWER  
Company name : COUNCIL BLUFFS SEWER  
Design contact: MARTY SELL  
Phone: 7123284641  
Email: msell@councilbluffs-ia.gov

(COX) COX COMMUNICATIONS  
Company name : COX COMMUNICATIONS  
Design contact: JEREMY DIXON  
Phone: 4052135142  
Email: JEREMY.DIXON@COX.COM

(CLECIA) WINDSTREAM ENTERPRISE  
Company name: WINDSTREAM ENTERPRISE  
Design contact: CLEG LOCATE DESK  
Phone: 8009413430  
Email: wci.clec.locate@windstream.com

(CTLIA01) CENTURYLINK  
Company name : CENTURYLINK  
Design contact: SADIE HULL  
Phone: 9185470147  
Email: sadie.hull@lumen.com

(FCL) FASTER COMMUNICATIONS LLC  
Company name : FASTER COMMUNICATIONS LLC Design contact: Sally Stanley  
Phone: 6509654285  
Email: sally@fastercomm.com

(M39E) MIDAMER-ELEC  
Company name : MIDAMER-ELEC  
Design contact: David Fitch  
Phone: 7123665669  
Email: dlftch@midamerican.com

(P17) BLACK HILLS ENGY COUNCIL BLUFF  
Company name : BLACK HILLS ENGY COUNCIL BLUFF Design contact: Chris Dewey  
Phone: 7125806028  
Email: chris.dewey@blackhillscorp.com

**CONTROL POINTS**

IOWA REGIONAL COORDINATE SYSTEM ZONE 6  
NAD83(2011)EPOCH 2010.00 IARTN DERIVED - US SURVEY FEET

- CP1 N=6955269.68 E=16476507.51 Z=1011.90  
SET 1/2" REBAR WITH RED SNYDER CONTROL CAP (AS SHOWN ON SURVEY)
- CP2 N=6955508.76 E=16476531.55 Z=1004.92  
SET 1/2" REBAR WITH RED SNYDER CONTROL CAP (AS SHOWN ON SURVEY)
- CP3 N=6955532.13 E=16476709.84 Z=1003.96  
SET 1/2" REBAR WITH RED SNYDER CONTROL CAP (AS SHOWN ON SURVEY)
- CP4 N=6955270.01 E=16476674.68 Z=1014.42  
SET 1/2" REBAR WITH RED SNYDER CONTROL CAP (AS SHOWN ON SURVEY)

**BENCHMARKS**

NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88 - GEOID12A)  
IARTN DERIVED - US SURVEY FEET

BM500 ELEV=1007.61  
ARROW HEAD ON FIRE HYDRANT

**DATE OF SURVEY**

MAY 12, 2025

**UTILITY QUALITY SERVICE LEVELS**

QUALITY LEVELS OF UTILITIES ARE SHOWN IN THE PARENTHESES WITH THE UTILITY TYPE AND WHEN APPLICABLE, SIZE. THE QUALITY LEVELS ARE BASED ON THE CI / ASCE 38-02 STANDARD.  
QUALITY LEVEL (D) INFORMATION IS DERIVED FROM EXISTING UTILITY RECORDS OR ORAL RECOLLECTIONS.  
QUALITY LEVEL (C) INFORMATION IS OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND USING PROFESSIONAL JUDGMENT IN CORRELATING THIS INFORMATION WITH QUALITY D INFORMATION.  
QUALITY LEVEL (B) INFORMATION IS OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.  
QUALITY LEVEL (A) IS HORIZONTAL AND VERTICAL POSITION OF UNDERGROUND UTILITIES OBTAINED BY ACTUAL EXPOSURE OR VERIFICATION OF PREVIOUSLY EXPOSED SUBSURFACE UTILITIES, AS WELL AS THE TYPE, SIZE, CONDITION, MATERIAL, AND OTHER CHARACTERISTICS.

**UTILITY WARNING**

THE UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED EXCEPT WHERE NOTED AS QUALITY LEVEL A.

MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: TRV		
Technician: RMD	Date: 10-31-2025		
	Scale: 1" = NONE		
	T-R-S: 74N-43W-8		
	Project No: 125-0595.10		
			Sheet C2

**DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR**

**COUNCIL BLUFFS, IOWA**

**GENERAL INFORMATION**

**SNYDER & ASSOCIATES, INC. I**

231 BENNETT AVENUE  
COUNCIL BLUFFS, IOWA 51503  
712-322-3202 | www.snyder-associates.com

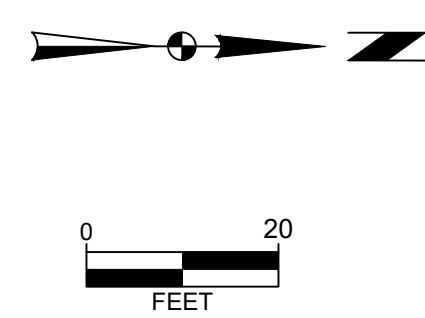
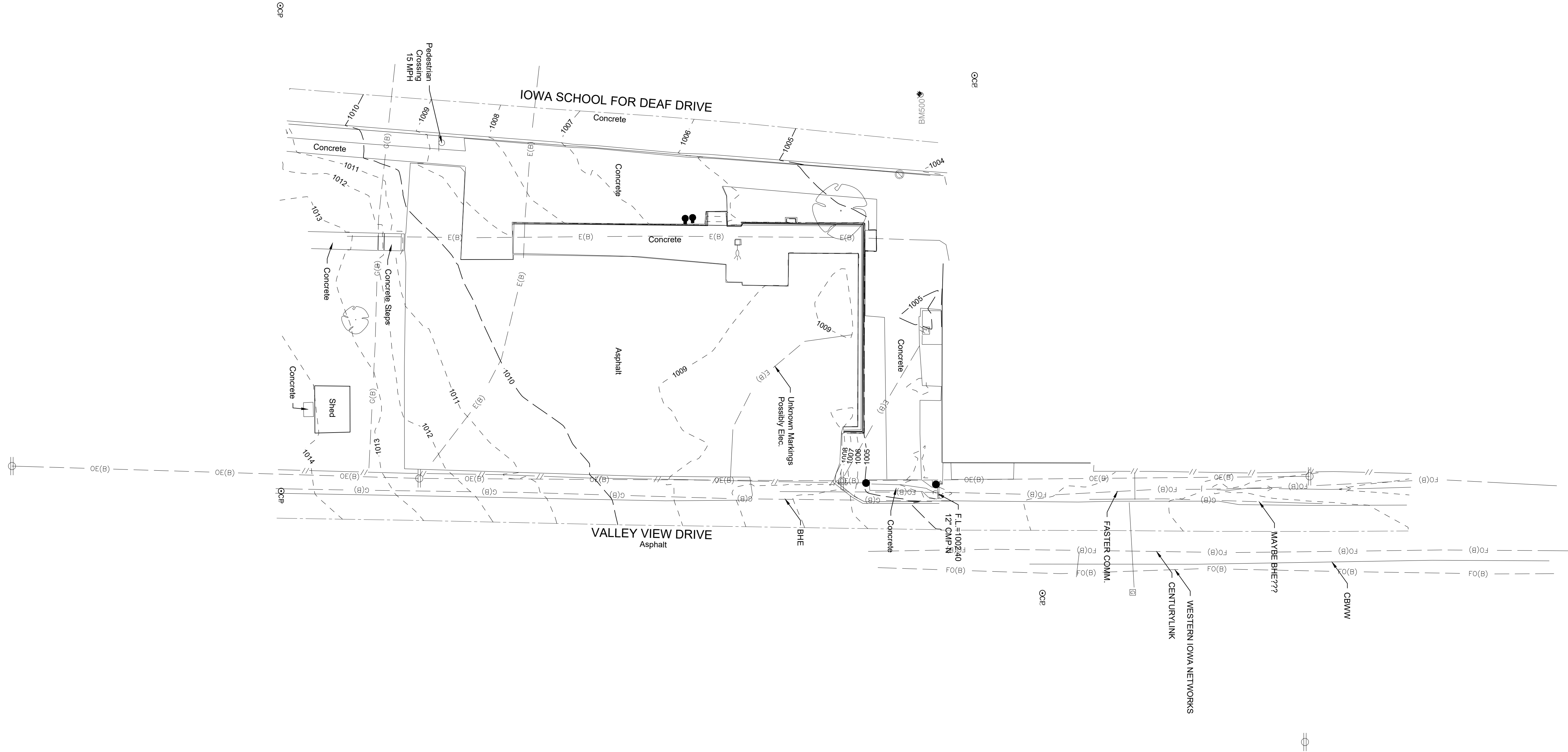
**SNYDER & ASSOCIATES**

Project No: 125.0595.10

Sheet C2

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# EXISTING SITE SURVEY



MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: JWI	Scale: 1" = 20'	
Technician: TEM	Date: 10-31-2025	T-R-S: T74N-R43W-8	
Project No: 125.0595.10			Sheet C3

**DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR**  
**EXISTING SITE SURVEY**  
**COUNCIL BLUFFS, IOWA**  
**SNYDER & ASSOCIATES, INC. I**

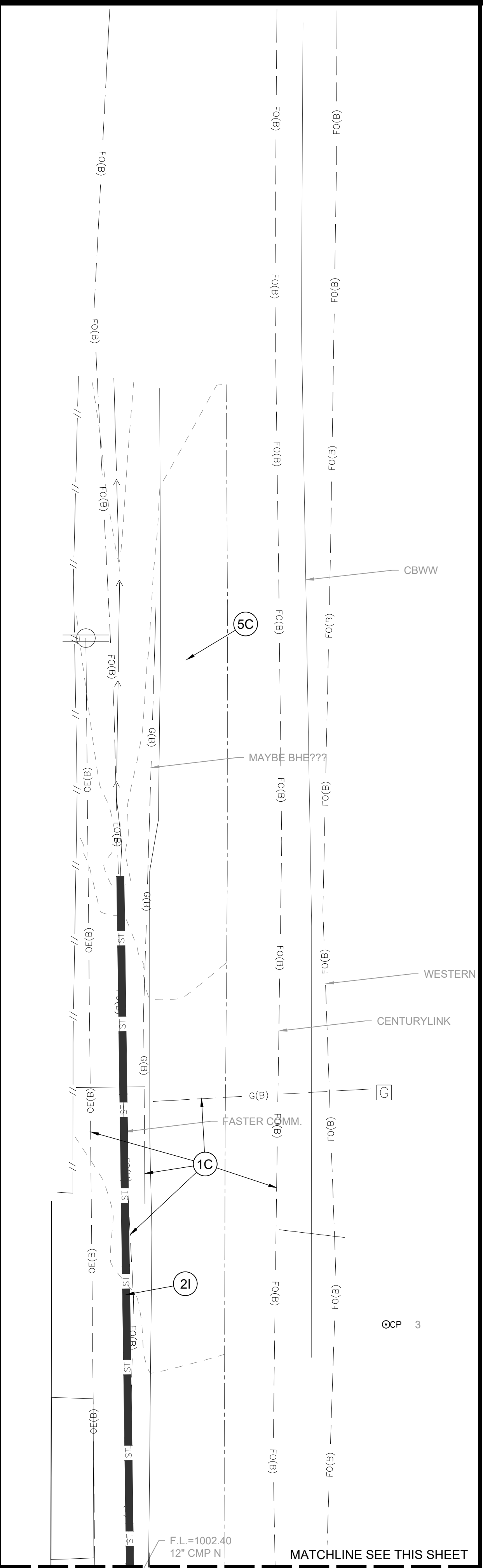
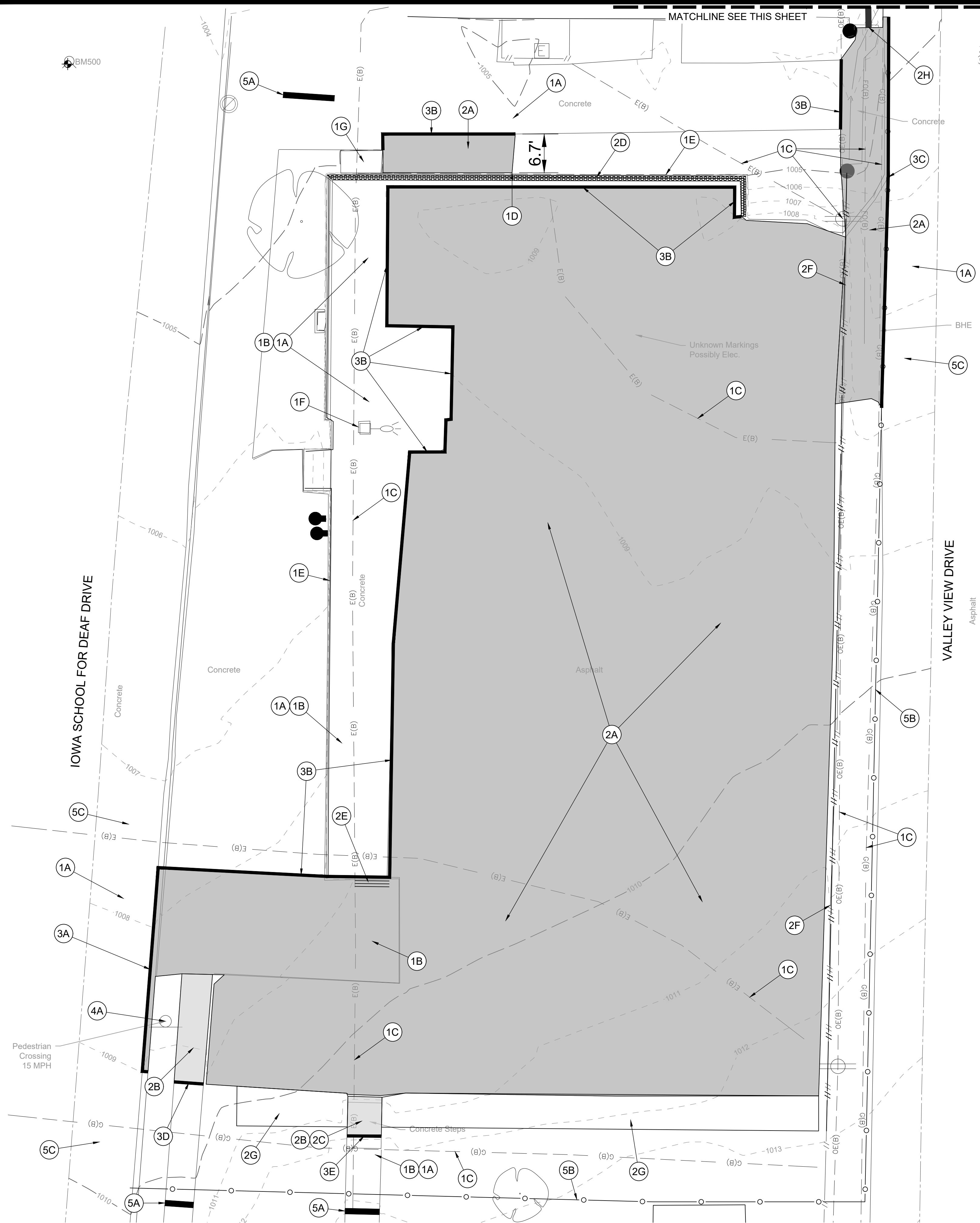
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**SNYDER & ASSOCIATES**

Project No: 125.0595.10  
 Sheet C3

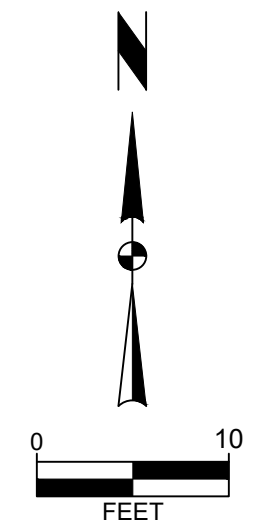
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I:\Projects\2025\1250595.10\CAD\1250595.10\REMOVALS.dwg RACHEL DICKNEY, REMOVAL PLAN, 2025/10/01, 2:35 PM, ANSI FULL BLEED (0.40 X 22.00 INCHES)



- REMOVAL PLAN NOTES**
- EXISTING FEATURES, PROTECT THE FOLLOWING:
    - PAVEMENT TO REMAIN.
    - UNDERGROUND TUNNEL (REFER TO NOTES ON SHEET C8 FOR VEHICLE LIMITATIONS).
    - EXISTING UTILITIES.
    - EXISTING STEEL RAIL & CONCRETE CURB.
    - EXISTING CONCRETE WALL.
    - EXISTING LIGHT POLE.
    - EXISTING CONCRETE TUNNEL LID.
  - REMOVAL & DISPOSAL OF THE FOLLOWING:
    - PAVEMENT.
    - CONCRETE SIDEWALK.
    - CONCRETE STEPS.
    - CONCRETE WALL (LOOSE MATERIAL & PROJECTIONS FROM EXISTING WALL).
    - (3) W4X13 BEAMS (TEMPORARY SHORE TUNNEL SLAB PRIOR TO REMOVAL).
    - CHAIN LINK FENCE. REMOVE ALONG PROJECT LIMITS FROM NEAREST POST ON EACH END.
    - ±12" GROUND SURFACE REMOVAL FOR NEW PAVEMENT, SEE SHEET C7.
    - HEADWALL INLET.
    - 12" CMP, APPROXIMATELY 90 LF (REMOVE ENTIRE PIPE).
  - SAWCUT THE FOLLOWING LOCATIONS:
    - ALONG IOWA SCHOOL FOR THE DEAF DRIVE.
    - ALONG EXISTING JOINT LINE WITH TUNNEL.
    - ALONG VALLEY VIEW DRIVE.
    - SIDEWALK.
    - UNDER THE STAIRS THE EXPOSED TUNNEL TOP CAN BE SEEN. ONLY REMOVE THE TOP SIDEWALK LAYER. DO NOT DISTURB TUNNEL.
  - REMOVE & RESET THE FOLLOWING:
    - SIGN & POST ("PEDESTRIAN CROSSING 15 MPH").
  - CLOSURES & TRAFFIC CONTROL, PROVIDE THE FOLLOWING:
    - SIDEWALKS CLOSED DURING CONSTRUCTION. PROVIDE SIGNAGE AND ADA-COMPLIANT PEDESTRIAN DETOUR.
    - ORANGE SAFETY FENCE, INSTALL AND MAINTAIN FOR SITE PROTECTION.
    - CONTRACTOR TO MAINTAIN ONE LANE OF TRAFFIC AT ALL TIMES BY PROVIDING APPROPRIATE BARRICADES, CONES AND SIGNAGE, ACCORDING TO MUTCD.

