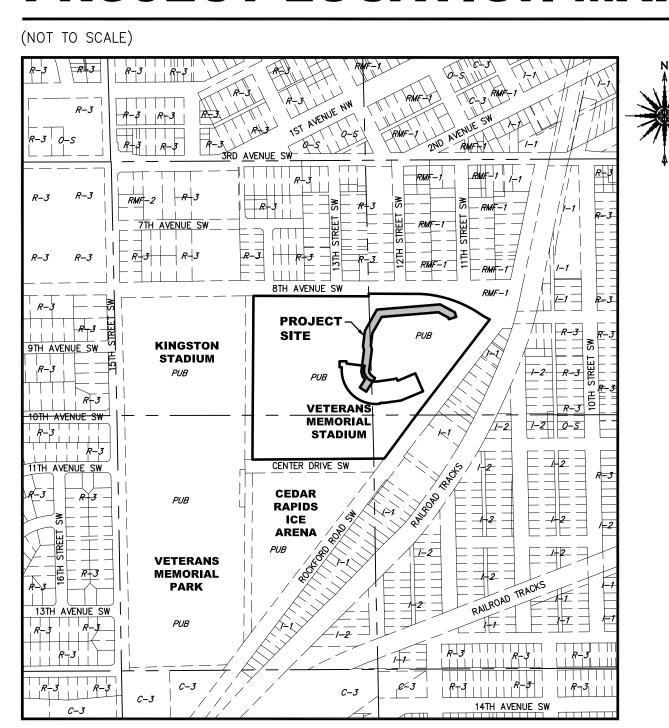
DRAWINGS OF PROPOSED PUBLIC SITE IMPROVEMENTS FOR VETERANS MEMORIAL STADIUM 2014 STORM SEWER IMPROVEMENTS - PHASE II

950 ROCKFORD ROAD SW, CEDAR RAPIDS, IOWA 52404 CONTRACT NO. XXXXXXXXXX

PROJECT LOCATION MAP



DESIGN STANDARDS

THE PROPOSED IMPROVEMENTS INCLUDED IN THESE DRAWINGS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE CEDAR RAPIDS METROPOLITAN AREA DESIGN STANDARDS MANUAL EXCEPT AS LISTED BELOW:

- NO EXCEPTIONS.

OWNER

CITY OF CEDAR RAPIDS
101 FIRST STREET SE
CEDAR RAPIDS, IA 52401
CONTACT: MR. DOUG CARPER
PHONE: 319-286-5258
FAX: 319-286-5801
E-MAIL: D.Carper@cedar-rapids.org

SURVEY CONTROL

SURVEY CONTROL POINT #2: 'PK' NAIL IN WALK. SEE SHEET C1.0 FOR LOCATION N 3456401.93 E 5414145.32 ELEVATION=781.78

SURVEY CONTROL POINT #3: 'PK' NAIL IN PARKING LOT. SEE SHEET C1.0 FOR LOCATION N 3456355.00 E 5414393.74 ELEVATION=764.23

UTILITY & EMERGENCY PHONE NUMBERS

PUBLIC WORKS DEPARTMENT	(319)-286-5802	ALLIANT/IES INDUSTRIES (ELECTRIC, STEAM)	
POLICE DEPARTMENT	(319)-286-5491	INFORMATION, WEST SIDE	(319)-398-4540
EMERGENCY	911	INFORMATION, EAST SIDE	(319)-398-4555
FIRE DEPARTMENT	(319)-286-5200	MEDIACOM CABLE	
WATER DEPARTMENT	(319)-286-5910	BUSINESS	(319)-395-9699
SEWER MAINTENANCE DEPARTMENT	(319)-286-5815	LOCATIONS	(800)-292-8989
IOWA ONE CALL (UTILITIES)	(800)-292-8989	LINN COUNTY REC	(319)-377-1587
MID-AMERICAN ENERGY	(319)-298-5155	CEDAR RAPIDS AND IOWA CITY RAILWAY CO.	(319)-398-7745
CENTURY LINK		IOWA DEPARTMENT OF TRANSPORTATION	
ENGINEER, WEST SIDE	(319)-399-7665	DISTRICT ENGINEER	(319)-364-8189
ENGINEER, EAST SIDE	(319)-399-7209	MAINTENANCE GARAGES	(319)-336-9200
CENTURY LINK (TELEPHONE)	(319)-399-7495	LINN COUNTY ENGINEER	(319)-398-3445
` ,	,	LINN COUNTY MAINTENANCE	(319)-398-3530

STANDARD LEGEND

EXISTING TRAFFIC SIGN

EXISTING BOLLARD

EXISTING MAIL BOX

EXISTING AIR CONDITIONING UNIT

EXISTING RAILROAD TRACKS

	ADDDOVIMATE CECTION LINE	200	DODTI AND CEMENT CONCRETE
	APPROXIMATE SECTION LINE	PCC	PORTLAND CEMENT CONCRETE
	APPROXIMATE PROPERTY LINE	ACC	ASPHALTIC CEMENT CONCRETE
	ADJOINING LOT LINE	HMA	HOT MIX ASPHALT
	EASEMENT LINE	XFMR	ELECTRIC TRANSFORMER
	YARD SETBACK LINE	RCP	REINFORCED CONCRETE PIPE
	SET 5/8" IRON REBAR	HDPE	HIGH DENSITY POLYETHYLENE PIPE
_	W/ORANGE CAP NO. 13480	CMP	CORRUGATED METAL PIPE
×	FOUND CUT 'X'	<i>VCP</i>	VITRIFIED CLAY PIPE
	FOUND IRON REBAR	IE.	PIPE INVERT ELEVATION
Δ	SURVEY CONTROL POINT	EXIST.	EXISTING
— — — <i>807</i> — — —	EXISTING GRADE CONTOUR LINE	A.P.	AUDITOR'S PLAT
	EXISTING OVERHEAD ELECTRIC LINE	л.г. F.F.E.	FINISH FLOOR ELEVATION
— · · · — · · — G — · · — · · —	EXISTING GAS LINE		
_ · _ · _ · _ w _ · _ w _ · _ · _	EXISTING WATER LINE	G	GUTTER
_ · _ · _ · _ F _ · _ · _ · _	EXISTING PRIVATE FIRE LINE	TC	TOP OF CURB
	EXISTING UNDERGROUND TELEPHONE LINE	TS	TOP OF SLAB
	EXISTING UNDERGROUND ELECTRIC LINE	GR	TOP OF FINISH GRADE (I.E. TOP OF SOD, TOP
			OF TOPSOIL, TOP OF MULCH - DEPENDING UPON
— — — SI— — —			TYPE OF LAND COVER IN A PARTICULAR AREA)
		O.H.D.	OVERHEAD DOOR
FM	EXISTING SANITARY SEWER FORCE MAIN	N.I.C.	NOT IN CONTRACT
		O.C.	ON CENTER
		RE:	REFER TO
TR (R)	EXISTING TRAFFIC SIGNAL HANDHOLES	T. O. W.	TOP OF WALL
	EXISTING TRAFFIC SIGNAL HANDHOLES	F.S.	FINISH SURFACE
1	EVICTING TRAFFIC CIONAL BOLF BACE	∇	PROPOSED FIRE HYDRANT
Z. T	EXISTING TRAFFIC SIGNAL POLE, BASE,	\bowtie	PROPOSED WATER VALVE
SIG T	SIGNS & SIGNAL HEADS	_ : _ : _ : _	PROPOSED WATER LINE
(ST)	EXISTING STEAM MANHOLE/VAULT	S	PROPOSED SANITARY SEWER MANHOLE
MH	EXISTING MANHOLE	• CO	PROPOSED SANITARY SEWER CLEANOUT
			PROPOSED SANITARY SEWER
\ominus	EXISTING CIRCULAR STORM INTAKE		PROPOSED CURB & APRON INTAKE
	EXISTING RA STORM INTAKE		PROPOSED STORM SEWER INTAKE
	EXISTING CURB & GUTTER INTAKE	•	PROPOSED STORM SEWER MANHOLE
	EXISTING SQUARE STORM INTAKE		PROPOSED STORM SEWER
\wedge	EXISTING FLARED END SECTION	گ	PROPOSED HANDICAPPED PARKING
。 CO	EXISTING CLEAN OUT	—— SF—— SF—— SF————————————————————————	PROPOSED SILT FENCE PROPOSED FINISH GRADE CONTOUR
S	EXISTING SANITARY SEWER MANHOLE	— — — UT — — —	 PROPOSED UNDERGROUND TELECOMMUNICATIONS LINE
0	EXISTING STORM SEWER MANHOLE		
•	EXISTING TELEPHONE MANHOLE		PROPOSED OVERHEAD ELECTRIC LINE PROPOSED OVERHEAD ELECTRIC LINE
	EXISTING TELEPHONE PEDESTAL	· · _ 6 · · _	PROPOSED UNDERGROUND GAS LINE
	EXISTING CABLE BOX	Ĭ	THO OSED UNDERGROUND GAS LINE
~	EXISTING FIRE HYDRANT	þ	PROPOSED SIGN
×	EXISTING WATER VALVE	e <u> </u>	PROPOSED SINGLE FIXTURE LIGHT POLE
φ.	EXISTING LIGHT POLE		
Ф	EXISTING POWER POLE		PROPOSED DOUBLE FIXTURE LIGHT POLE
← Φ	EXISTING UTILITY POLE WITH GUY ANCHOR	∘ BP	PROPOSED BOLLARD
©V	EXISTING GAS VALVE		
E	EXISTING ELECTRIC BOX		- PROPOSED CHAIN LINK FENCE
Œ	EXISTING ELECTRIC METER		
EF)	EXISTING HANDHOLE		PROPOSED CONIFEROUS TREE
©	EXISTING LANDSCAPING ROCK		
	EXISTING TREE OR SHRUB LINE		
	5,407,100 550,5110,100 7555		DDODOCED CHARE TREE
(°)	EXISTING DECIDUOUS TREE		PROPOSED SHADE TREE
, my,			
₹, ° ×	EXISTING CONIFEROUS TREE		
2 mars	L. S. M. C. Collin L. NOOO III L.		
nat a second	EXISTING DECIDUOUS BUSH	(°)	PROPOSED ORNAMENTAL TREE
	EXISTING CONIFEROUS SHRUB	\sim	
	EXISTING WOOD FENCE	₩	PROPOSED BUSH OR SHRUB
	EXISTING CHAIN LINK FENCE		
xXX	EXISTING BARBED WIRE FENCE		