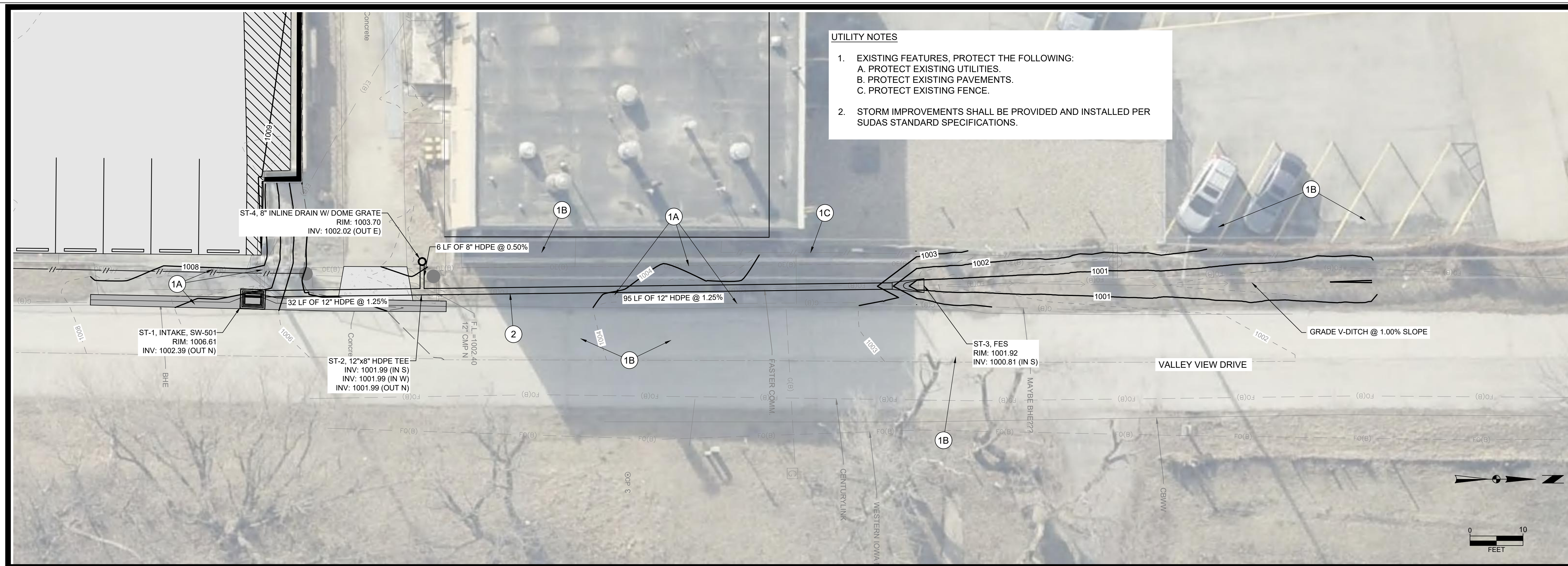
- LEGEND**
- PAVEMENT REMOVAL
  - SIDEWALK REMOVAL
  - SAW CUT
  - REMOVAL OF LOOSE MATERIAL & PROJECTIONS FROM EXISTING WALL



<b>DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR</b>		<b>COUNCIL BLUFFS, IOWA</b>	<b>REMOVAL PLAN</b>	<b>SNYDER &amp; ASSOCIATES, INC. I</b>
<b>REMOVAL PLAN</b>		 Project No: 125.0595.10		
MARK	REVISION	CHECKED BY	DATE	BY
Engineer: EAH	Checked By: TRV	Date: 10-31-2025	Scale: 1" = 10'	Sheet C4
Technician: RMD				Project No: 125.0595.10
		231 BENNETT AVENUE COUNCIL BLUFFS, IOWA 51503 712-322-3202   www.snyder-associates.com		
		<b>SNYDER &amp; ASSOCIATES</b>		
		Project No: 125.0595.10 Sheet C4		

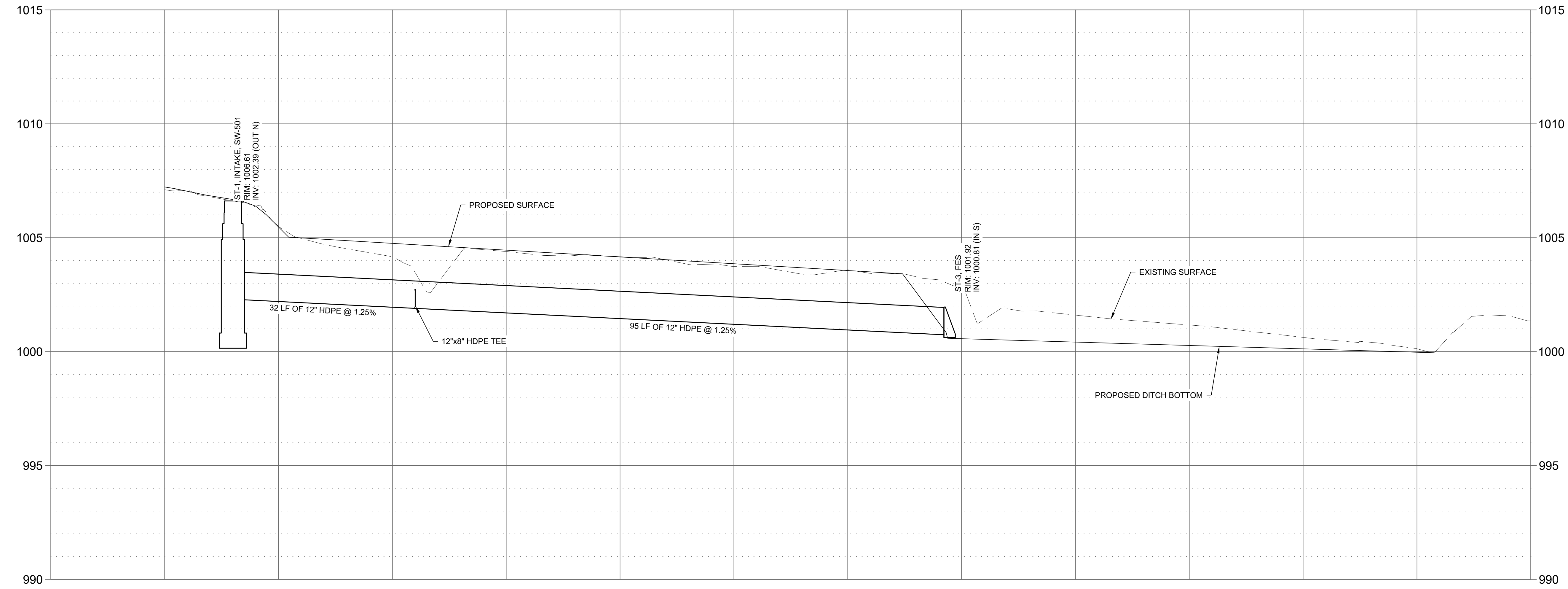
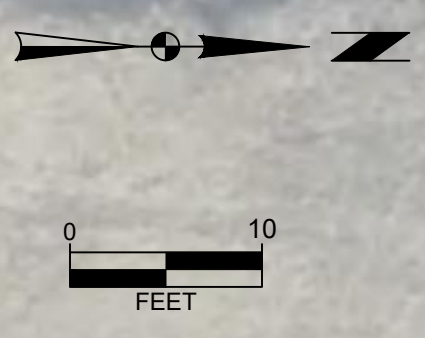


I:\Projects\2025\125.0595.10\CADD\1250595.10\STORM AND DITCH PLAN.dwg, RACHEL DICKEY, STORM PLAN & PROFILE, 2/26/2025, 2:35 PM, ANSI FILL BLEED, 0.00, 0.00 X 22.00 INCHES



**UTILITY NOTES**

- EXISTING FEATURES, PROTECT THE FOLLOWING:
  - PROTECT EXISTING UTILITIES.
  - PROTECT EXISTING PAVEMENTS.
  - PROTECT EXISTING FENCE.
- STORM IMPROVEMENTS SHALL BE PROVIDED AND INSTALLED PER SUDAS STANDARD SPECIFICATIONS.



MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: TRV	Scale: 1" = 10'	
Technician: RMD	Date: 10-31-2025	T-R-S: 74N-43W-8	

Project No: 125.0595.10 **Sheet C6**

**DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR**

**COUNCIL BLUFFS, IOWA**

**STORM PLAN & PROFILE**

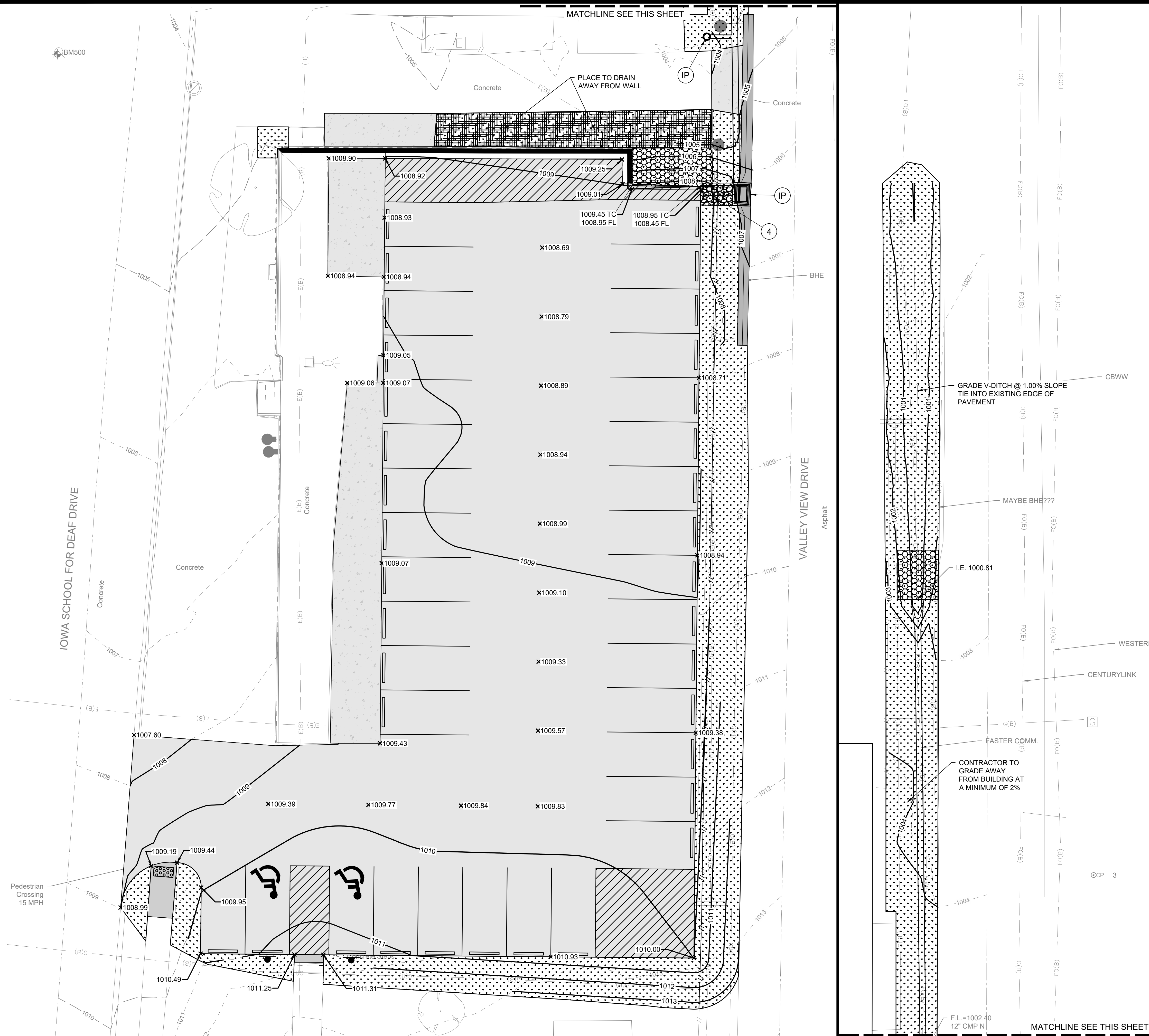
**SNYDER & ASSOCIATES, INC. |**

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Project No: 125.0595.10

Sheet C6

I:\Projects\2025\1250595\_10\CAD\1250595\_C\_GRAADING.dwg RACHEL DICKEY, GRADING, SEEDING & EROSION CONTROL PLAN, 2025/10/31 3:38 PM, ANSI FULL BLEED D (24.00 X 22.00 INCHES)



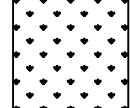

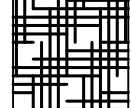

**GRADING PLAN NOTES**

1. CONTRACTOR TO STRIP AND STOCKPILE TOPSOIL ON ALL AREAS TO BE CUT OR FILLED. RE-SPREAD TO MINIMUM 6" DEPTH TO FINISH GRADES.
2. ANY EXCESS CUT TO BE HAULED OFF AS DIRECTED BY ENGINEER DURING CONSTRUCTION. PLACE TOPSOIL OVER ALL AREA DISTURBED.
3. GRADES SHOWN ARE FINISHED GRADE AND/OR TOP OF PAVING SLAB, UNLESS OTHERWISE NOTED.

SPOT ELEVATIONS INDICATE TOP OF SLAB, FINISH FLOOR ELEVATION, OR FINISH GRADE, UNLESS OTHERWISE NOTED. FL=FLOW LINE

**EROSION CONTROL & SWPPP NOTES**

1. ALL DRAINAGE SWALES AND SLOPES 5 TO 1 OR GREATER TO BE SEEDED AND MATTED USING COMMERCIALY AVAILABLE EROSION CONTROL SEED. MIXTURE APPLIED AT RATE RECOMMENDED BY SUPPLIER.
2. EROSION CONTROL: SEED THE SITE AFTER ROUGH GRADING HAS BEEN COMPLETED. PLACE SILT FENCE AND MAINTAIN IN PROBLEM AREAS AFTER GROUND COVER HAS BEEN ESTABLISHED. COMPLY WITH EROSION CONTROL LAW.
3. CONTRACTOR TO INSTALL INLET PROTECTION PER SUDAS AT THE LOCATIONS INDICATED.
4. REMOVE TEMPORARY EROSION CONTROL MEASURES ONCE FINAL STABILIZATION IS REACHED.
5. 4' X 6' SCOUR STOP TO BE INSTALLED FROM EDGE OF PAVEMENT TO INLET.

- LEGEND**
-  SEEDING - SUDAS TYPE 1 SEED MIX
  -  REINFORCED MATTING
  -  EROSION CONTROL FABRIC & 6" CRUSHED LIMESTONE
  -  INLET PROTECTION

MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: TRV	Scale: 1" = 10'	
Technician: RMD	Date: 10-31-2025	T-R-S: 74N-43W-8	

Project No: 125-0595.10 **Sheet C7**

**DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR**  
**GRADING, SEEDING & EROSION CONTROL PLAN**  
**COUNCIL BLUFFS, IOWA**  
**SNYDER & ASSOCIATES, INC. I**

**SNYDER & ASSOCIATES**

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Project No: 125.0595.10  
**Sheet C7**

I:\Projects\2025\1250595\1250595-LOCAD01\250595-LOCAD01-STRUCT NOTES & DETAILS.dwg RACHEL DICKER, STRUCTURAL NOTES, 2025/10/31, 2:28 PM, ANSI FULL BLEED D (34.00 X 22.00 INCHES)

GENERAL STRUCTURAL NOTES

1. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
2. ALL OF THE WORK TO BE DONE UNDER THIS CONTRACT SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DRAWINGS, THE GENERAL REQUIREMENTS OF DIVISION ONE, THE GENERAL CONDITIONS, THE SPECIFICATIONS, AND ANY ADDENDA THERETO.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ACQUAINT THEMSELVES AND ALL SUPERVISORY PERSONNEL WITH THE ABOVE-NAMED DRAWINGS AND DOCUMENTS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTING THE SITE OF THE PROPOSED WORK TO SATISFY THEMSELVES AS TO THE EXISTING CONDITIONS RELATIVE TO THE CONTRACT.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL TEMPORARY SHORING/BRACING OF WALLS, SLABS, COLUMNS, ETC., AS REQUIRED BY ALL FEDERAL, STATE AND LOCAL AGENCIES HAVING JURISDICTION, UNTIL ALL PERMANENT FRAMING IS INSTALLED.
6. UTILITY LOCATIONS ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. SHOULD ANY UTILITIES BE FOUND DIFFERENT THAN LOCATED OR SHOWN ON THE DRAWINGS, THEY SHALL BE PROTECTED IN PLACE AND THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
7. ALL CONSTRUCTION SHALL CONFORM TO INTERNATIONAL BUILDING CODE 2015 UNLESS NOTED OTHERWISE.
8. DIMENSIONS MARKED +/- REQUIRE VERIFICATION BY THE CONTRACTOR.
9. IN ANY CASE OF CONFLICT BETWEEN THE NOTES, DETAILS AND SPECIFICATIONS, THE MOST STRINGENT REQUIREMENTS SHALL GOVERN. CONTRACTOR SHALL MAKE NO DEVIATION FROM DESIGN DRAWINGS WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
10. PROTECT AND SHORE ALL OF THE UTILITIES INSIDE AND OUTSIDE OF THE TUNNEL AS REQUIRED.
11. PROTECTIVE FENCE TO BE INSTALLED DURING WORK PREVENTING ENTRANCE TO EXCAVATED AREA. SNOW FENCE TO BE USED AND MAINTAINED THROUGHOUT CONSTRUCTION.
12. UTILITIES WITHIN THE TUNNEL MUST BE PROTECTED IN PLACE.
13. ALL PRODUCTS LISTED IN THESE DRAWINGS ARE THE BASIS-OF-DESIGN AND NOT REQUIRED PRODUCTS, CONTRACTOR MAY USE PRODUCTS THAT ARE SIMILAR OR BETTER IN PERFORMANCE.
14. EXISTING TUNNEL LID AT ENTRY DRIVE RATED FOR 20,000 LBS VEHICLE WITH 8,000 LB WHEEL LOAD MAXIMUM WHEN TOPPING PAVEMENT IS IN PLACE. WHEN PAVEMENT OVER TUNNEL AT ENTRY DRIVE IS REMOVED EXISTING TUNNEL IS RATED FOR 10,000 LB VEHICLE.
15. EXISTING EXPOSED TUNNEL LID WEST OF THE PARKING LOT WHEEL STOPS RATED FOR 10,000 LB VEHICLE WITH 4,000 LB WHEEL LOAD MAXIMUM. ALL EXPOSED TUNNEL LID TO REMAIN AND BE PROTECTED IN PLACE.

MASONRY

1. MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530, 530.1, TMS 602, CURRENT EDITIONS.
2. MORTAR FOR MASONRY BEARING WALLS TO BE TYPE S.
3. ALL GROUT TO TEST 2000 PSI AT 28 DAYS.
4. DESIGN  $f_m = 2000$  PSI.
5. GROUT SHALL HAVE A COMPOSITION MEASURED BY VOLUME CONSISTING OF ONE PART PORTLAND CEMENT AND TWO PARTS OF SAND WITH TWO PARTS OF PEA GRAVEL. SLUMP SHALL BE MEASURED ON A TRUNCATED METAL CONE.
6. MORTAR SHALL NOT BE USED AS GROUT.
7. MORTAR "FINS" PROTRUDING FROM JOINTS SHOULD BE REMOVED BEFORE POURING GROUT.
8. ALL CONCRETE BLOCK SHALL COMPLY WITH ASTM C90.

DRILLED-IN-DOWELS AND ANCHOR BOLTS

1. HOLES FOR DOWELS SHALL BE DRILLED INTO THE EXISTING CONCRETE AT THE LOCATIONS AND OF THE SIZE SHOWN ON THE PLANS. EMBED DRILLED-IN-DOWELS 15 BAR OR ANCHOR BOLT DIAMETERS MINIMUM, UNLESS NOTED OTHERWISE. AFTER HOLES ARE DRILLED, THEY SHALL BE BLOWN CLEAN WITH OIL-FREE COMPRESSED AIR BEFORE THE EPOXY RESIN IS PLACED IN THE HOLE. THE HOLE SHALL BE FILLED WITH EPOXY RESIN TO A LEVEL SUCH THAT AFTER THE BAR IS INSERTED, THE EPOXY WILL RISE TO THE SURFACE OF THE HOLE. IN OVERHEAD APPLICATIONS, WORK AND SECURE ENOUGH EPOXY RESIN INTO THE HOLE SUCH THAT WHEN THE DOWEL IS INSERTED, THE EPOXY RESIN COMPLETELY FILLS THE VOID AROUND THE DOWEL. SECURE THE EPOXY RESIN IN PLACE FOR CURING BY PLUGGING THE HOLE AROUND THE SHANK OF THE DOWEL. REINFORCING STEEL DOWELS OR ANCHOR BOLTS OF THE SIZE SHOWN ON THE PLANS SHALL BE INSERTED INTO THE HOLE IMMEDIATELY AFTER THE EPOXY RESIN IS PLACED. THE EPOXY RESIN SHALL BE PERMITTED TO SET BEFORE NEW CONCRETE IS PLACED AROUND THE ANCHOR.

CONCRETE REINFORCING PLACEMENT SHOP DRAWINGS

1. INDICATE DIMENSION AND LOCATIONS OF CONSTRUCTION AND MOVEMENT JOINTS REQUIRED TO CONSTRUCT THE STRUCTURE IN ACCORDANCE WITH ACI 301 (ACI 301M).
2. INCLUDE PLACING DRAWINGS THAT DETAIL FABRICATION, BENDING, AND PLACEMENT.
3. INCLUDE BAR SIZES, LENGTHS, MATERIALS, GRADES, BAR SCHEDULES, BENT BAR DIAGRAMS, BAR ARRANGEMENT, LOCATION OF SPLICES, LENGTHS OF LAP SPLICES, DETAILS OF MECHANICAL SPLICE COUPLERS, AND SUPPORTS FOR CONCRETE REINFORCEMENT.
4. CONSTRUCTION JOINT LAYOUT: INDICATE PROPOSED CONSTRUCTION JOINTS REQUIRED TO BUILD THE STRUCTURE.
5. LOCATION OF CONSTRUCTION JOINTS IS SUBJECT TO APPROVAL OF THE ENGINEER.

CONCRETE DESIGN MIXTURES SHOP DRAWINGS

FOR EACH CONCRETE MIXTURE, INCLUDE THE FOLLOWING:

1. MIXTURE IDENTIFICATION.
2. MINIMUM 28-DAY COMPRESSIVE STRENGTH.
3. MAXIMUM W/CM.
4. SLUMP LIMIT.
5. AIR CONTENT.
6. NOMINAL MAXIMUM AGGREGATE SIZE.
7. INDICATE AMOUNTS OF MIXING WATER TO BE WITHHELD FOR LATER ADDITION AT PROJECT SITE IF PERMITTED.
8. INTENDED PLACEMENT METHOD.
9. SUBMIT ALTERNATE DESIGN MIXTURES WHEN CHARACTERISTICS OF MATERIALS, PROJECT CONDITIONS, WEATHER, TEST RESULTS, OR OTHER CIRCUMSTANCES WARRANT ADJUSTMENTS.

CONCRETE REPAIR PRODUCT DATA

1. FOR EACH TYPE OF CONCRETE OR MASONRY REPAIR PRODUCT, SUBMIT THE PRODUCT DATA FOR APPROVAL PRIOR TO USE.

SPECIAL INSPECTION

1. SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 1704 OF THE 2015 INTERNATIONAL BUILDING CODE, AND ICBO MODEL PROGRAM FOR SPECIAL INSPECTION.
2. THE OWNER WILL EMPLOY AN APPROVED AGENCY TO PERFORM THE SPECIAL INSPECTION SERVICES.
3. SPECIAL INSPECTION WILL BE PERFORMED IN ACCORDANCE WITH AND IN ADDITION TO THE INSPECTION AND TESTING REQUIRED BY THE DRAWINGS AND SPECIFICATIONS.
4. CAST AND LAB CURE FOUR CYLINDERS FOR EACH CONCRETE POUR, TEST AT 7 DAYS, TWO AT 28 DAYS AND HOLD ONE FOR 56 DAYS.
5. THE FOLLOWING ITEMS ARE INCLUDED IN THE SPECIAL INSPECTION:

CONCRETE: AIR-ENTRAINMENT  
 SLUMP  
 COMPRESSIVE STRENGTH TESTING  
 REINFORCING PLACEMENT  
 POLYMER REPAIR MORTAR PLACEMENT VISUAL INSPECTION

SOIL: PAVEMENT SUBGRADE AND FILL COMPACTION.

CONCRETE

1. CONCRETE TO BE IN ACCORDANCE WITH "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301 CURRENT EDITION)".
2. REINFORCING STEEL TO BE BENT AND PLACED IN ACCORDANCE WITH "MANUAL OF STD. PRACTICE FOR DETAILING CONCRETE STRUCTURES (ACI 315 CURRENT EDITION)".
3. ALL CONCRETE SHALL BE 4000 PSI AT 28 DAYS.
4. CONCRETE EXPOSED TO FREEZE/THAW CONDITIONS SHALL BE AIR ENTRAINED.
5. COARSE AGGREGATE FOR SLABS AND EXPOSED WALLS TO BE CRUSHED LIMESTONE.
6. MAXIMUM AGGREGATE SIZE TO BE 1" - U.N.O.
7. ALL AGGREGATE IN ACCORDANCE WITH ASTM C33. LIMIT SHALE, CHERT, COAL AND IRON OXIDE.
8. 4000 PSI CONCRETE TO HAVE A MIN. 6 SACKS CEMENT/MAX. 5 GAL. OF WATER/SACK.
9. WATER REDUCER REQUIRED FOR ALL WALLS AND SLABS.
10. CONCRETE WATER-CEMENT RATIO INDICATED FOR DESIGN MIXES TO HAVE CEMENT CONTENT ADJUSTED TO PROVIDE A WORKABLE MIX.
11. USE OF CALCIUM CHLORIDES PROHIBITED.
12. ALL REINFORCING STEEL TO BE ASTM A615 - GRADE 60.
13. CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR TO BE:  
3" CAST AGAINST EARTH  
2" WALLS AND SLABS ON GRADE (DISTANCE FROM TOP OF SLAB TO NEAR BAR)
14. ALL REINFORCING STEEL SHALL BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS PLACED.
15. MAXIMUM SPACING OF BAR SUPPORTS TO BE 3'-0" O.C. EACH WAY.
16. PROVIDE 2-#5 BARS AROUND ALL SIDES OF HOLES THROUGH CONCRETE WALLS AND SLABS. AT WALLS AND SLABS WITH MULTIPLE MATS OF REINFORCING, PROVIDE SUPPLEMENTAL REINFORCING BARS IN EACH FACE OF MEMBER. BARS TO EXTEND 2'-0" BEYOND EDGES OF OPENINGS.
17. PROVIDE CLASS B TENSION LAP SPLICES FOR CONTINUOUS BARS UNLESS OTHERWISE SHOWN.
18. ALL SLAB REINFORCING STEEL SHALL CONTINUE THROUGH SLAB CONSTRUCTION JOINTS.
19. DO NOT SAWCUT STRUCTURAL SLABS WITHOUT PRIOR APPROVAL OF ENGINEER.
20. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF ALL OPENINGS IN WALLS, SLABS AND FOUNDATIONS FOR DUCTS, PIPES, UTILITY LINES AND OTHER PENETRATIONS WITH THE RESPECTIVE TRADES. ALL SUCH PENETRATIONS SHALL BE FORMED OR SLEEVED IN CONCRETE AND STEEL LINTELS IN MASONRY WALLS.
21. UNLESS OTHERWISE DETAILED ON PLANS, NO OTHER OBJECTS SHALL BE PLACED IN SLABS WITHOUT PRIOR APPROVAL OF ENGINEER (I.E. CONDUIT, MECHANICAL LINES, PLUMBING LINES, ETC.).
22. ALL CONCRETE SLABS SHALL BE POURED TO UNIFORM THICKNESS AS INDICATED ON PLANS.
23. ALL REINFORCING BARS SHALL BE LAPPED AS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS. WHERE NOT SPECIFICALLY INDICATED ON THE DRAWINGS, ALL REINFORCING BARS SHALL BE LAPPED AS FOLLOWS: LAP WALL/BEAM TOP HORIZONTAL REINFORCEMENT AT CENTER OF SPAN. LAP WALL/BEAM BOTTOM HORIZONTAL REINFORCEMENT AT SUPPORT. TERMINATE CONTINUOUS BARS AT DISCONTINUOUS ENDS WITH STANDARD HOOKS.
24. PROVIDE CONSTRUCTION JOINTS IN ACCORDANCE WITH ACI 318, CHAPTER 6.4. SUBMIT SHOP DRAWINGS SHOWING CONSTRUCTION JOINT LOCATIONS ALONG WITH THE SEQUENCE OF POURS FOR REVIEW.
25. NEW WATERSTOPS TO BE BENTONITE SELF ADHERING STRIPS 1"x3/4". SIKA SWELLSTOP OR APPROVED EQUAL.

DEMOLITION AND SHORING

1. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO ENSURE THAT PARTS OF THE STRUCTURE TO BE PRESERVED ARE NOT DAMAGED BY THE APPLICATION OF EXCESSIVE LOADS OR BY ANY OTHER MEANS, AND THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY DAMAGE CAUSED.
2. ENSURE SAFE PASSAGE OF PERSONS AROUND AREA OF DEMOLITION AND CONSTRUCTION. CONDUCT OPERATIONS TO PREVENT INJURY TO ADJACENT BUILDINGS, STRUCTURES, EQUIPMENT AND OTHER FACILITIES AND PERSONS.
3. EXISTING STRUCTURE SHALL BE TEMPORARILY SHORED AS REQUIRED TO PERFORM CONSTRUCTION SHOWN HEREIN. MEMBERS SHALL BE REMOVED IN SUCH A MANNER AS NOT TO DAMAGE EXISTING STRUCTURE.
4. ALL REMOVALS OF EXISTING CONCRETE SHALL BE INITIATED WITH A NEAT, 3/4" MIN. DEEP STRAIGHT SAW CUT. ADJUST DEPTH OF CUT WHERE EXPOSED REBAR SHOWS REBAR CLOSER TO AVOID DAMAGING EXISTING REINFORCING.
5. PROTECT EXISTING REINFORCING STEEL IN PLACE. EXERCISE EXTREME CARE TO AVOID DAMAGING EXISTING REINFORCEMENT.
6. EXACT LOCATION OF EXISTING REINFORCEMENT IS TO BE DETERMINED BY THE CONTRACTOR USING A REBAR LOCATOR OR SIMILAR METHOD.
7. LOCATE HOLES FOR BOLTS TO AVOID EXISTING REINFORCEMENT.
8. CONTRACTOR RESPONSIBLE TO REPAIR DAMAGED EXISTING REINFORCEMENT TO THE SATISFACTION OF THE ENGINEER/OWNER. CONTRACTOR RESPONSIBLE FOR ALL COSTS AND DELAYS ASSOCIATED WITH THE REPAIR.
9. IN THE EVENT OF CONFLICTS, NOTIFY ENGINEER PRIOR TO FIELD MODIFICATIONS OF DETAILS, CONNECTIONS, OR DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS.