CONSTRUCTION STANDARDS

REFERENCED CEDAR RAPIDS METROPOLITAN AREA				
STANDARD DETAILS FOR PUBLIC IMPROVEMENTS				
DETAIL NO.	DETAIL TITLE			
1300-020	SILT FENCE			
1300-030	SLOPE PROTECTION DETAILS (WOOD EXCELSIOR MAT)			
2200-020	STANDARD PIPE ENVELOPES FOR CIRCULAR PIPE			
2200-031	STANDARD TRENCH SECTION IN SOIL			
2400-040	MANHOLE AND PIPE SIZES			
2400-041	STANDARD STORM SEWER MANHOLE			
2700-021	TRANSVERSE CONTRACTION JOINTS			
2700-022	LONGITUDINAL CONTRACTION JOINTS			
2700-023	EXPANSION JOINTS			

NOTE: ALL CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS SHALL APPLY TO THE CONSTRUCTION OF THIS PROJECT.

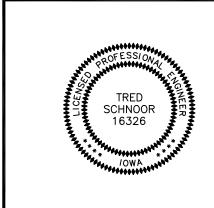
PLAN SHEET INDEX

C1.0 SITE TOPOGRAPHIC SURVEY PLAN
C2.0 OVERALL SITE LAYOUT &
GRAPHIC SHEET INDEX PLAN
C3.1 SITE REMOVALS PLAN
C3.2 SITE REMOVALS PLAN
C3.3 SITE REMOVALS PLAN
C3.4 SITE REMOVALS PLAN
C4.1 STORM SEWER PLAN & PROFILE
C4.2 STORM SEWER PLAN & PROFILE
C4.3 STORM SEWER PLAN & PROFILE
C4.4 STORM SEWER PLAN & PROFILE
C5.1 SITE CONSTRUCTION NOTES
C5.2 SITE CONSTRUCTION NOTES

SITE CONSTRUCTION DETAILS

COVER SHEET

CERTIFICATIONS



BELOW WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE:

NAME: TRED L. SCHNOOR

DATE: XX/XX/2014

MY LICENSE RENEWAL DATE IS: DECEMBER 31, 2015

PAGES, SHEETS OR DIVISIONS COVERED BY THIS SEAL:

C0.0, C1.0, C2.0, C3.1, C3.2, C3.3, C3.4, C4.1, C4.2, C4.3, C4.4, C5.1, C5.2 & C6.0

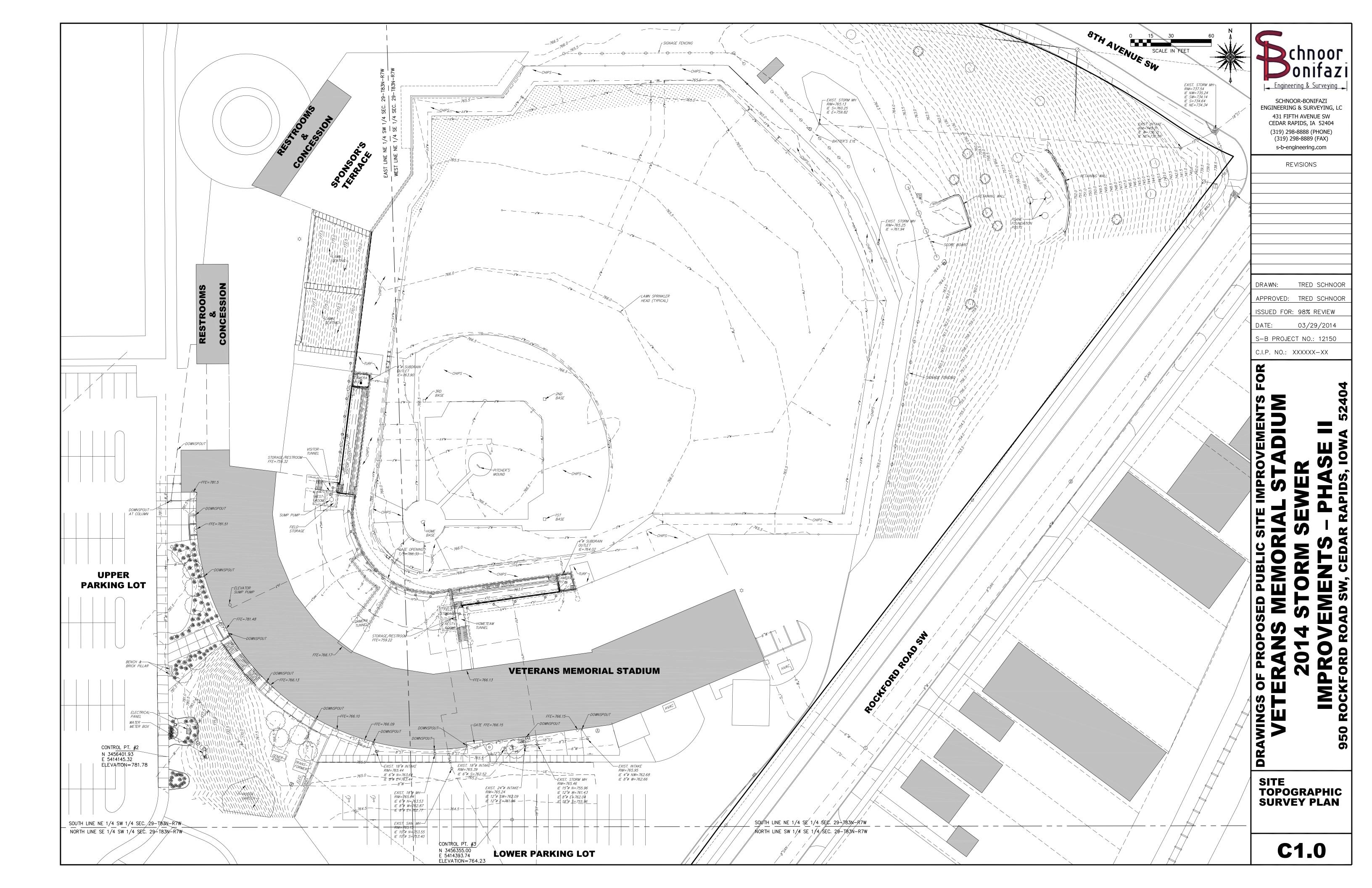
CITY OF CEDAR RAPIDS	
THIS ENGINEERING DOCUMENT IS APPROVED.	
CITY ENGINEER	DATE
APPROVED	

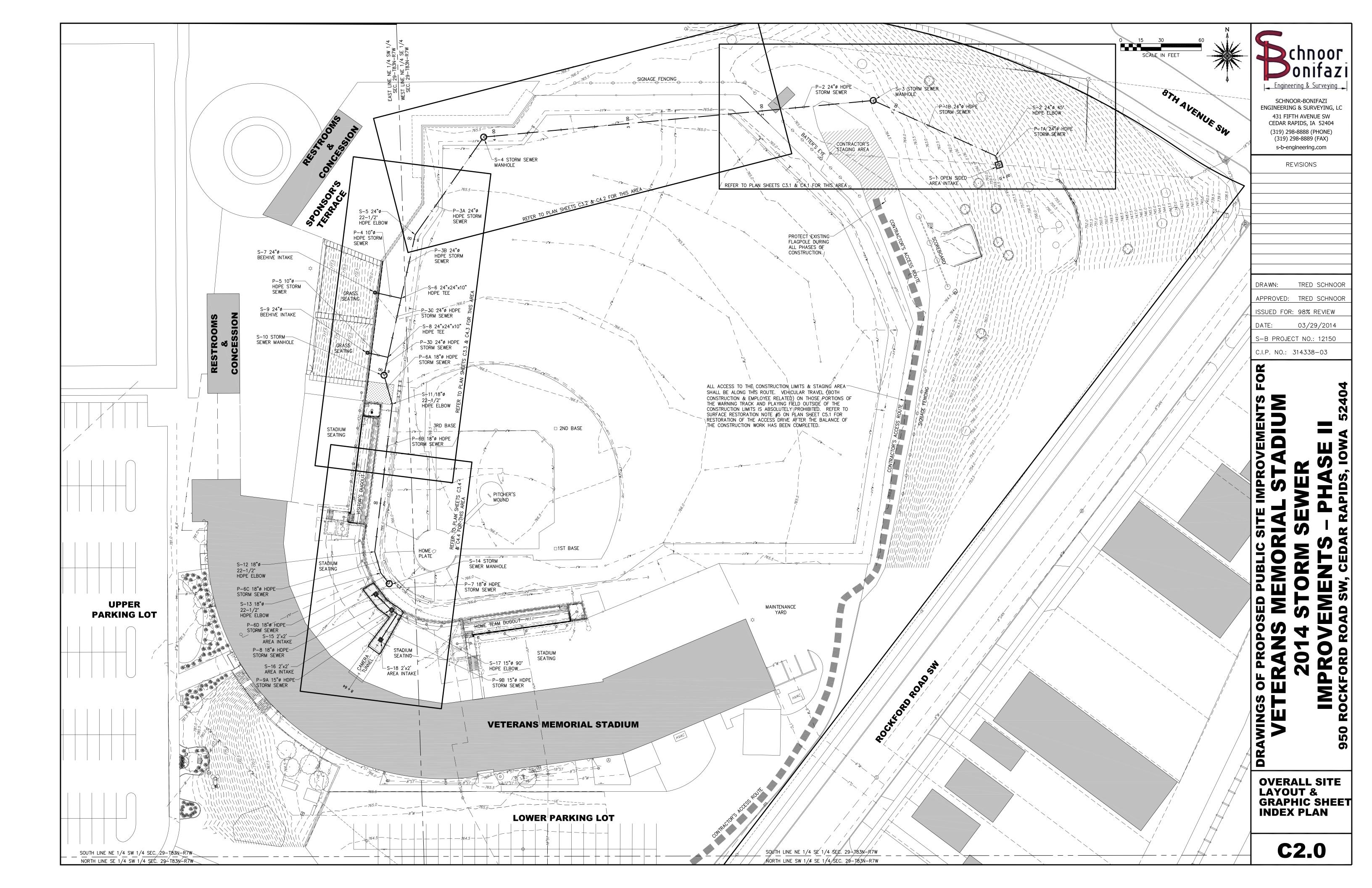
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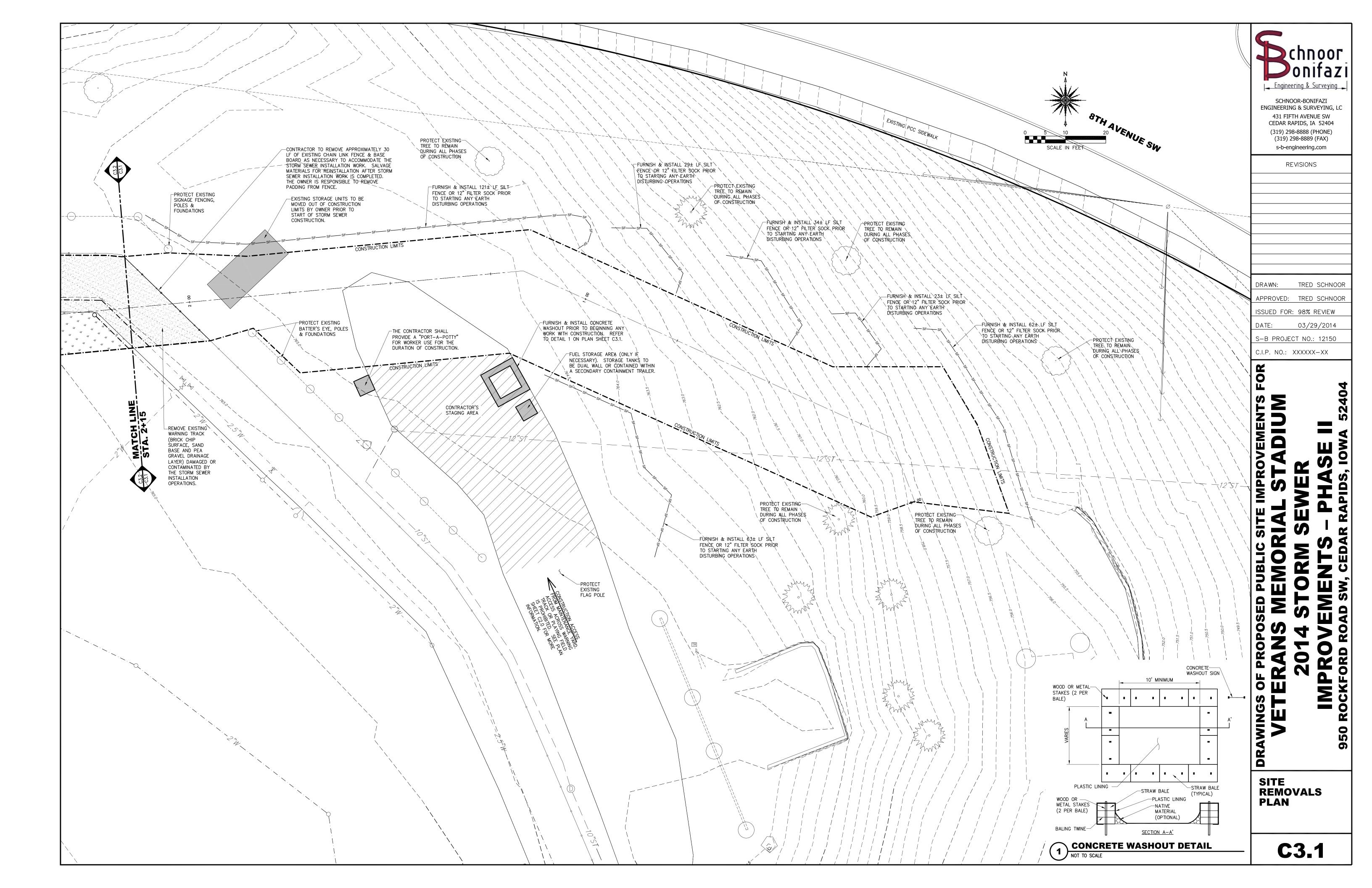
MARCH 29, 2013