FOUNDATION NOTES

1. ALL FOOTINGS SHALL REST ON UNDISTURBED SOIL OR CONTROLLED COMPACTED FILL. IF UNUSUAL OR QUESTIONABLE CONDITIONS ARE ENCOUNTERED, DO NOT PROCEED UNTIL THE ARCHITECT AND ENGINEER HAVE BEEN NOTIFIED.
2. PROVIDE KEYWAY AT TOP OF ALL FOOTINGS, END OF WALL POURS, AND END OF FOOTING POURS.
3. PROVIDE DOWELS FROM FOOTINGS TO WALLS. USE SAME NUMBER AND SPACING AS VERTICAL WALL BARS, U.N.O.
4. PROVIDE BENT BARS 2'-0" X 2'-0" AT ALL CORNERS AND INTERSECTIONS IN WALLS AND FOOTINGS. USE SAME NUMBER AND SPACING AS HORIZONTAL BARS.
5. BACKFILL EACH SIDE OF WALL SIMULTANEOUSLY.
6. WALLS BACKFILLED ON ONE SIDE ONLY ARE TO BE ADEQUATELY BRACED UNTIL BACKFILL IS COMPLETED.
7. FORM TOPS OF ALL FOOTINGS, TO ENSURE CORRECT LINE AND GRADE.
8. BOTTOM OF EXTERIOR FOOTINGS AND WALLS TO BE AT LEAST 3'-6" BELOW FINAL GROUND LINE.
9. FOUNDATION CONSTRUCTION SHALL CONFORM TO ISG-TEAM INC. PROJECT NO. 71-70.
10. THE CONTRACTOR SHALL HIRE A SOIL TESTING LABORATORY TO VERIFY SOIL BEARING CAPACITY OF EACH FOOTING PRIOR TO PLACING CONCRETE.
11. SHOULD THE SOILS BECOME DISTURBED OR SATURATED PRIOR TO CONCRETE PLACEMENT; AFFECTED SOIL SHALL BE REMOVED AND REPLACED WITH CONTROLLED COMPACTED ENGINEERED FILL.
12. IF UNSUITABLE SUPPORT MATERIALS ARE ENCOUNTERED, SOIL SHALL BE EXCAVATED UNTIL SUITABLE SOIL IS ENCOUNTERED. BACKFILL SHALL BE WITH CONTROLLED COMPACTED ENGINEERED FILL ACCORDING TO GEOTECHNICAL ENGINEER.
13. NET ALLOWABLE FOUNDATION BEARING PRESSURE ON UNDISTURBED SOIL = 1500 PSF.
14. THE CONTRACTOR IS REQUIRED TO SUBMIT A CONTROL/COLD JOINT LAYOUT FOR ALL CAST-IN-PLACE EXPOSED CONCRETE TO THE ENGINEER FOR APPROVAL PRIOR TO PERFORMING THE WORK. ANY WORK REQUIRING DEMOLITION DUE TO IMPROPERLY PLACED JOINTS WILL BE DONE AT NO ADDITIONAL COST TO THE OWNER. THE JOINT LOCATIONS SHOWN ON THE STRUCTURAL PLANS ARE FOR SCHEMATIC PURPOSES ONLY.
15. CONTRACTOR SHALL BE RESPONSIBLE TO ADEQUATELY PROTECT ALL EXCAVATION SLOPES. WHERE NECESSARY, SHEETING AND SHORING OF EXCAVATION SHALL BE PROVIDED WITH ALL REQUIRED TIE-BACKS AND BRACING.
16. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION TO ALL FOOTINGS DURING CONSTRUCTION TO PREVENT SUPPORTING SOIL FROM FREEZING, USING ADDITIONAL TEMPORARY SOIL COVER OR OTHER MEANS. BOTTOM OF FOOTINGS SHALL BE A MINIMUM OF 3'-6" BELOW TOP OF TEMPORARY SOIL COVER.

MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: TRV	Scale: 1" = N/A	
Technician: RMD	Date: 10-31-2025	T-R-S: 74N-43W-8	
Project No.: 125-0595.10			Sheet C8


**DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR**

**STRUCTURAL NOTES**

**COUNCIL BLUFFS, IOWA**

**SNYDER & ASSOCIATES, INC. I**

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Project No: 125.0595.10

Sheet C8

CONCRETE WALL MIX DESIGN

- 1. CONTRACTOR TO SUBMIT CONCRETE MIXTURE DESIGN AND PRODUCT DATA FOR EACH PRODUCT USED. THE CONCRETE MIX SHALL INCLUDE A MIXTURE IDENTIFICATION NUMBER AND A LIST OF ALL DESIGN VALUES AND PRODUCT QUANTITIES USED FOR THE MIXTURE.
2. PORTLAND CEMENT: ASTM C150/C150M, TYPE II, GRAY.
3. FLY ASH: ASTM C618, CLASS C OR F.
4. SLAG CEMENT: ASTM C989/C989M, GRADE 100 OR 120.
5. NORMAL-WEIGHT AGGREGATES: ASTM C33/C33M, COARSE AGGREGATE OR BETTER, GRADED. PROVIDE AGGREGATES FROM A SINGLE SOURCE.
6. ALKALI CONTENT IN CONCRETE: NOT MORE THAN 4 LB./CU. YD. FOR MODERATELY REACTIVE AGGREGATE OR 3 LB./CU. YD. FOR HIGHLY REACTIVE AGGREGATE, WHEN TESTED IN ACCORDANCE WITH ASTM C1293 AND CATEGORIZED IN ACCORDANCE WITH ASTM C1778, BASED ON ALKALI CONTENT BEING CALCULATED IN ACCORDANCE WITH ACI 301.
7. AIR-ENTRAINING ADMIXTURE: ASTM C260/C260M.
8. MAXIMUM COARSE-AGGREGATE SIZE: 1 INCH NOMINAL.
9. FINE AGGREGATE: FREE OF MATERIALS WITH DELETERIOUS REACTIVITY TO ALKALI IN CEMENT.
10. CHEMICAL ADMIXTURES: CERTIFIED BY MANUFACTURER TO BE COMPATIBLE WITH OTHER ADMIXTURES THAT DO NOT CONTRIBUTE WATER-SOLUBLE CHLORIDE IONS EXCEEDING THOSE PERMITTED IN HARDENED CONCRETE. DO NOT USE CALCIUM CHLORIDE OR ADMIXTURES CONTAINING CALCIUM CHLORIDE IN STEEL-REINFORCED CONCRETE.
11. MINIMUM COMPRESSIVE STRENGTH: 4000 PSI AT 28 DAYS.
12. MAXIMUM W/CM: 0.44.
13. SLUMP LIMIT: FOR WATER REDUCED MIXES, 8 INCHES PLUS OR MINUS 1 INCH FOR CONCRETE WITH VERIFIED SLUMP OF 2 TO 4 INCHES BEFORE ADDING HIGH-RANGE WATER-REDUCING ADMIXTURE OR PLASTICIZING ADMIXTURE.
14. AIR CONTENT: 6 PERCENT, PLUS OR MINUS 1.5 PERCENT AT POINT OF DELIVERY FOR CONCRETE CONTAINING 1-INCH NOMINAL MAXIMUM AGGREGATE SIZE.
15. LIMIT WATER-SOLUBLE, CHLORIDE-ION CONTENT IN HARDENED CONCRETE TO 0.30 PERCENT BY WEIGHT OF CEMENT.
16. BONDING AGENT IS TO BE SIKA ARMATEC 110 EPOCEM BONDING AGENT OR APPROVED EQUAL.

STEEL

- 1. STRUCTURAL STEEL TO BE FABRICATED AND ERECTED IN ACCORDANCE WITH "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (AISC 360, CURRENT EDITION) AND "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" (AISC 303, CURRENT EDITION).
2. STRUCTURAL STEEL WIDE FLANGE SECTIONS IN ACCORDANCE WITH ASTM A992.
3. EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT TZ OR APPROVED EQUAL.GROUT MASONRY SOLID AT EXPANSION BOLTS.
4. ADHESIVE FOR ANCHORS SHALL BE HILTI HIT RE 500-SD OR APPROVED EQUAL.THREADED RODS SHALL BE HILTI HAS-E STANDARD RODS UNLESS NOTED OTHERWISE.
5. CUTS, HOLES, COPING, ETC. REQUIRED FOR WORK OF OTHER TRADES SHALL BE SHOWN ON THE SHOP DRAWINGS AND MADE IN THE SHOP. CUTS OR BURNING OF HOLES IN STRUCTURAL STEEL MEMBERS IN THE FIELD WILL NOT BE PERMITTED.
6. HOT DIP GALVANIZE ALL STRUCTURAL STEEL AFTER FABRICATION.

PAINTING

- 1. APPLY PAINTS ONLY WHEN TEMPERATURE OF SURFACES TO BE PAINTED AND AMBIENT AIR TEMPERATURES ARE BETWEEN 50 AND 95 DEG F.
2. DO NOT APPLY PAINTS WHEN RELATIVE HUMIDITY EXCEEDS 85 PERCENT; AT TEMPERATURES LESS THAN 5 DEG F ABOVE THE DEW POINT; OR TO DAMP OR WET SURFACES.
3. STEEL SUBSTRATES: REMOVE RUST, LOOSE MILL SCALE, AND SHOP PRIMER IF ANY. CLEAN USING METHODS RECOMMENDED IN WRITING BY PAINT MANUFACTURER PER SSPC-SP 6.
4. APPLY PAINTS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
5. FURNISH EXTRA MATERIALS, FROM THE SAME PRODUCT RUN, THAT MATCH PRODUCTS INSTALLED AND THAT ARE PACKAGED WITH PROTECTIVE COVERING FOR STORAGE AND IDENTIFIED WITH LABELS DESCRIBING CONTENTS.
6. PAINT PRODUCT:
SYSTEM TYPE: EPOXY/EPOXY
SURFACE PREPARATION: SSPC-SP6/NACE 3 COMMERCIAL BLAST CLEANING OR SSPC-SP3 POWER TOOL CLEANING (SSPC RUST GRADE CONDITION C)
PRIMER: SERIES 394 PERIMEPRIME, DFT 2.5 TO 3.5 MILS
INTERMEDIATE COAT: SERIES N69 HI-BUILD EPOXOLINE II, DFT 3.0 TO 5.0 MILS
FINISH COAT: SERIES N69 HI-BUILD EPOXOLINE II, DFT 4.0 TO 6.0 MILS
TOTAL DFT: 9.5 TO 14.5 MILS

PAINT SUBMITTAL

- 1. COLOR: STANDARD GRAY
2. PRODUCT DATA: FOR EACH TYPE OF PRODUCT. INCLUDE PREPARATION REQUIREMENTS AND APPLICATION INSTRUCTIONS.
3. INCLUDE PRINTOUT OF CURRENT "MPI APPROVED PRODUCTS LIST" FOR EACH PRODUCT CATEGORY SPECIFIED, WITH THE PROPOSED PRODUCT HIGHLIGHTED.
4. INDICATE VOC CONTENT.
5. SAMPLES FOR VERIFICATION: FOR EACH TYPE OF PAINT SYSTEM AND EACH COLOR AND GLOSS OF TOPCOAT.

CONCRETE REPAIR NOTES

- 1. ALL EXISTING CONCRETE TO BE REMOVED IS TO BE REMOVED TO NEAT LINES. ALL SUCH REMOVALS SHALL BE TO NEAT SAW CUTS TO PROVIDE CLEAN STRAIGHT SURFACES AT INTERFACES BETWEEN NEW CONCRETE AND REMAINING CONCRETE. PATCHING REQUIRED DUE TO POOR REMOVAL PRACTICES WILL BE AT THE DIRECTION OF THE ENGINEER AND AT THE CONTRACTORS EXPENSE.
2. ALL CONCRETE REMOVALS SHALL COMMENCE WITH A NEAT 3/4 " DEEP, STRAIGHT SAW CUT. ALL SAW CUTS SHALL TERMINATE AT A 90 DEG RIGHT ANGLE. SAW CUTS SHALL NOT OVERLAP. DO NOT CUT EXISTING REINFORCING.
3. EXPOSED REINFORCING SHALL BE CLEANED TO BARE METAL BY SANDBLASTING AND BASF/MASTER BUILDERS MASTEREMACO P124 OR APPROVED EQUAL APPLIED TO EXPOSED STEEL.
4. ALL SURFACES OF OLD CONCRETE AGAINST WHICH NEW PATCHING MORTAR OR REPAIR CONCRETE IS TO BE PLACED SHALL BE THOROUGHLY CLEANED AND ALL LOOSE MATERIAL SHALL BE REMOVED BY DRY SWEEPING AND BLOWING OUT WITH CLEAN, DRY COMPRESSED AIR AND BASF/MASTER BUILDERS MASTEREMACO P124 OR APPROVED EQUAL APPLIED TO SURFACES.
5. ALL EXISTING REINFORCING BARS THAT ARE EXPOSED BY CONCRETE REMOVAL SHALL BE CLEANED AND CAREFULLY INCORPORATED INTO THE NEW WORK, EXCEPT WHERE THE REINFORCING SECTION LOSS IS 25% OR MORE DETERIORATED THEN THE EXISTING REINFORCING SHALL BE REPLACED AS DIRECTED BY THE ENGINEER, (#3 @ 4" O.C. FOR EXISTING TUNNEL SLAB).
6. THE CONCRETE ANCHORS REQUIRED SHALL HAVE A MINIMUM PULL OUT OF 5000 LBS. BASED ON 4000 PSI CONCRETE. THE ANCHORS SHALL BE GALVANIZED AND SHALL BE INCLUDED INSTALLED ACCORDING TO RECOMMENDATIONS OF THE MANUFACTURER.
7. THE WELDED WIRE FABRIC SHALL BE ASTM A185 AND GALVANIZED AS PER ASTM A-641. THE WWF WIRES SHALL BE SPACED 3X3 OR 4X4 AND THE WIRES SHALL HAVE A NOMINAL AREA OF 0.14 TO 0.029 SQUARE INCHES INCLUSIVE, EXAMPLE " WWF 3X3-W1.4XW2.9 ".
8. WHERE REINFORCEMENT HAS BEEN EXPOSED AND CLEARANCE AROUND THE PERIPHERY OF THE EXISTING BAR IS PROVIDED NO SUPPLEMENTAL REINFORCING IS REQUIRED, EXCEPT WHERE EXISTING REINFORCING DENSITY AND PATTERN ARE SUCH THAT INDIVIDUAL OPEN SPACES BETWEEN BARS ARE OF 1.5 SF OR LARGER. FOR THIS CONDITION 1/2 " DIA. CONCRETE ANCHORS AND WELDED WIRE FABRIC SHALL BE INSTALLED AT THE RATE OF ONE CONCRETE ANCHOR WITH WWF PER EACH 1.5 SF OF AREA WITHIN EACH OPEN SPACE.
9. FINISH REPAIR SPALL WITH BASF/MASTER BUILDERS MASTEREMACO N425 OR APPROVED EQUAL.
10. USE ALL PRODUCTS IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION INCLUDING ANY AND ALL SURFACE PREPARATION.

MASONRY REPAIR PROCEDURE

- 1. REMOVE EXISTING LOOSE OR UNSOUND CEMENTITIOUS MATERIALS, INCLUDING PARGE COATINGS.
2. CONTRACTOR TO MARK OUT AND QUANTITY ALL AREAS OF PROPOSED REPAIRS ON THE WALLS TO BE PERFORMED. THE ENGINEER AND OWNER SHALL REVIEW FOR APPROVAL PRIOR TO THE CONTRACTOR PERFORMING THE WORK.
3. REMOVE AND REPLACE AND CRACKED, SPALLED, OR DETERIORATED BLOCK. REMOVE AND RESTACK ANY BLOCK THAT IS OUT OF PLANE FROM THE REST OF THE WALL.
4. PROVIDE NEW CEMENTITIOUS PARGE COAT OVER MASONRY AND CONCRETE WALL WHERE EXISTING COAT WAS REMOVED. MATCH EXISTING THICKNESS, 1/2" ASSUMED. CONTRACTOR MAY USE SAKRETE PARGING MIX OR APPROVED EQUAL.