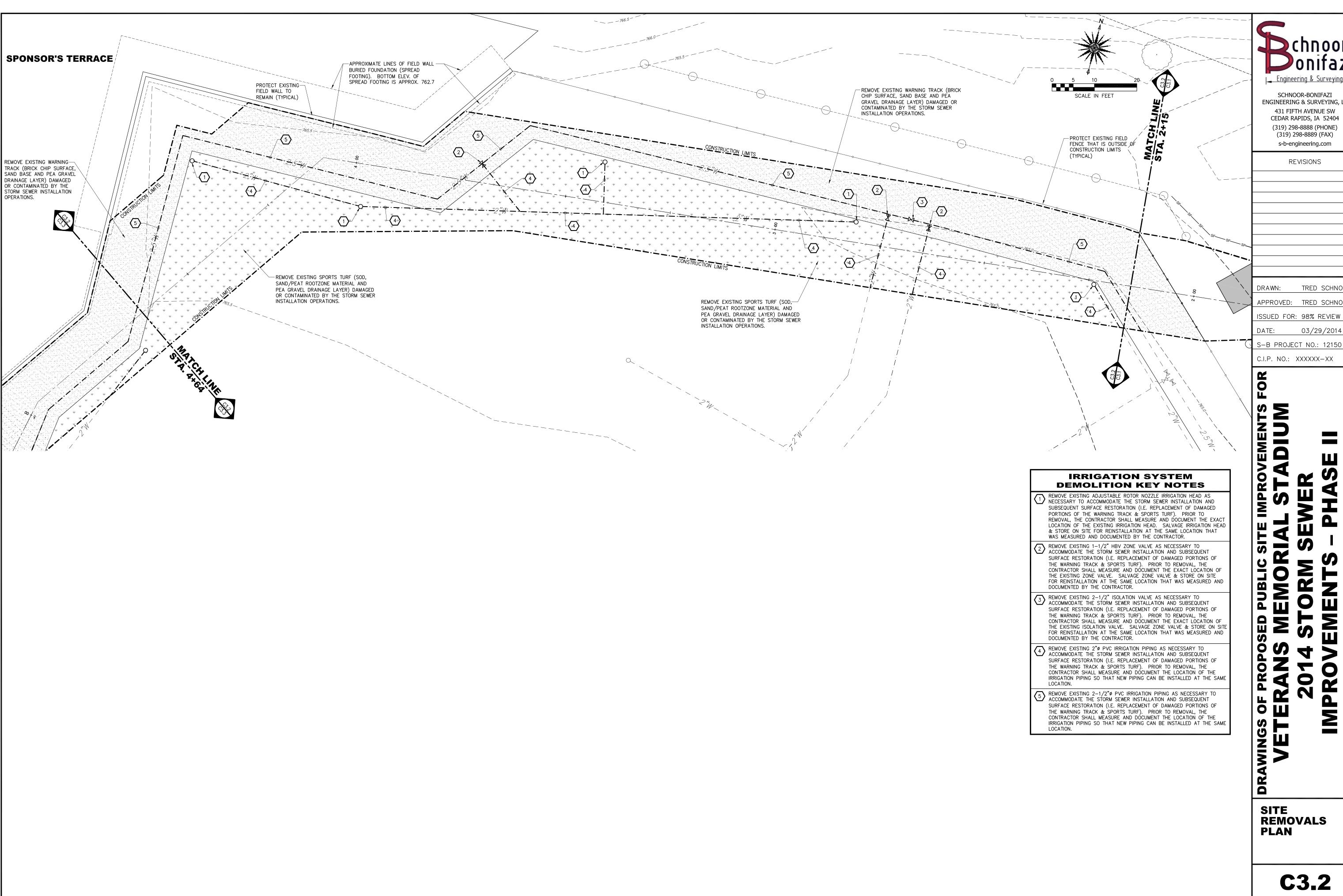
98% REVIEW











Engineering & Surveying

ENGINEERING & SURVEYING, LC 431 FIFTH AVENUE SW CEDAR RAPIDS, IA 52404 (319) 298-8888 (PHONE) (319) 298-8889 (FAX)