DAMPPROOFING

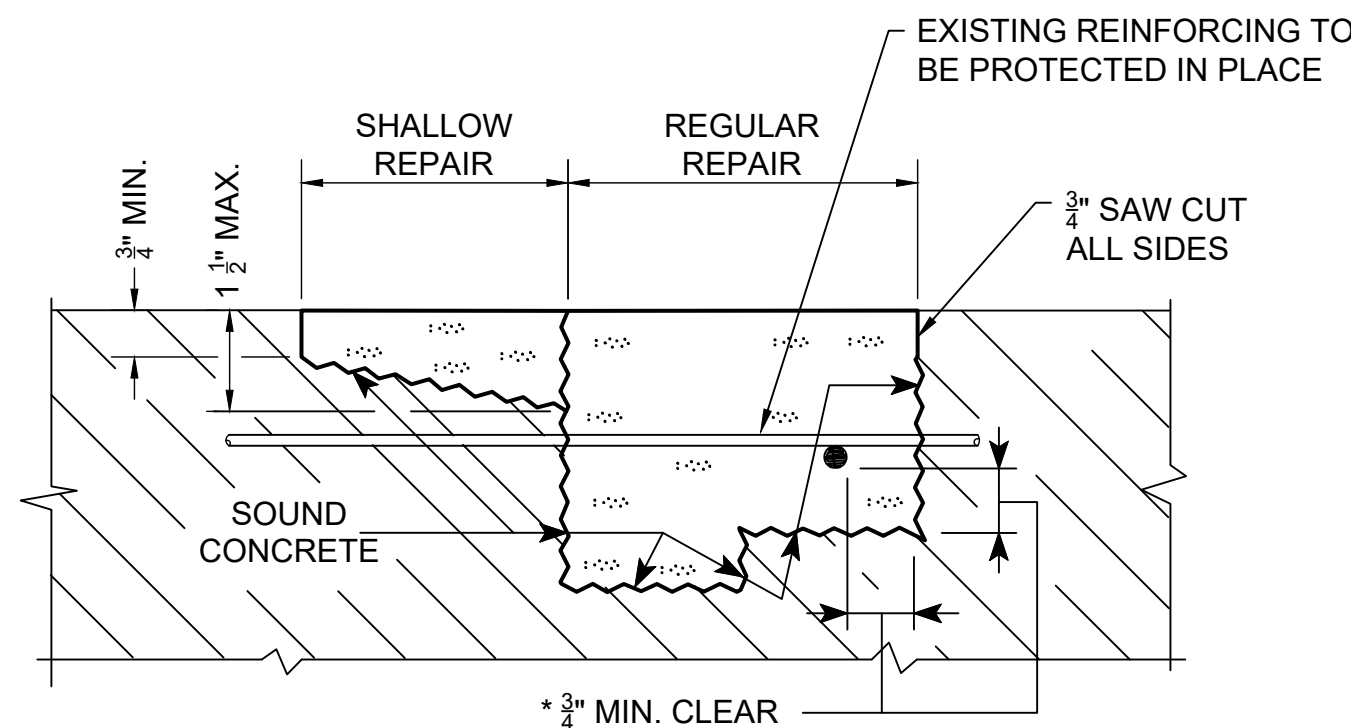
- 1. THE TOP 3 FEET OF THE EAST WALL OF THE TUNNEL AT THE PARKING LOT SHALL BE EXPOSED, CLEANED AND DAMPPROOFED.
2. DAMPPROOFING SHALL BE WITH A SOLVENT FREE, ASBESTOS FREE, ASPHALT COMPOUND. PRODUCT TO BE W.R. MEADOWS SEALMASTIC SOLVENT DAMPPROOFING OR APPROVED EQUAL.
3. THE BASIS OF DESIGN FOR DAMPPROOFING SYSTEM IS TO BE A TWO-COAT SYSTEM USING A PRIME COAT OF W.W. MEADOWS SPRAY-MASTIC AS A PRIME COAT AND W.R. MEADOWS TROWEL-MASTIC TOP COAT. PREPARE SURFACE, INSTALL DAMPPROOFING AND BACKFILL WALL IN STRICT ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.

I:\Projects\2025\1250595.10\CADD\1250595.10\CADD\1250595.10\STRUCT NOTES & DETAILS.dwg RACHEL DICKER, STRUCTURAL NOTES, 2025/10/31, 2:28 PM, ANSI FULL BLEED D (34.00 X 22.00 INCHES)

Table with columns: MARK, REVISION, DATE, BY, Scale: 1" = N/A, Checked By: TRV, Date: 10-31-2025, Technician: RMD, Project No.: 125-0595.10, Sheet C9

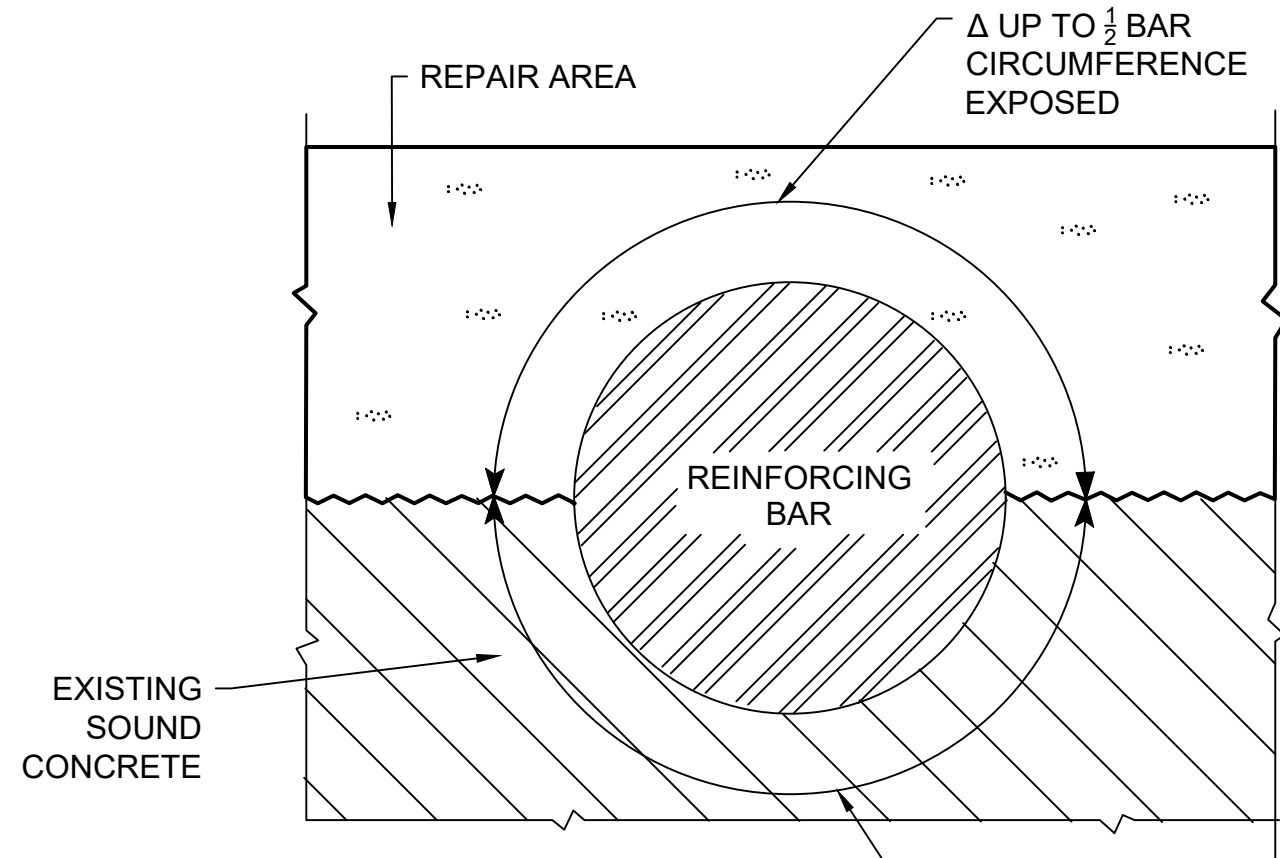
DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR
STRUCTURAL NOTES
COUNCIL BLUFFS, IOWA
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Project No: 125.0595.10
Sheet C9



**CONCRETE REPAIR DETAIL**

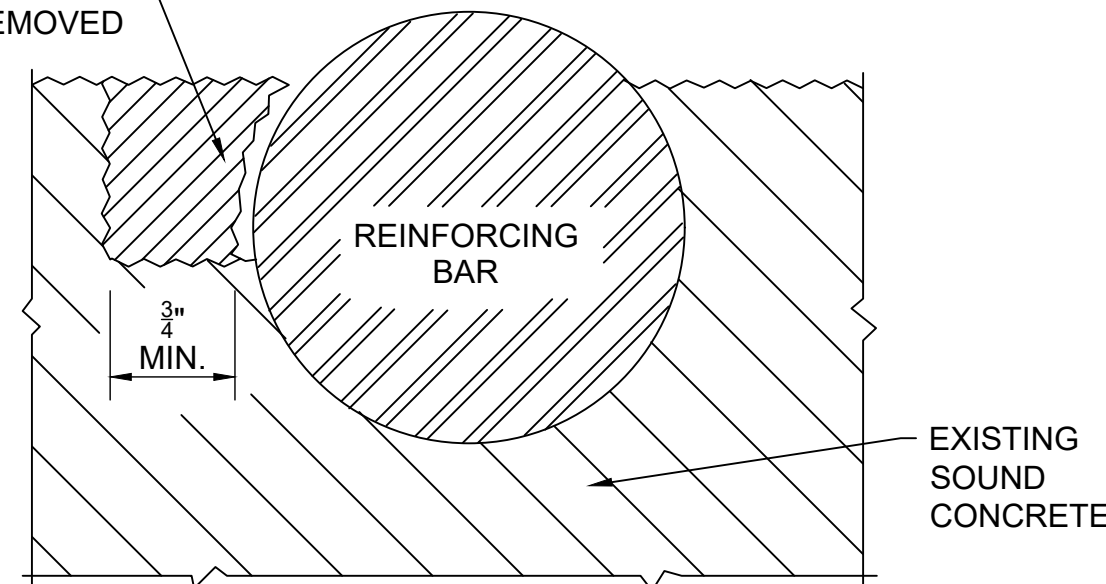
\* INDICATES CLEARANCE FOR AN UN-BONDED REBAR.



Δ IF MORE THAN 1/2 THE REBAR IS EXPOSED IT SHALL BE TREATED AS AN UN-BONDED REBAR.