REVISIONS

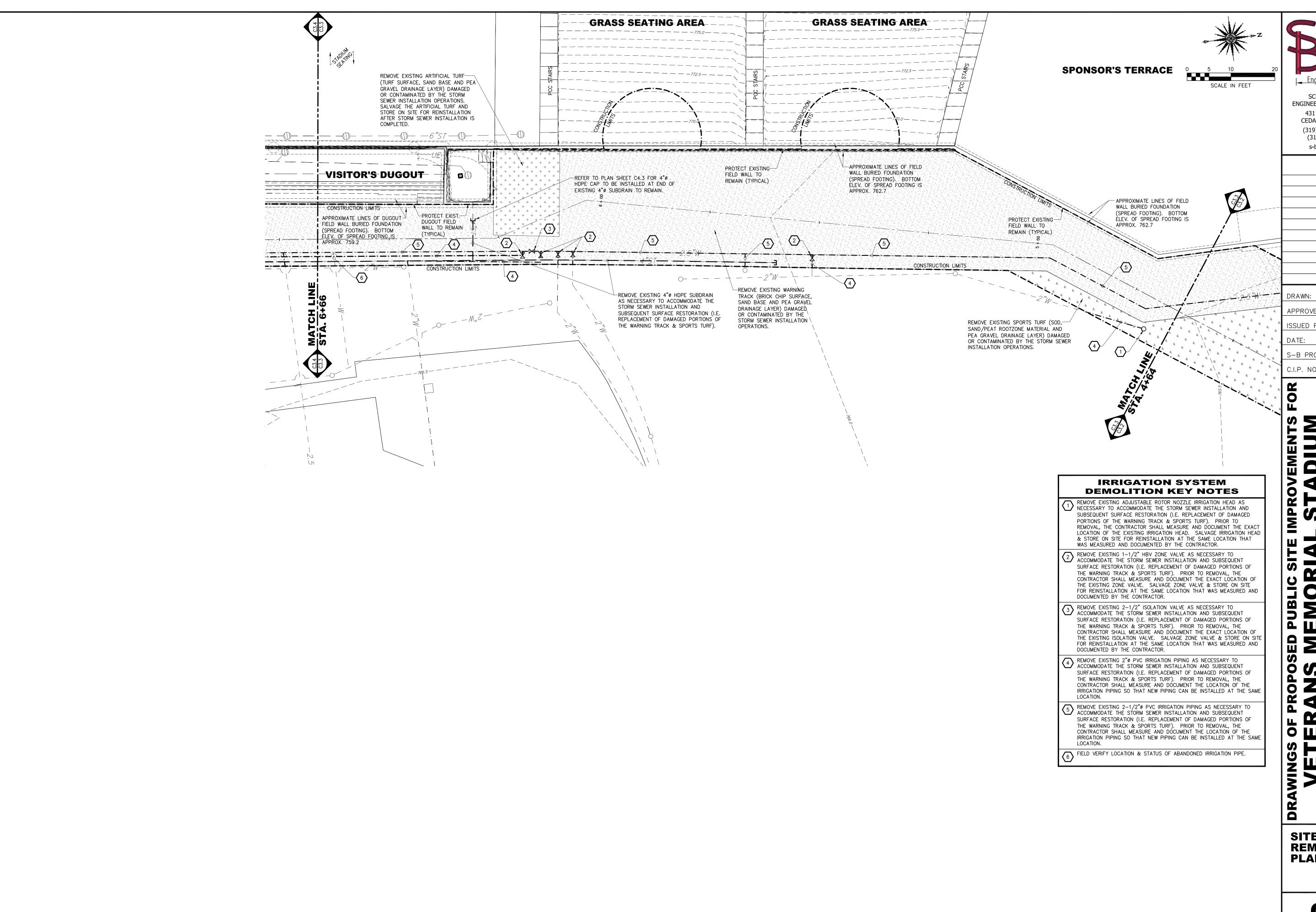
TRED SCHNOOR

APPROVED: TRED SCHNOOR

03/29/2014

C.I.P. NO.: XXXXXX-XX

REMOVALS



Engineering & Surveying

SCHNOOR-BONIFAZI ENGINEERING & SURVEYING, LC 431 FIFTH AVENUE SW CEDAR RAPIDS, IA 52404 (319) 298-8888 (PHONE) (319) 298-8889 (FAX) s-b-engineering.com

REVISIONS

TRED SCHNOOR

APPROVED: TRED SCHNOOR

ISSUED FOR: 98% REVIEW 03/29/2014

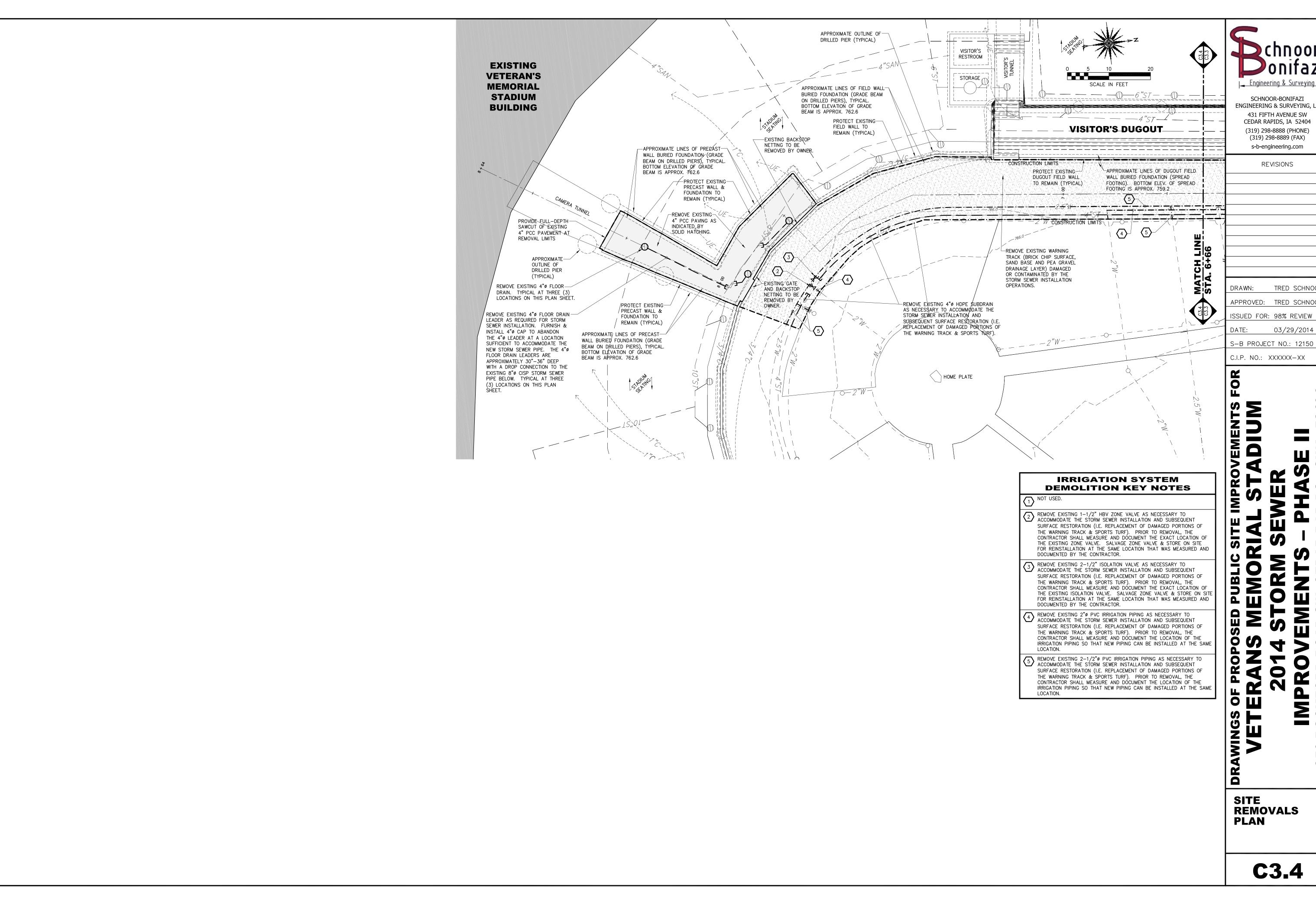
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C.I.P. NO.: XXXXXX-XX

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SITE **REMOVALS** PLAN

C3.3



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REVISIONS

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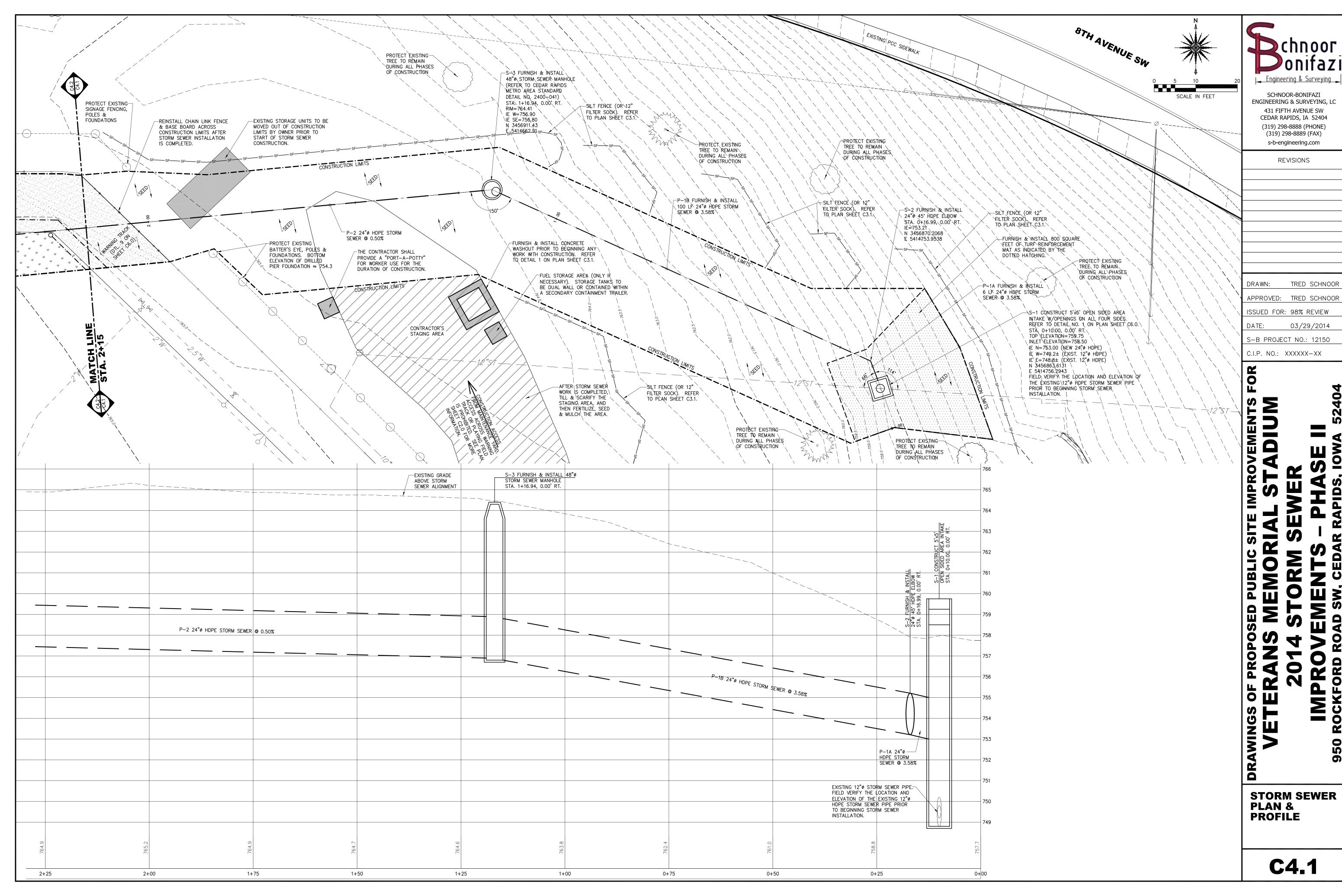
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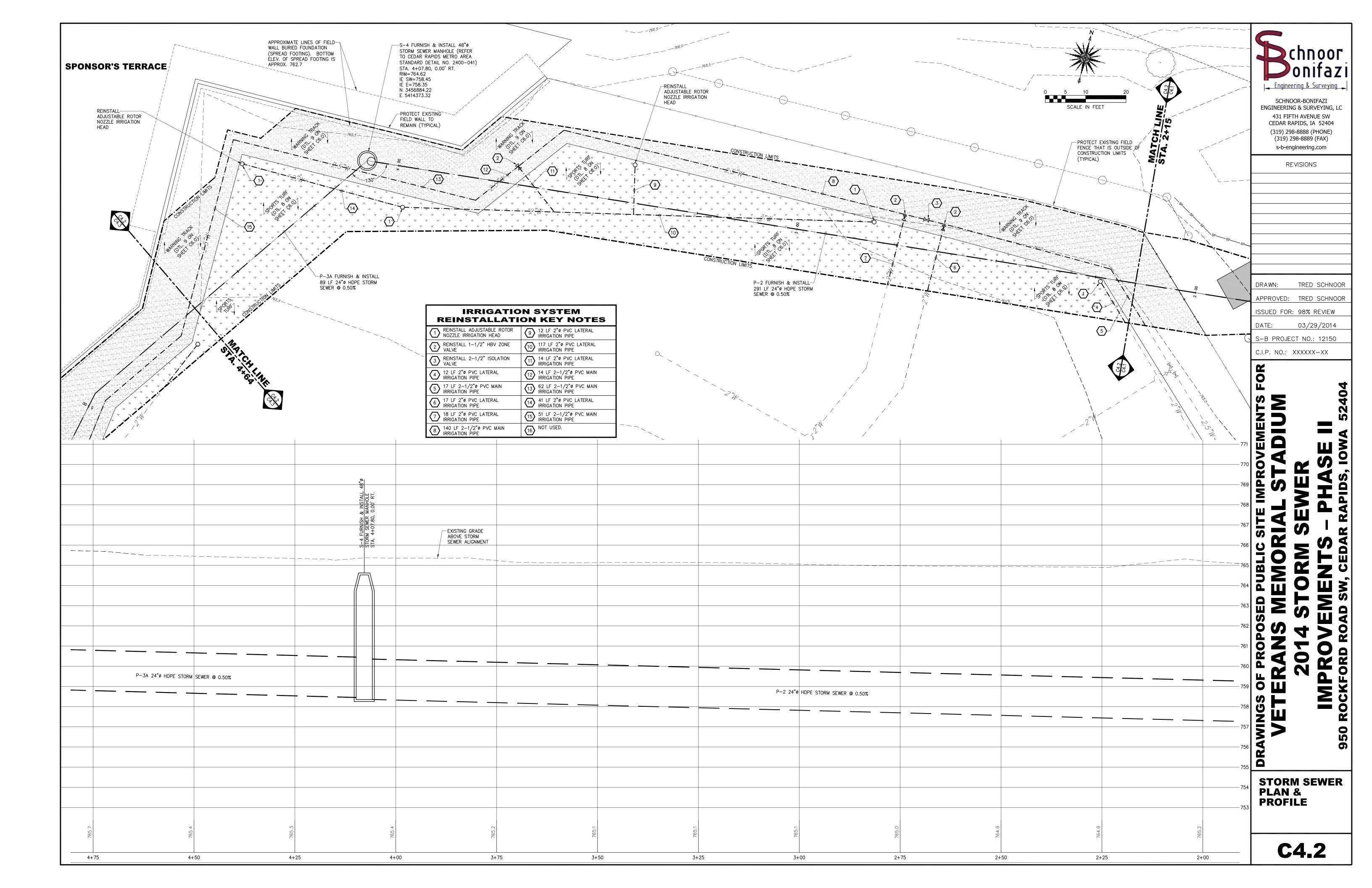
03/29/2014