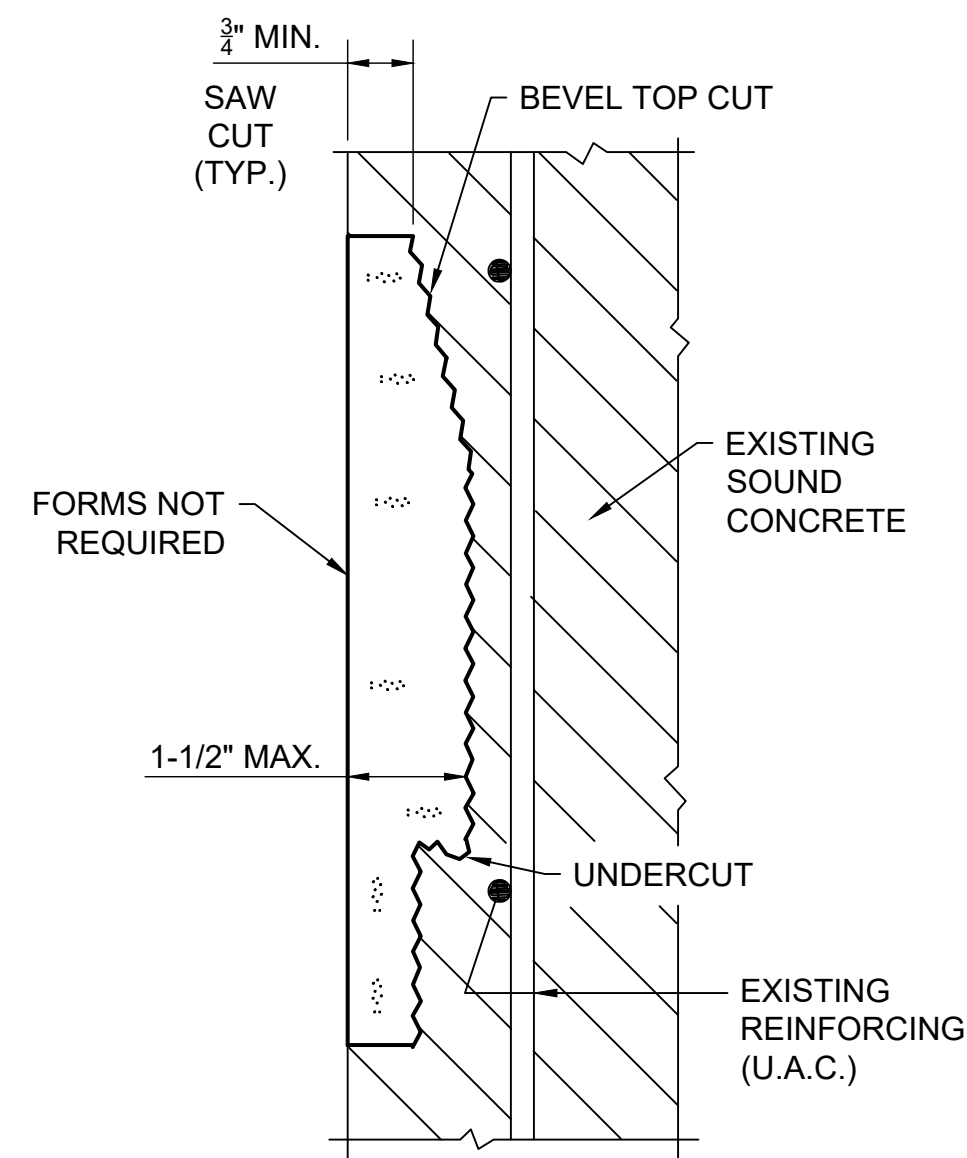
BONDED AREA ACCEPTABLE EXPOSED BAR

ALL UN-BONDED AREAS TO BE REMOVED

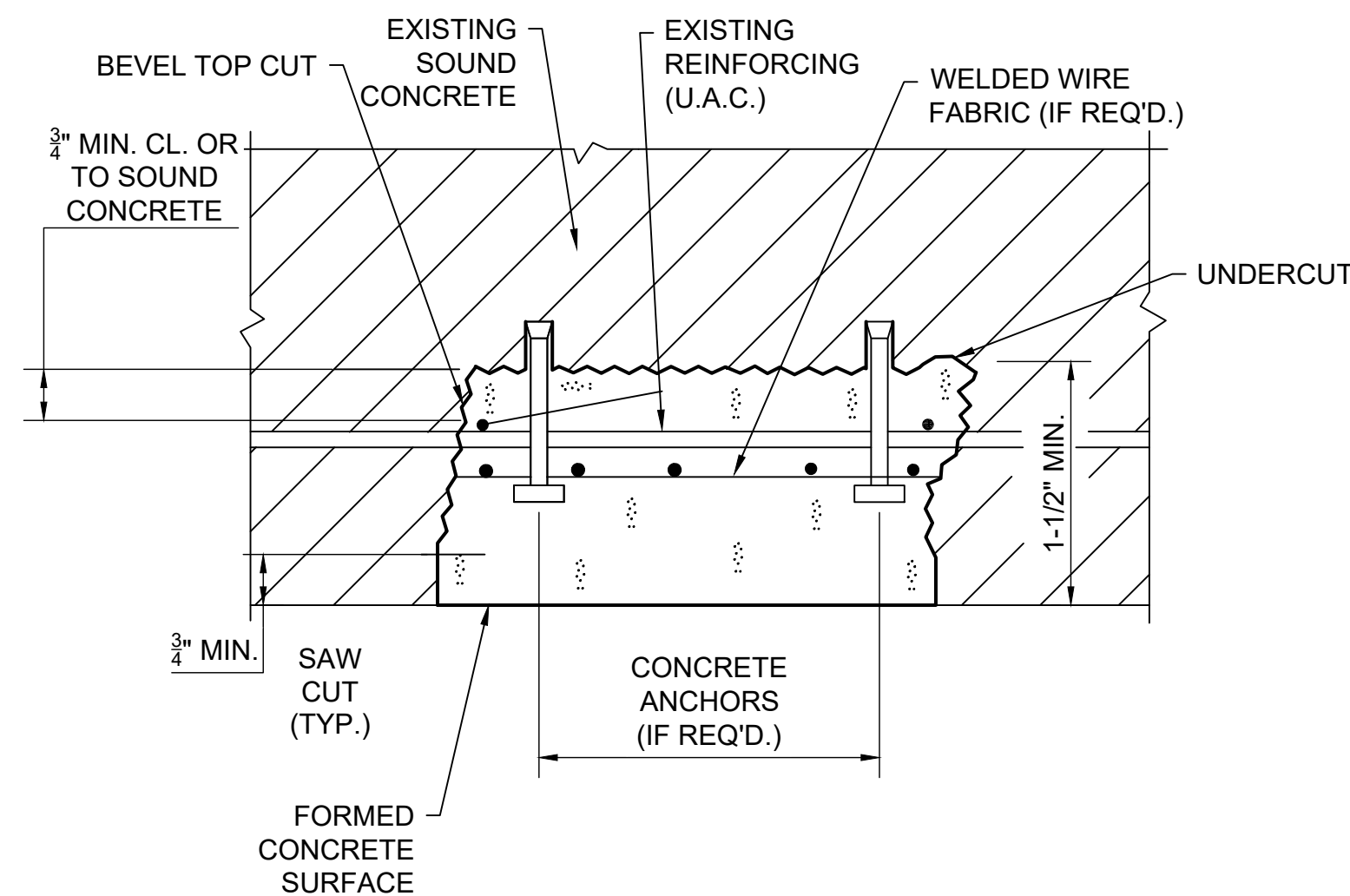


**CONCRETE REMOVAL ADJACENT TO REINFORCING**

**1 CONCRETE REPAIR DETAILS**  
NO SCALE

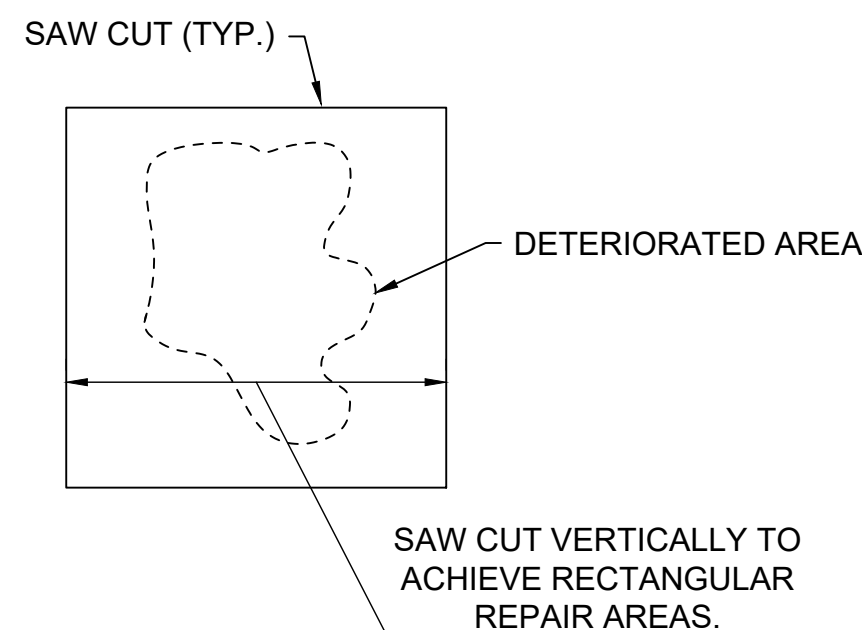


**SHALLOW REPAIR**



**REGULAR REPAIR**

**2 CONCRETE REPAIR DETAIL**  
NO SCALE



**3 TYPICAL REMOVAL DETAIL**  
NO SCALE

**REPAIR PROCEDURE**

- REPAIR ALL CONCRETE VOIDS WITH BASF/MASTER BUILDERS MASTEREMACO N425 OR APPROVED EQUAL. CONCRETE SHALL BE SATURATED SURFACE DRY PRIOR TO REPAIR. FILL ENTIRE VOID WITH WATER AND COMPLETELY DRAIN PRIOR TO REPAIR. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- NEW PATCH SHALL MATCH EXISTING FINISH.
- PATCH ALL TIE HOLES PER REPAIR NOTE 5.
- FULL DEPTH CONCRETE REPAIRS SHALL BE REPAIRED WITH MASTEREMACO N425 OR APPROVED EQUAL REMOVE ALL DETERIORATED CONCRETE, DIRT, OIL, GREASE AND OTHER BOND INHIBITING MATERIALS FROM THE SURFACE. REMOVE ALL CORROSION FROM THE REINFORCEMENT WITH A WIRE BRUSH. APPLY BONDING AGENT, MASTEREMACO P124 OR APPROVED EQUAL TO REINFORCEMENT AND SURFACES OF OLD CONCRETE. CONCRETE SHALL BE SATURATED SURFACE DRY PRIOR TO REPAIR. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- PARTIAL DEPTH CONCRETE REPAIRS SHALL BE REPAIRED WITH MASTEREMACO N425 OR APPROVED EQUAL. MOVE ALL DETERIORATED CONCRETE, DIRT, OIL, GREASE AND OTHER BOND INHIBITING MATERIALS FROM THE SURFACE. FOR OVERHEAD CONDITIONS, APPLY IN MAXIMUM 2" LIFTS. INSTALL PER MANUFACTURER RECOMMENDATIONS.
- CLEAN AND PREP ALL SURFACES PER MANUFACTURERS RECOMMENDATIONS.
- PROTECT EXISTING UTILITIES IN PLACE. DO NOT DAMAGE.
- PROVIDE TEMPORARY SHORING AS REQUIRED.
- CONTRACTOR TO IDENTIFY AREA TO BE REMOVED BY HAMMER SOUNDING.
- INITIATE REMOVAL OF UNSOUND CONCRETE WITH 3/4" SAWCUTS AT PERIMETER. DO NOT CROSS CUT AT CORNERS, BUT STOP SHORT AND REMOVE CORNERS BY HAND. ADJUST DEPTH OF SAWCUT AS NEEDED TO ENSURE NO CUTTING OF EXISTING REINFORCING.
- REMOVE DETERIORATED AREAS TO SOUND CONCRETE. IF REINFORCING IS ENCOUNTERED EITHER OF TWO CONDITIONS SHOULD BE MET. IF LESS THAN 1/2 OF BAR IS EXPOSED TO REACH SOUND CONCRETE, REMOVE CONCRETE WITHOUT DAMAGING BARS. IF MORE THAN 1/2 OF BAR IS EXPOSED TO REACH SOUND CONCRETE, CAREFULLY REMOVE CONCRETE AROUND BAR TO A DEPTH OF 3/4" UNDER THE BAR.
- IF THE BAR EXHIBITS SECTION LOSS GREATER THAN 20%, REPLACE THE BAR. DRILL AND EPOXY IF REQUIRED.
- CLEAN SURFACE BY MECHANICAL MEANS, (REINFORCING TO BARE METAL).
- PREPARE SOUND CONCRETE AND REINFORCING SURFACES IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- PLACE PATCH REPAIR MIX INTO PATCH AREA AND THOROUGHLY CONSOLIDATE.
- CURE PATCH THOROUGHLY TOP AND BOTTOM. BOTTOM TO BE CURED IF FORM IS REMOVED.
- ALL WORK SHALL BE PERFORMED AS INDICATED BY PRODUCT MANUFACTURER INCLUDING ANY COLD WEATHER CONCRETE PRACTICES.
- PROVIDE FORMS WHERE NECESSARY TO CONFINE PATCH TO REQUIRED SHAPE.
- WET SUBSTRATE AND FORMS THOROUGHLY AND THEN REMOVE STANDING WATER.
- GENERAL TROWEL PLACEMENT: PLACE PATCHING MORTAR BY TROWELLING TOWARD EDGES OF PATCH TO FORCE INTIMATE CONTACT WITH EDGE SURFACES. FOR LARGE PATCHES, FILL EDGES FIRST AND THEN WORK TOWARD CENTER, ALWAYS TROWELLING TOWARD EDGES OF PATCH. AT FULLY EXPOSED REINFORCING BARS, FORCE PATCHING MORTAR TO FILL SPACE BEHIND BARS BY COMPACTING WITH TROWEL FROM SIDES OF BARS.
- VERTICAL PATCHING: PLACE MATERIAL IN LIFTS OF NOT MORE THAN 1 INCH OR AS INDICATED BY MANUFACTURER, OR LESS THAN 1/4 INCH. DO NOT FEATHER EDGE.
- CONSOLIDATION: AFTER EACH LIFT IS PLACED, CONSOLIDATE MATERIAL AND SCREED SURFACE.
- MULTIPLE LIFTS: WHERE MULTIPLE LIFTS ARE USED, SCORE SURFACE OF LIFTS TO PROVIDE A ROUGH SURFACE FOR PLACING SUBSEQUENT LIFTS AND INSTALL PER MANUFACTURERS RECOMMENDATIONS.
- FINISHING: ALLOW SURFACES OF LIFTS THAT ARE TO REMAIN EXPOSED TO BECOME FIRM AND THEN FINISH TO A SURFACE MATCHING ADJACENT CONCRETE.
- CURE IN STRICT ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- ALL PRODUCTS LISTED ARE THE BASIS-OF-DESIGN AND NOT REQUIRED PRODUCTS. CONTRACTOR MAY USE PRODUCTS THAT ARE APPROVED BY THE ENGINEER AND WILL BE ACCEPTED IF THEY ARE SIMILAR OR BETTER IN PERFORMANCE.

MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: TRV	Scale: 1" = N/A	
Technician: RMD	Date: 10-31-2025	T-R-S: 74N-43W-8	
Project No: 125-0595.10			Sheet C10

**DOE ISD SOUTH POWERHOUSE PARKING LOT REPAIR**

**STRUCTURAL CONCRETE REPAIR NOTES & DETAILS**

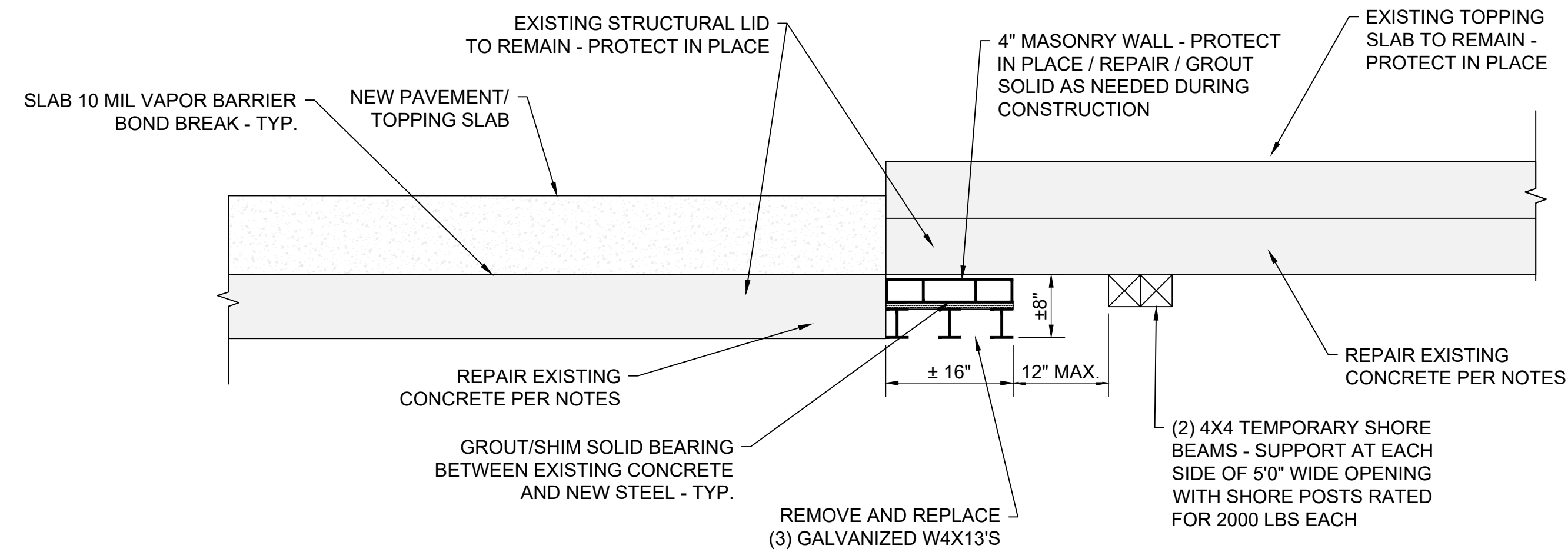
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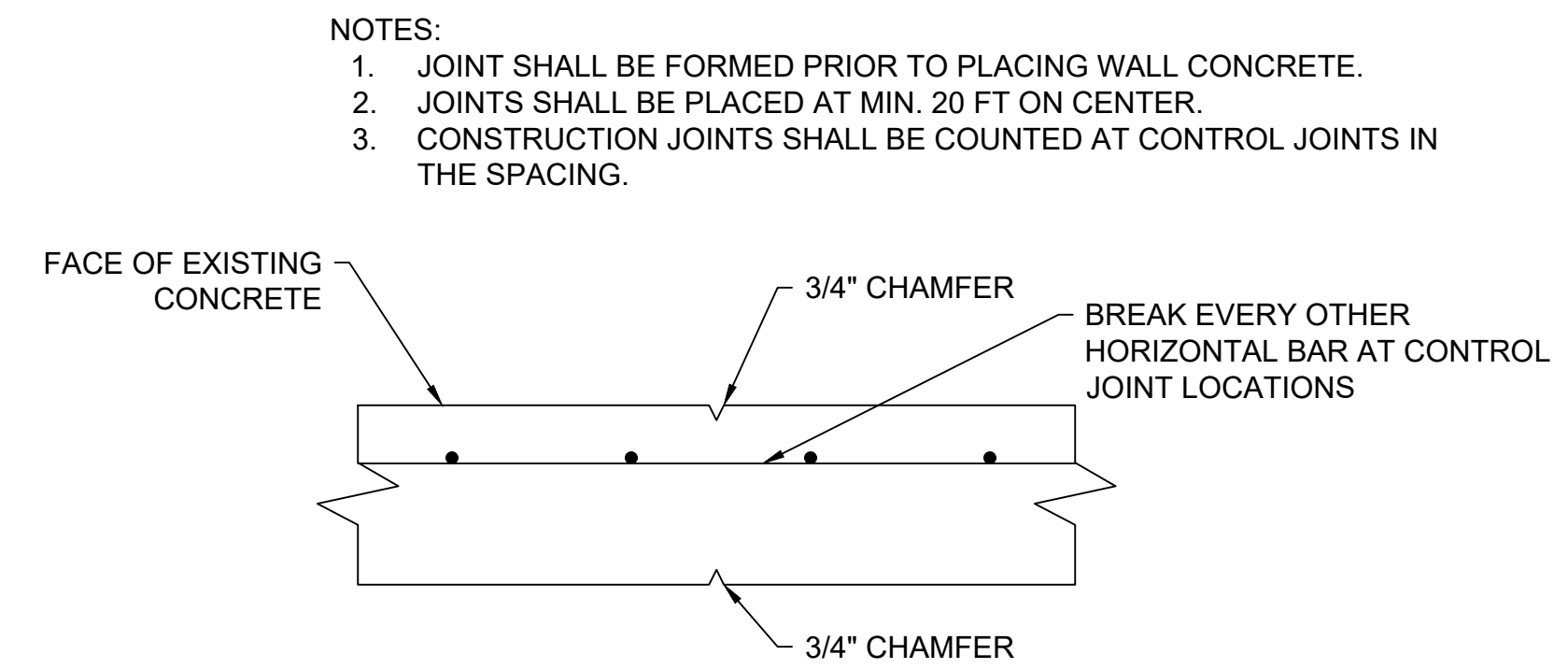
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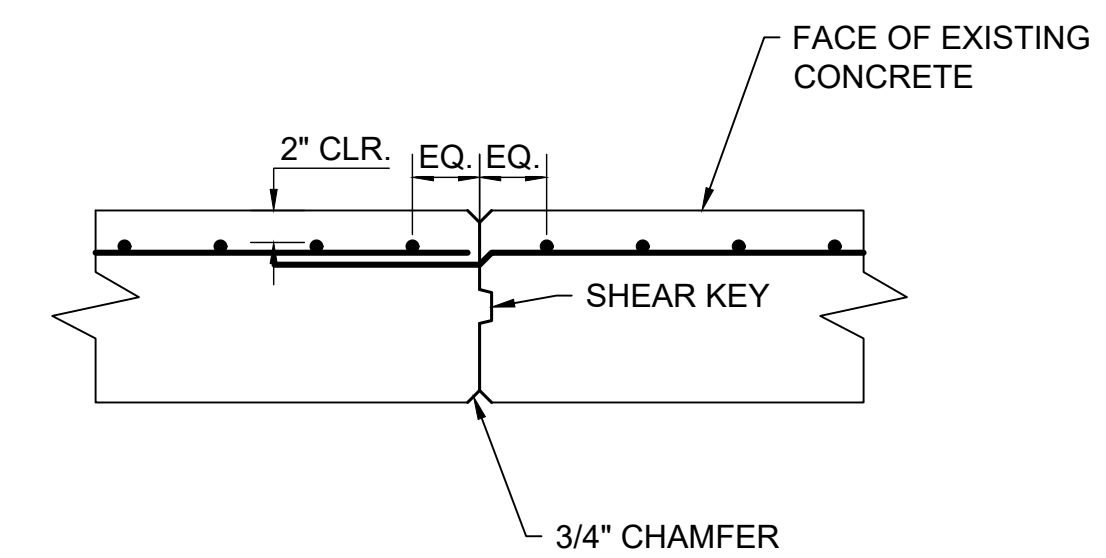
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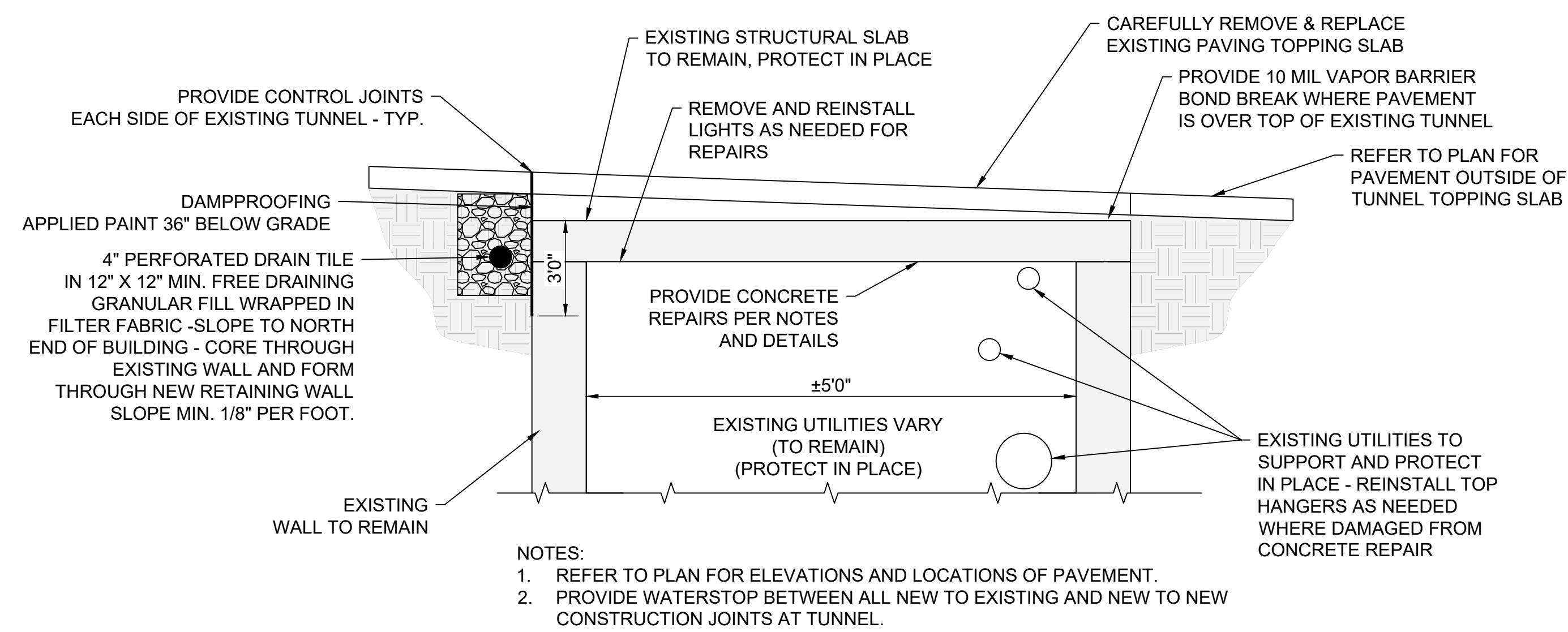
5 TUNNEL LID REPLACEMENT SECTION  
C11 NO SCALE