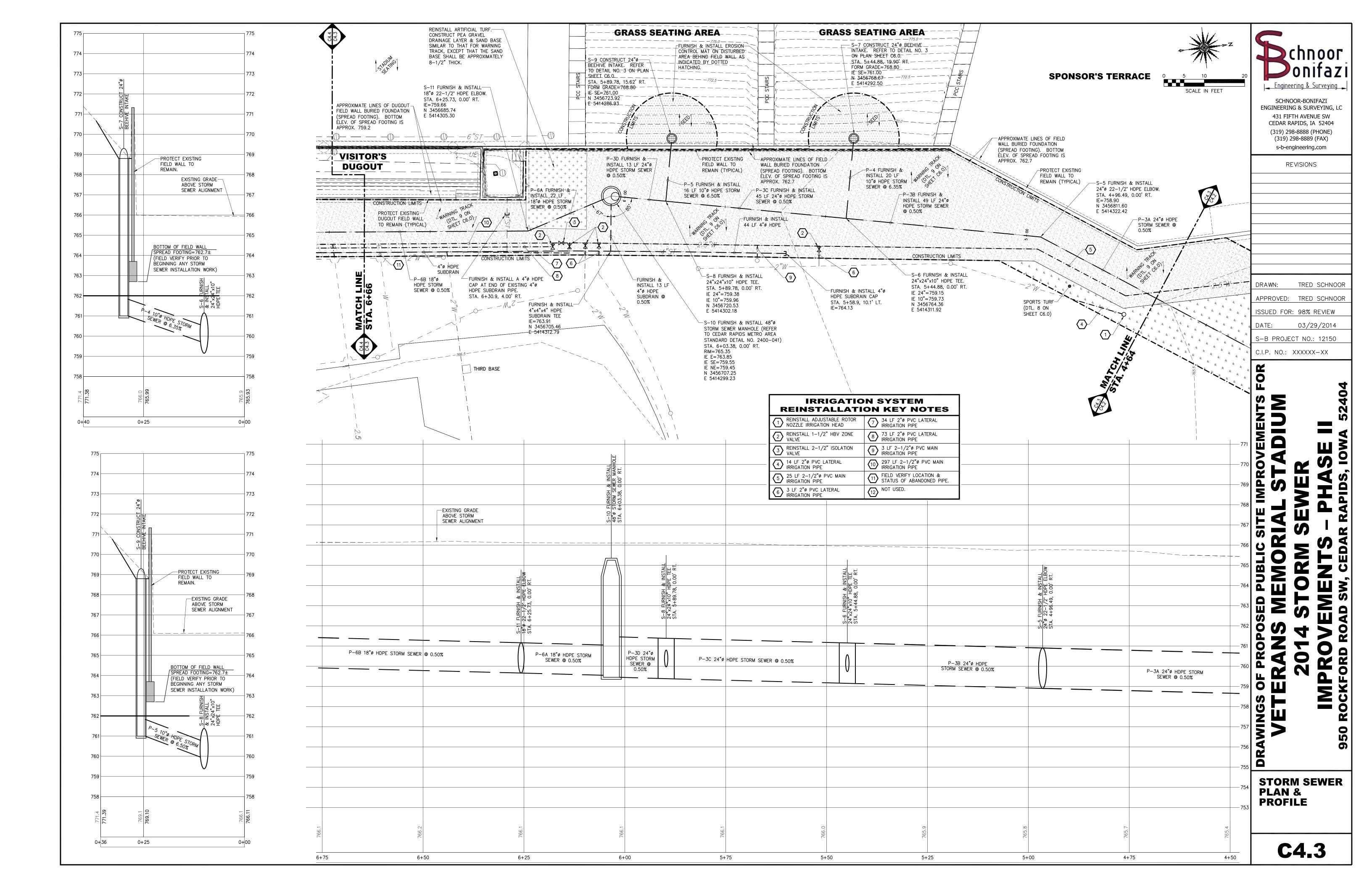
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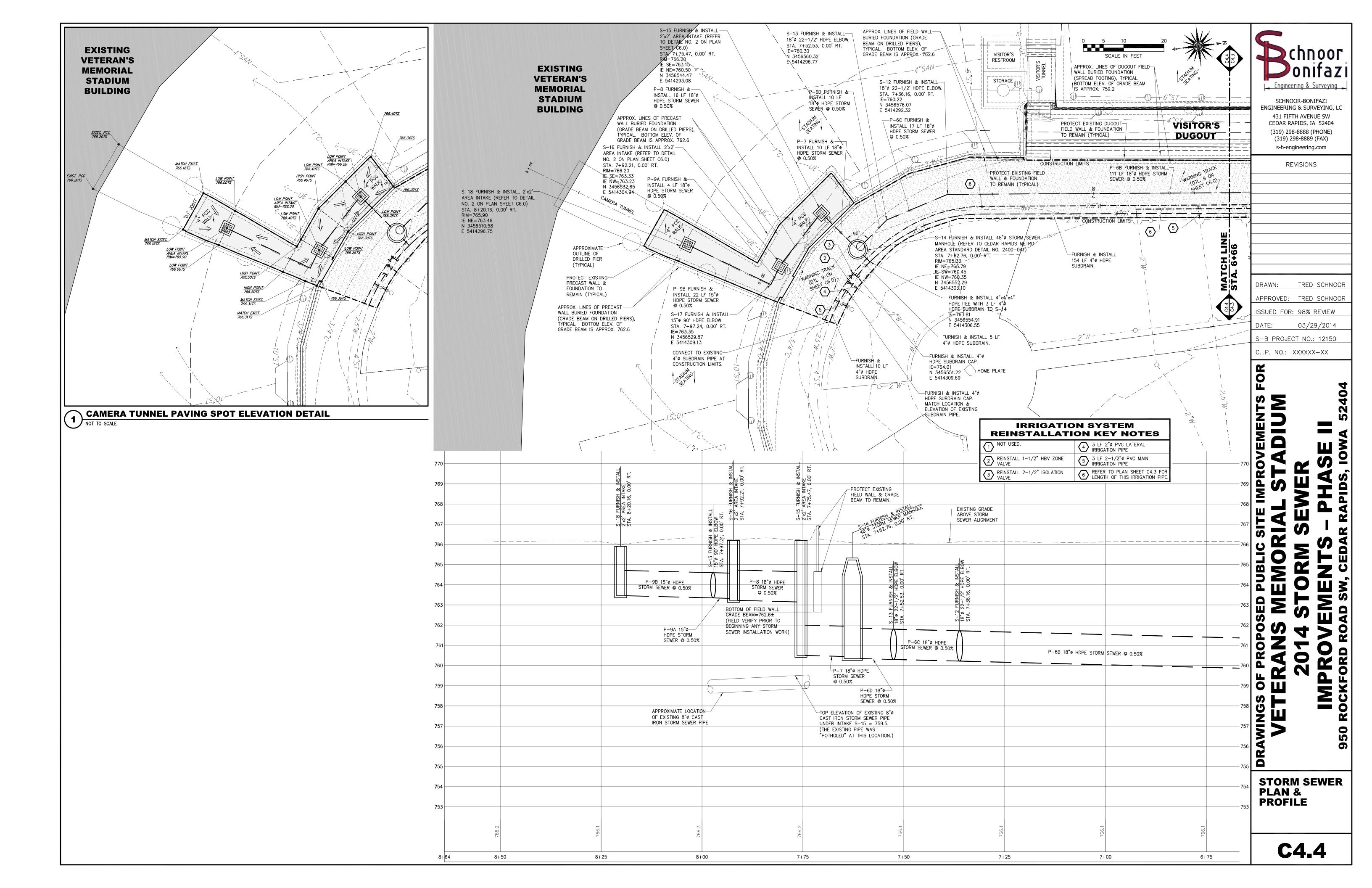
REMOVALS

C3.4









GENERAL NOTES

- I. ALL SITE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. A COPY OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS REFERENCED IN THESE PLANS CAN BE FOUND AT:
- http://www.cedar-rapids.org/government/departments/public-works/engineering/publicimprovementdocs/specifications

 THE LOCATIONS OF UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS PLOTTED ON THIS DRAWING ARE APPROXIMATE ONLY AND WERE OBTAINED FROM RECORDS MADE AVAILABLE TO SCHNOOR-BONIFAZI ENGINEERING & SURVEYING, LC. THERE MAY BE OTHER EXISTING UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS NOT KNOWN TO SCHNOOR-BONIFAZI ENGINEERING & SURVEYING, LC AND NOT SHOWN ON THIS DRAWING. THE VERIFICATION OF THE EXISTENCE OF, AND THE DETERMINATION OF THE EXACT LOCATION OF, UTILITY MAINS, STRUCTURES AND SERVICE CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR(S). THE CONTRACTOR SHALL PROVIDE THE LABOR AND EQUIPMENT NECESSARY TO DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITY'S IN
- 3. NOTIFY UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE PLANS OR KNOWN TO BE WITHIN CONSTRUCTION LIMITS OF THE SCHEDULE PRIOR TO EACH STAGE OF CONSTRUCTION
- 4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AT CRITICAL LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION.
- 5. IOWA CODE 480, UNDERGROUND FACILITIES INFORMATION, REQUIRES VERBAL NOTICE TO IOWA ONE-CALL (PHONE NO. 1-800-292-8989), NOT LESS THAN 48
- NOTIFY THE APPROPRIATE GOVERNING AUTHORITY A MINIMUM OF 72 HOURS PRIOR TO BEGINNING SITE CONSTRUCTION. THE CITY OF CEDAR RAPIDS SHALL BE RESPONSIBLE FOR INSPECTION DURING CONSTRUCTION.
- 7. THE MEANS OF THE WORK AND THE SAFETY OF THE CONTRACTOR'S EMPLOYEES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- 8. PROTECT EXISTING INFRASTRUCTURE (IRRIGATION LINES, WARNING TRACK, SPORTS TURF, WALLS, FENCING, UTILITIES ETC.) THAT LIES OUTSIDE OF THE CONSTRUCTION LIMITS DURING ALL PHASES OF THE WORK.
- 9. MAINTAIN POSITIVE DRAINAGE ON THE SITE THROUGHOUT THE PROJECT DURATION.

HOURS BEFORE EXCAVATING, EXCLUDING WEEKENDS AND HOLIDAYS.

CONFLICT WITH THE PROPOSED CONSTRUCTION AND AS NOTED ON THESE PLANS.