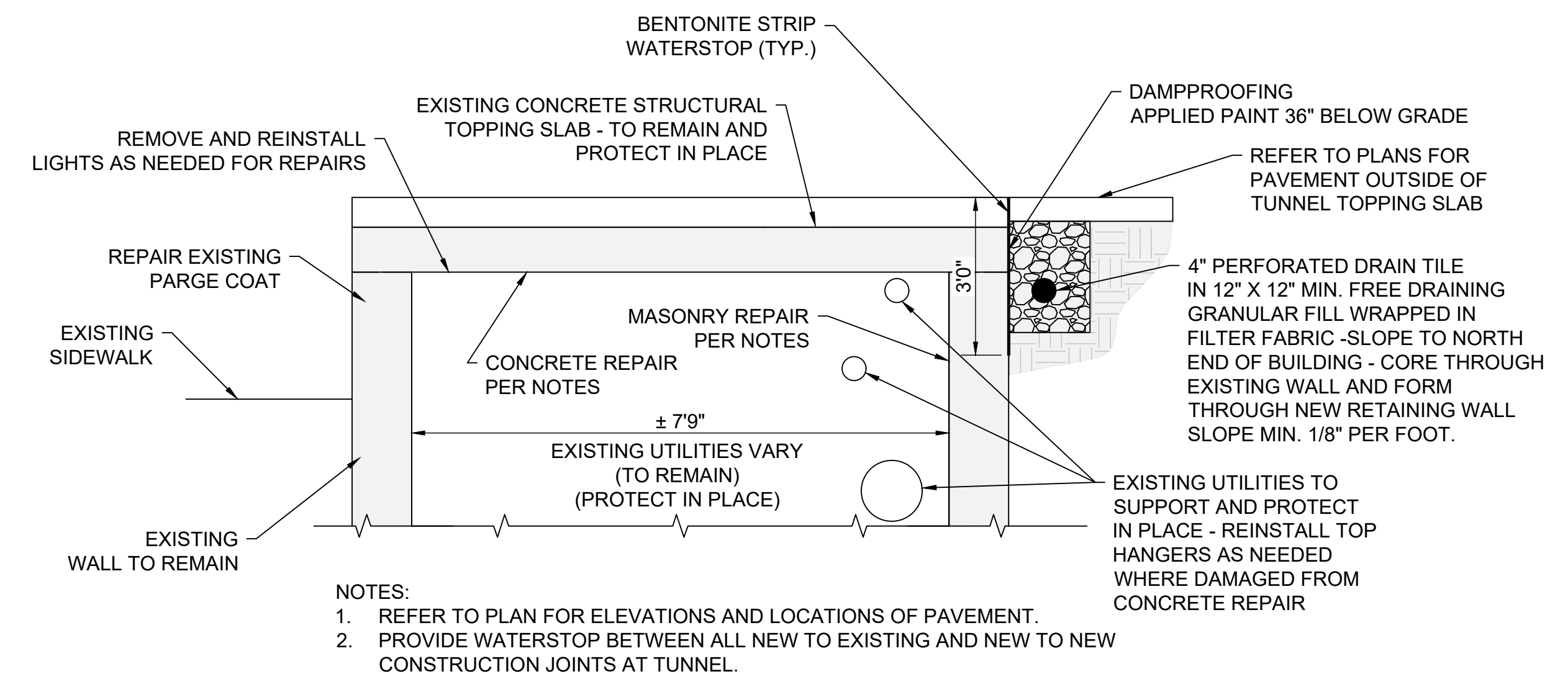
1 TYPICAL WALL CONTROL JOINT DETAIL  
C11 NO SCALE



3 TYPICAL WALL CONSTRUCTION JOINT DETAIL  
C11 NO SCALE



4 TYPICAL TUNNEL SECTION UNDER DRIVE  
C11 NO SCALE



2 TYPICAL TUNNEL SECTION UNDER LOT  
C11 NO SCALE

- NOTES:
1. JOINT SHALL BE FORMED PRIOR TO PLACING WALL CONCRETE.
  2. JOINTS SHALL BE PLACED AT MIN. 20 FT ON CENTER.
  3. CONSTRUCTION JOINTS SHALL BE COUNTED AT CONTROL JOINTS IN THE SPACING.

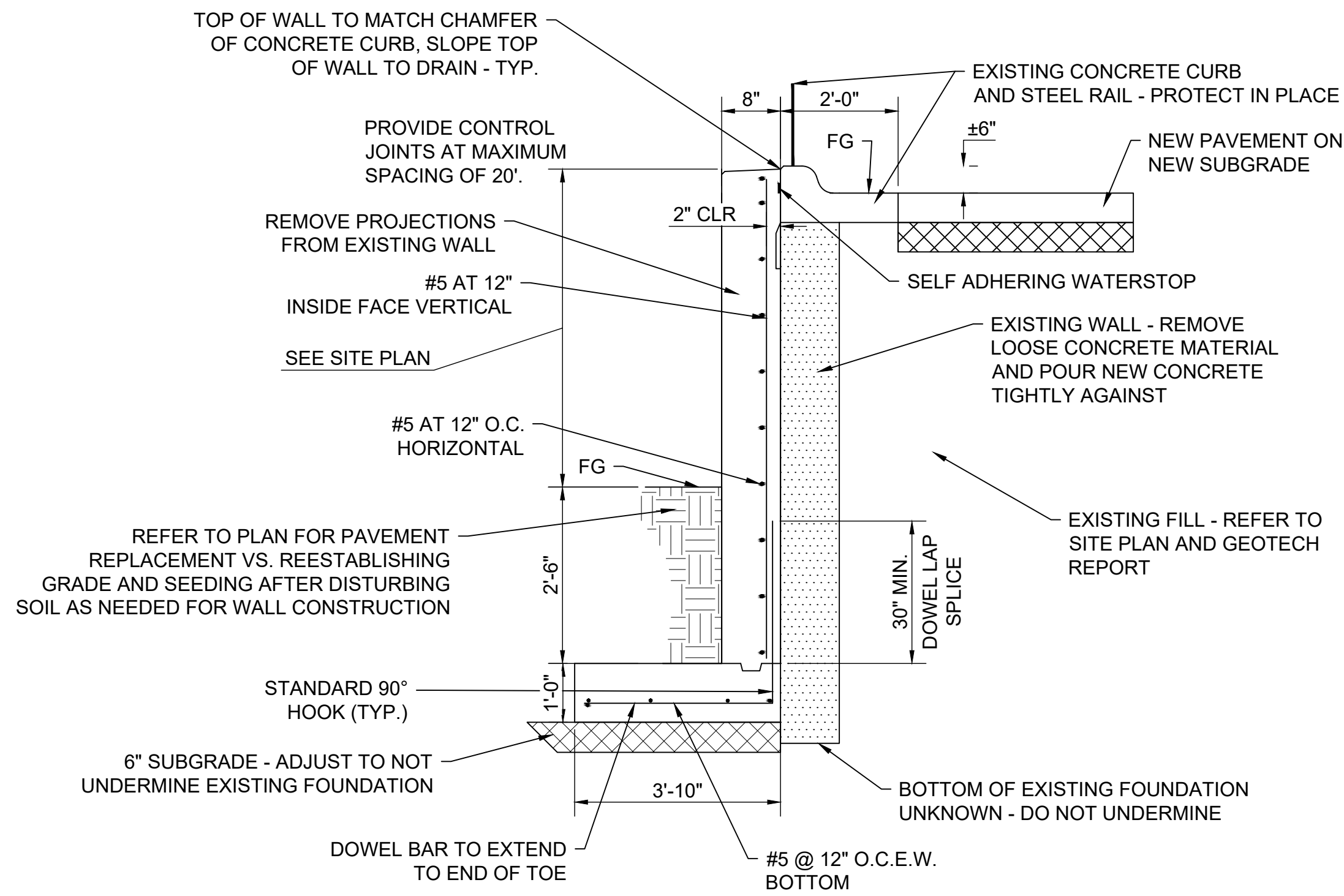
MARK	REVISION	DATE	BY
	Engineer: EAH		
	Checked By: TRV		
	Technician: RMD	Date: 10-31-2025	Scale: 1" = N/A
			T-R-S: 74N-43W-8
			Project No: 125-0595.10
			Sheet C11

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STRUCTURAL CONCRETE REPAIR DETAILS  
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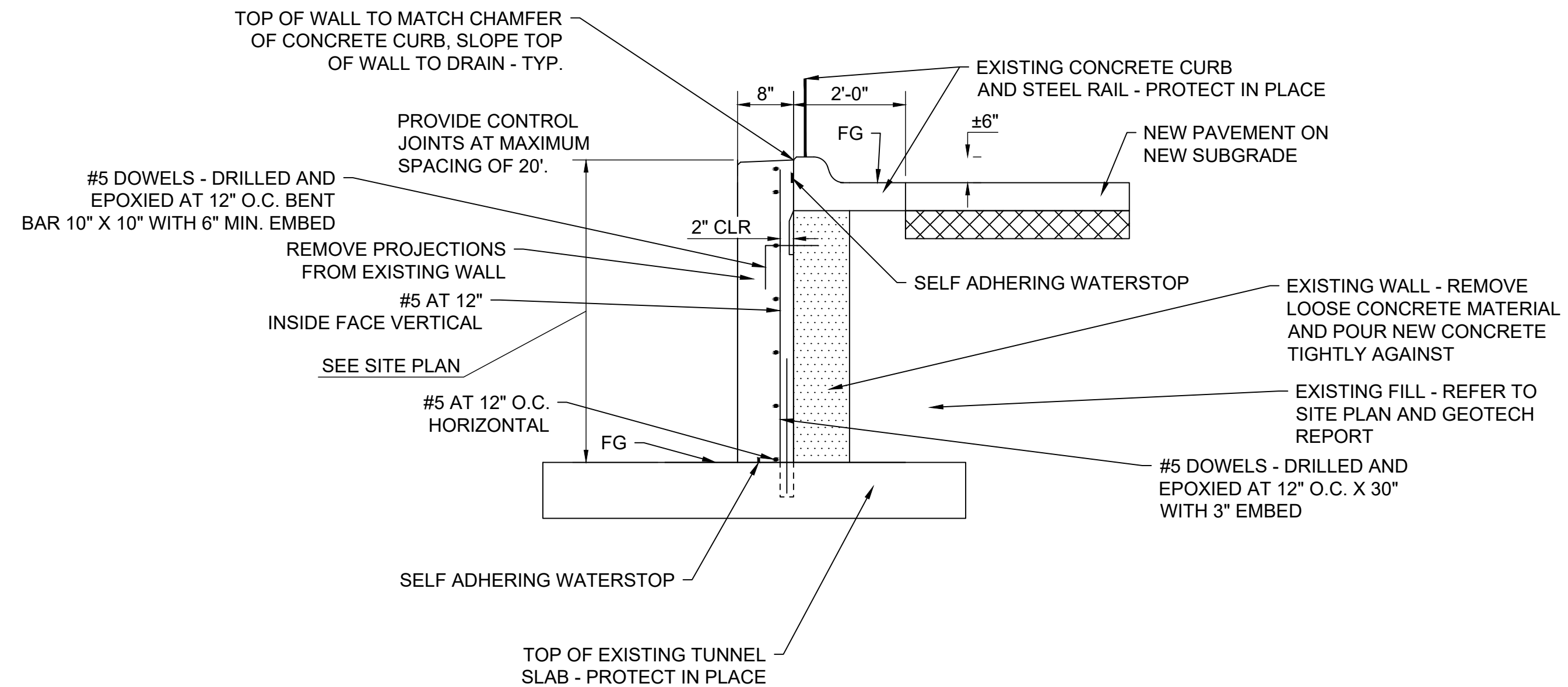
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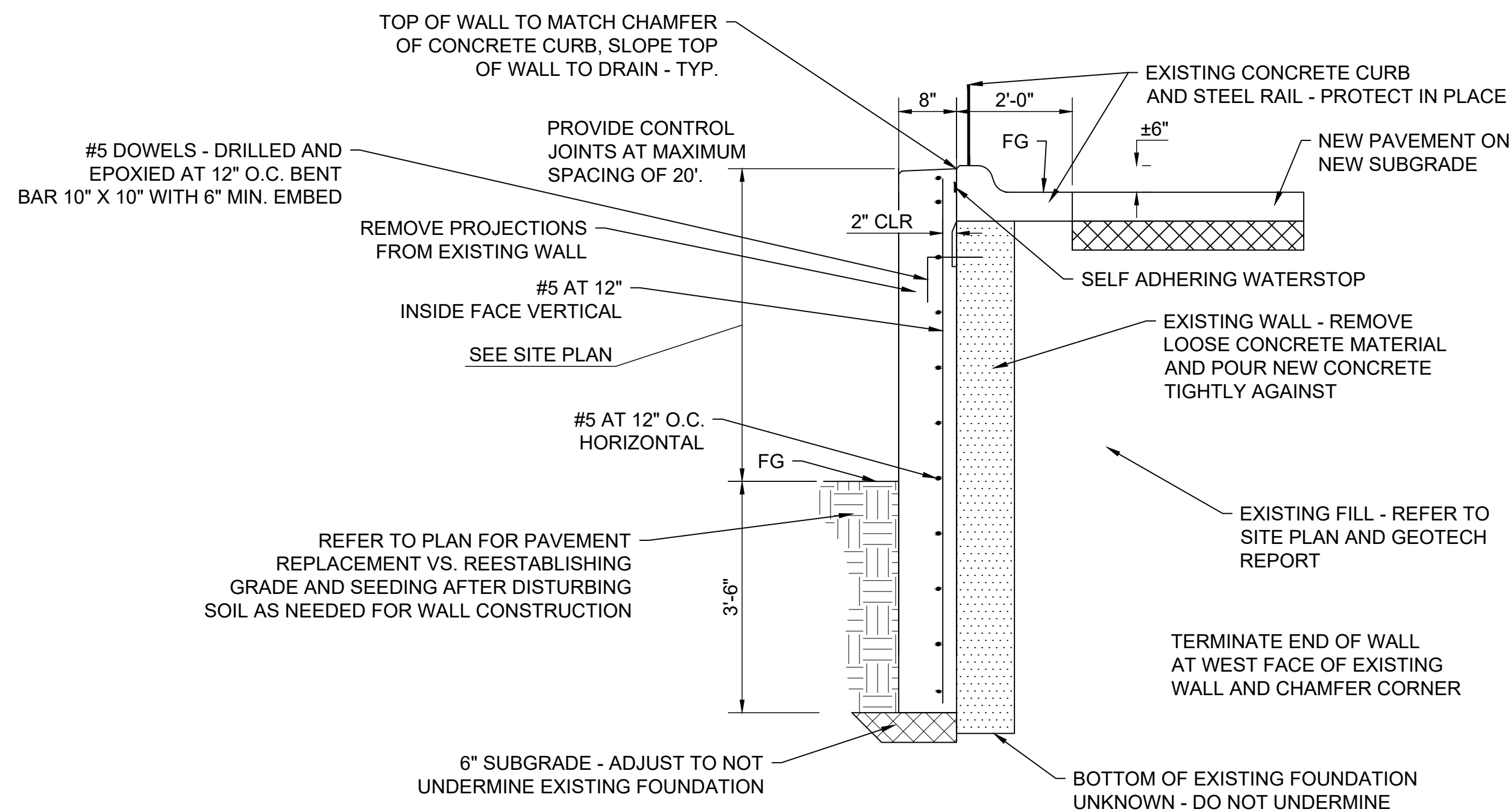
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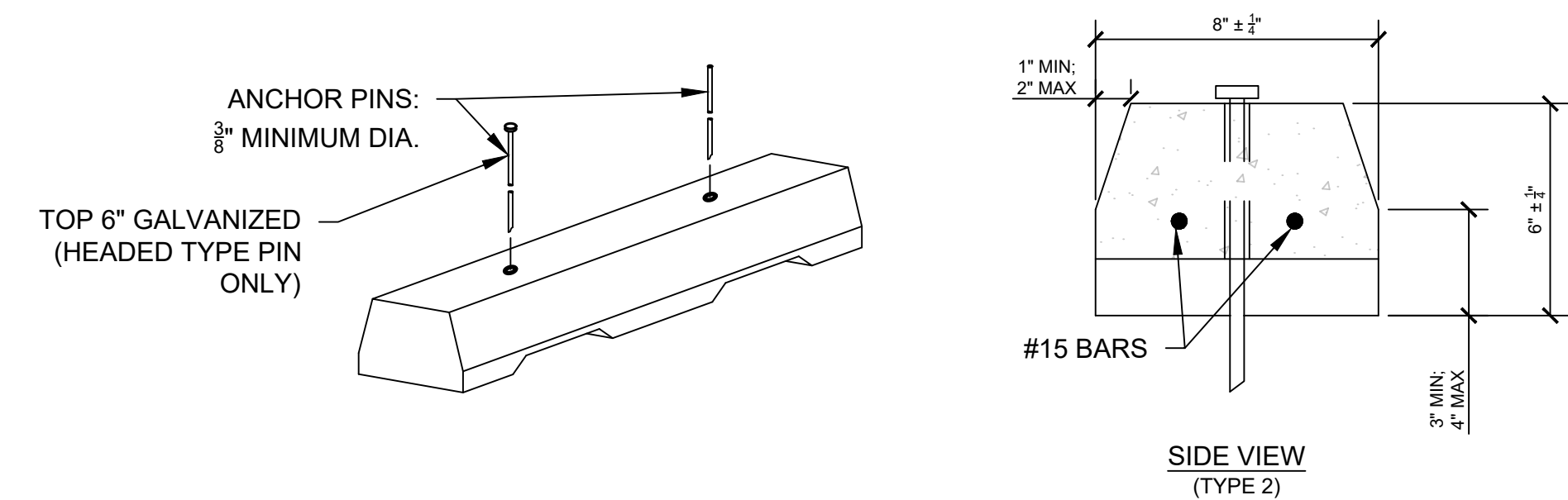
1 RETAINING WALL AGAINST EXISTING WALL AT GRASS  
C12 NO SCALE



2 RETAINING WALL AGAINST EXISTING WALL OVER TUNNEL  
C12 NO SCALE



3 RETAINING WALL AGAINST EXISTING WALL AT NORTHWEST CORNER  
C12 NO SCALE



- NOTES:
- MINIMUM EMBEDMENT FOR SURFACE CONDITIONS SUITABLE FOR DRIVEN ANCHOR PINS SHALL BE 24 INCHES. WHERE CURB IS TO BE INSTALLED IN A LOCATION IMPRACTICAL TO ACCOMMODATE DRIVEN ANCHOR PINS, ALTERNATE METHODS OF PLACEMENT MAY BE CONSIDERED AS FOLLOW:
  - A MINIMUM OF 2 HOLES (3 HOLES ON UNITS MEASURING MORE THAN 5 FEET LONG) SHALL BE DRILLED IN THE PAVEMENT SURFACE A MINIMUM OF 6 INCHES DEEP TO ACCOMMODATE ANCHOR PINS. THE HOLES SHALL BE AT LEAST THE DIAMETER OF THE ANCHOR PINS PLUS 1 INCH. THE ANCHOR PIN SHALL BE EMBEDDED WITH NON-SHRINK MORTAR GROUT IN THE DRILLED HOLE.
  - ANY OTHER METHOD MAY BE SUBMITTED TO THE ENGINEER FOR CONSIDERATION. APPROVAL OF ANY ALTERNATE METHOD MUST BE RECEIVED BEFORE INSTALLATION IS BEGUN. THE COMPLETED INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE ENGINEER.

4 WHEEL STOP - PRECAST P.C. CONCRETE CURB  
C12 NO SCALE

MARK	REVISION	DATE	BY
Engineer: EAH	Checked By: TRV	Scale: 1" = N/A	
Technician: RMD	Date: 10-31-2025	T-R-S: 74N-43W-8	
Project No: 125-0595.10			Sheet C12

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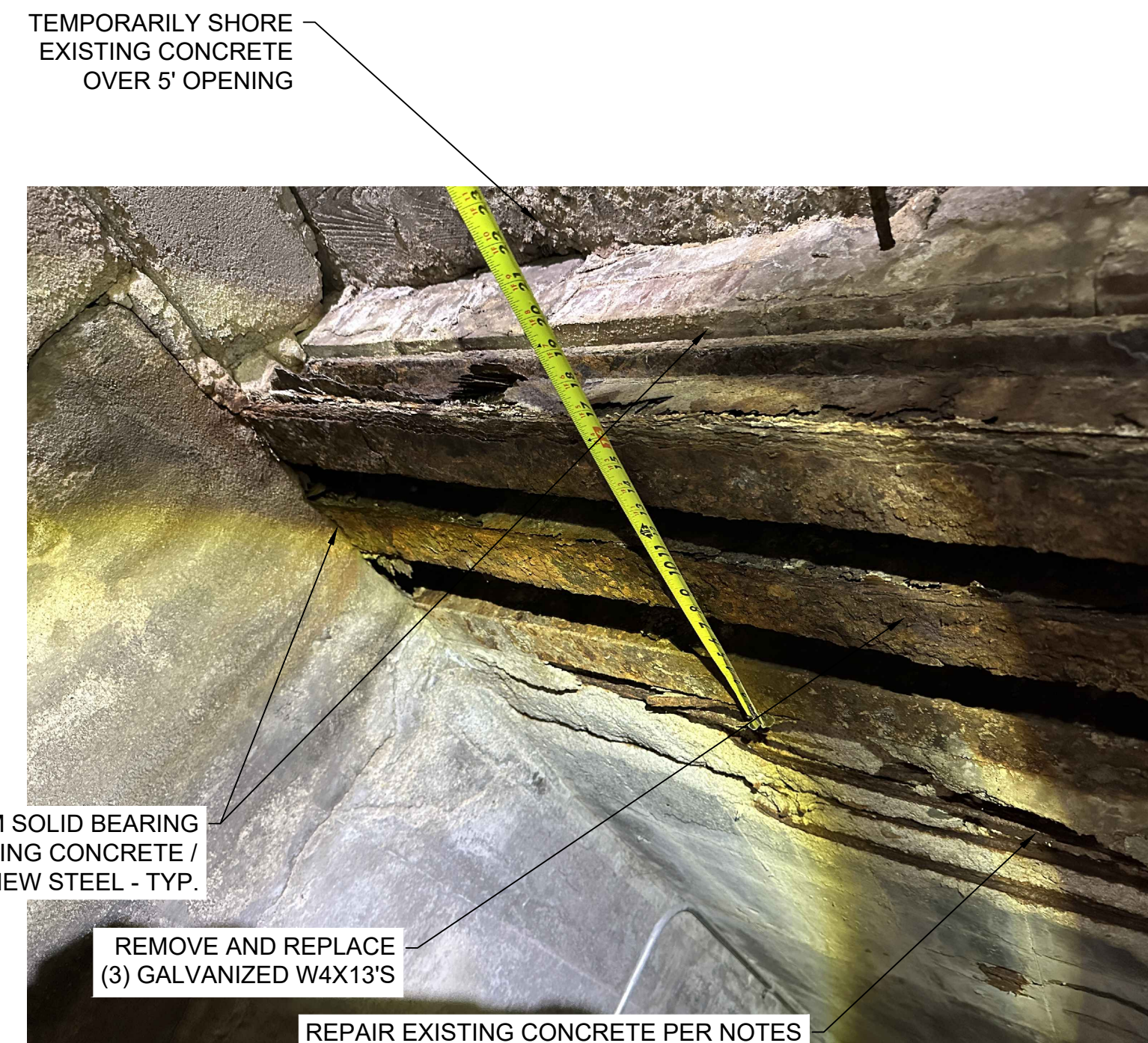




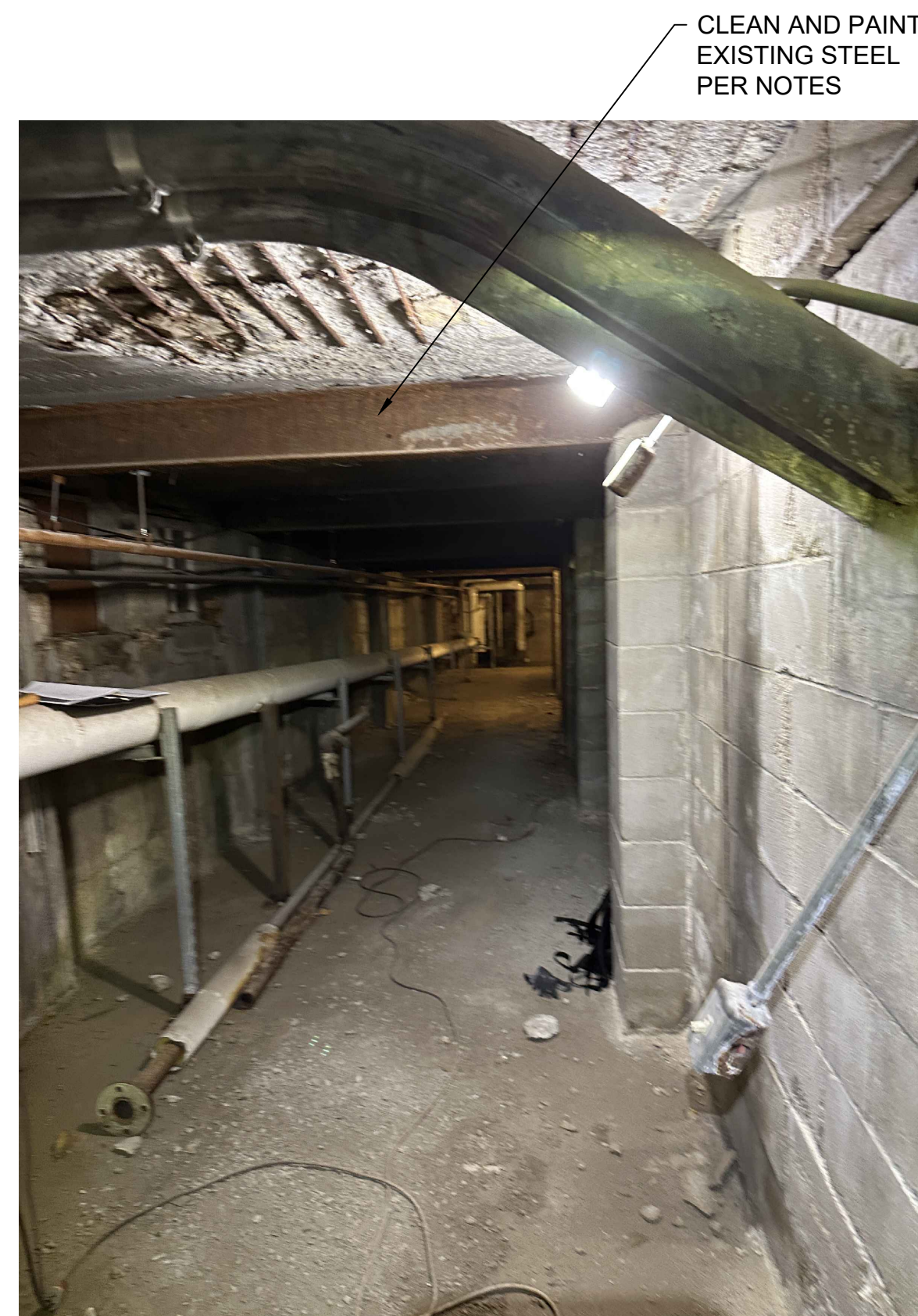
7  
C14 TYPICAL TUNNEL SECTION  
PHOTO 7



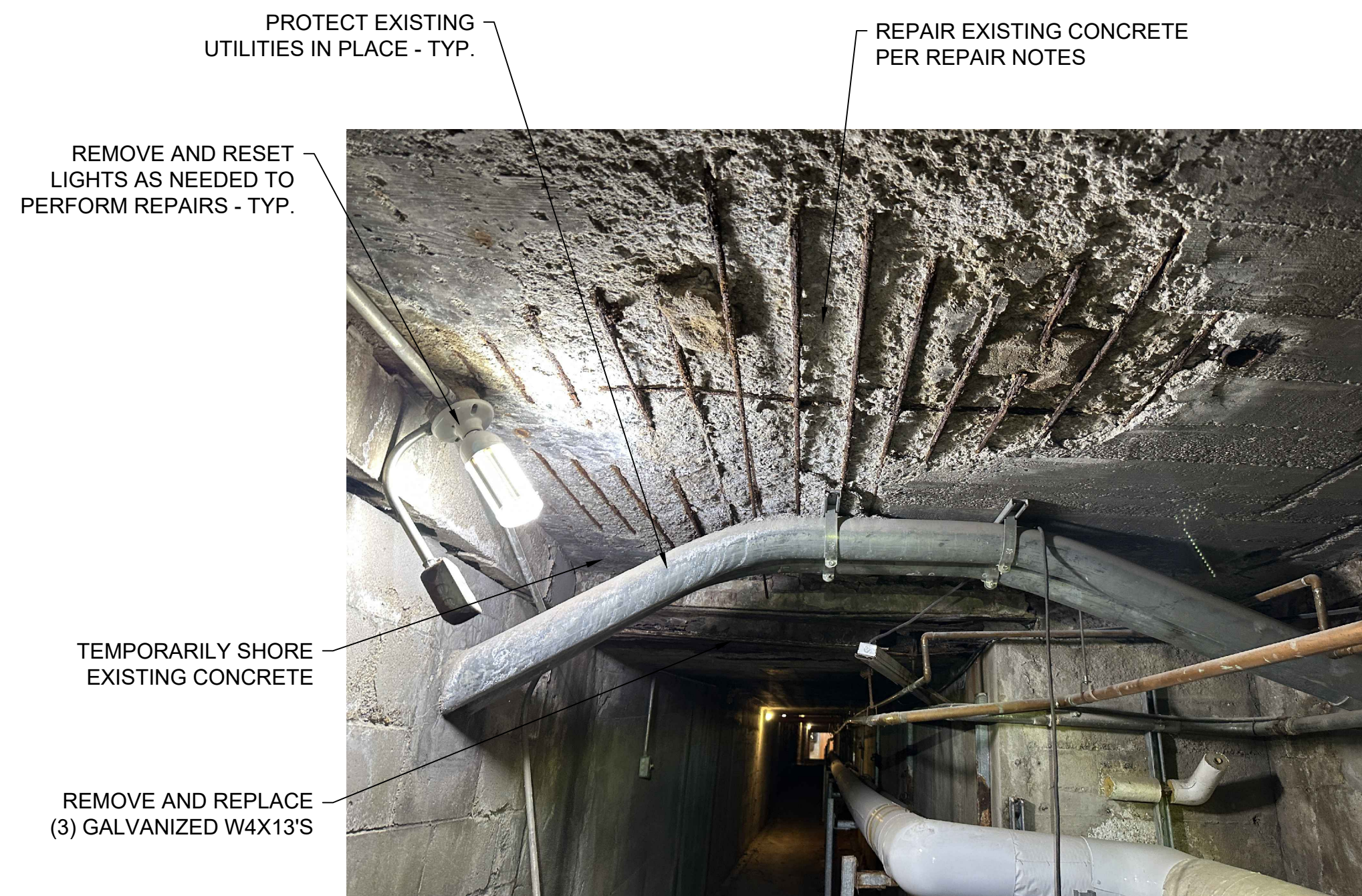
8  
C14 TYPICAL AREA CONCRETE REPAIR  
PHOTO 8



9  
C14 EXISTING BEAMS BETWEEN PARKING AND DRIVEWAY  
PHOTO 9



10  
C14 TUNNEL SECTION LOOKING NORTH  
PHOTO 10



11  
C14 TUNNEL SECTION LOOKING SOUTH  
PHOTO 11



12  
C14 AREA OF MASONRY REPAIR  
PHOTO 12

MARK	REVISION	DATE	BY
	Checked By: TRV		
	Engineer: EAH	Date: 10-31-2025	
	Technician: RMD		
Project No: 125.0595.10			Sheet C14

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