- 10. THIS PROJECT SHALL BE PAID ON A LUMP SUM BASIS, ANY WORK REQUIRED TO COMPLETE THE SCOPE OF THIS PROJECT BUT NOT DESCRIBED ON THESE THESE PLANS, SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED FOR THE COMPLETION OF THIS WORK.
- 11. ANY EXISTING FACILITIES (CURBS, PAVEMENT, UTILITIES, ETC.) THAT THE CONTRACTOR'S OPERATIONS DAMAGE SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S COST.
- 12. IF REQUIRED, ADJUST ALL VALVES, MANHOLES, CASTINGS, GAS VENTS, ETC., TO MATCH THE NEW SURFACE. ADJUSTMENT SHALL BE COORDINATED WITH THE UTILITY COMPANIES AND THE COST FOR ALL ADJUSTMENTS SHALL BE INCIDENTAL TO THE CONSTRUCTION. AT NO ADDITIONAL COST TO THE OWNER, REPAIR ANY DAMAGE TO SAID STRUCTURES AND APPURTENANCES THAT OCCUR DURING CONSTRUCTION.
- 13. REPLACE ANY PROPERTY MONUMENTS REMOVED OR DESTROYED BY CONSTRUCTION. MONUMENTS SHALL BE SET BY A LAND SURVEYOR REGISTERED TO PRACTICE IN THE STATE OF IOWA.
- 14. ARRANGE & PAY FOR AN OFF-SITE STORAGE AREA FOR MATERIALS AND EQUIPMENT. THE ONLY ON-SITE STAGING AREAS AVAILABLE FOR CONTRACTOR USE ARE DELINEATED ON THESE PLANS.
- 15. SAWCUT EDGES OF PAVEMENT FULL DEPTH PRIOR TO REMOVAL TO PREVENT DAMAGE TO ADJACENT SLABS AND FIXTURES.
- 16. KEEP ADJACENT PUBLIC STREETS AND PRIVATE DRIVEWAYS/PARKING LOTS FREE FROM SOIL AND DEBRIS GENERATED BY THE PROJECT. CLEAN SOIL AND DEBRIS FROM THE ADJACENT STREETS, DRIVEWAYS AND PARKING LOTS ON A DAILY BASIS.
- 17. THE CONTRACTOR SHALL PROVIDE WASTE AREAS OR DISPOSAL SITES FOR EXCESS MATERIAL (EXCESS EXCAVATED MATERIAL OR BROKEN CONCRETE) WHICH IS NOT DESIRABLE TO BE INCORPORATED INTO THE WORK INVOLVED ON THIS PROJECT. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES. NO EXCESS EXCAVATED MATERIAL OR BROKEN CONCRETE SHALL BE PLACED ON THE SITE. THE CONTRACTOR SHALL APPLY NECESSARY MOISTURE TO THE CONSTRUCTION AREA AND TEMPORARY HAUL ROADS TO PREVENT THE SPREAD OF DUST. OFF—SITE DISPOSAL SHALL BE IN ACCORDANCE WITH THE APPLICABLE GOVERNMENTAL REGULATIONS.
- 18. DURING CONSTRUCTION, THE CONTRACTOR CONTROL DUST SPREADING FROM ALL WORK AND STAGING AREAS.
- 19. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT EXISTING TREES AND SHRUBS OUTSIDE OF THE CONSTRUCTION LIMITS FROM DAMAGE DUE TO CONSTRUCTION ACTIVITY. PROTECTION INCLUDES, BUT IS NOT LIMITED TO, CONSTRUCTION FENCING AROUND THE DRIP LINE OF TREES AND PROHIBITING VEHICLE

PAVEMENT SUBGRADE AND SUBBASE PREPARATION NOTES

- PREPARATION OF THE SUBGRADE AND SUBBASE UNDER THE PROPOSED PCC PAVEMENTS SHALL BE IN ACCORDANCE WITH THE CITY OF CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. A COPY OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS REFERENCED IN THESE PLANS CAN BE FOUND AT: http://www.cedar-rapids.org/government/departments/public-works/engineering/publicimprovementdocs/specifications
- 2. THE SUBGRADE AND GRANULAR SUBBASE UNDER THE PROPOSED PCC SIDEWALKS SHALL BE COMPACTED TO:
 - A. AT LEAST 95% STANDARD PROCTOR DRY DENSITY (ASTM D698) WHEN MORE THAN 12 INCHES BELOW FINISHED SUBGRADE ELEVATIONS.
- B. AT LEAST 98% STANDARD PROCTOR DRY DENSITY (ASTM D698) WHEN 12 INCHES OR LESS BELOW FINISHED SUBGRADE ELEVATIONS.
- 3. GRANULAR BASE MATERIAL UNDER THE PROPOSED PCC SIDEWALKS SHALL MEET THE REQUIREMENTS OF SECTION 4123 (MODIFIED GRANULAR SUBBASE, GRADATION NO. 14) OF THE IOWA DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, LATEST EDITION.

PAVEMENT GENERAL NOTES

- 1. ALL SLOPES IN PAVEMENT SHALL BE UNIFORM TO AVOID PONDING.
- 2. ALL DIMENSIONS TO BACK-OF-CURB UNLESS NOTED OTHERWISE.
- 3. REMOVE AND REPLACE OR RESTORE ALL STREET SIGNS, PAVEMENT MARKINGS, SIDEWALK LAMPS, SIDEWALKS, STEPS, LANDSCAPE STRUCTURES, CURB AND GUTTER, STREETS, DRIVES AND ALL OTHER SURFACE STRUCTURES REMOVED OR OTHERWISE DAMAGED DURING THE COURSE OF THE WORK. SIDEWALKS SHALL BE REMOVED AND REPLACED TO NEAREST JOINT BEYOND CONSTRUCTION AREA.

PORTLAND CEMENT CONCRETE PAVEMENT NOTES

- UNLESS OTHERWISE NOTED IN THE PLANS AND PROJECT SPECIFICATION BOOK, PCC PAVEMENTS SHALL BE IN ACCORDANCE WITH THE CITY OF CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. A COPY OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS REFERENCED IN THESE PLANS CAN BE FOUND AT: http://www.cedar-rapids.org/government/departments/public-works/engineering/publicimprovementdocs/specifications
- 2. PCC PAVEMENT MIX CLASS FOR PCC SIDEWALK SHALL BE C-3, C-4, OR M IN ACCORDANCE WITH THE CEDAR RAPIDS METRO SPECIFICATIONS.
- 3. PCC PAVEMENT THICKNESSES SHALL BE AS NOTED ON DETAIL NO. 5 ON SHEET C6.0 OF THIS PLAN SET.
- 4. UNLESS OTHERWISE INDICATED ON THE PLANS, PCC SIDEWALKS SHALL BE 4 INCHES THICK. PROVIDE CONTRACTION JOINTS AT MAXIMUM 8-FOOT INTERVALS IN THE PCC SIDEWALK PAVING. LONGITUDINAL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN SLABS GREATER THAN 8 FEET IN WIDTH. PLACE EXPANSION JOINTS WHERE WALK MEETS OTHER WALKS, BACK OF CURBS, FIXTURES, OR OTHER STRUCTURES, AND AT INTERVALS NOT EXCEEDING 30 FEET. SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 1.99%.
- 5. REFER TO DETAIL NO.'S 6 AND 6 ON PLAN SHEET C6.0 FOR TYPICAL PCC SIDEWALK JOINT DETAILS.
- 6. ONE INCH PREFORMED FOAM EXPANSION JOINT MATERIAL SONOFLEX "F" BY SONOBORN OR APPROVED EQUAL SHALL BE PLACED BETWEEN NEW PAVEMENT CONSTRUCTION AND THE FACES OF BUILDINGS, STOOPS, EXISTING SLABS, AND OTHER FIXTURES, UNLESS NOTED ON THE DRAWINGS. JOINTS AT THESE LOCATIONS SHALL BE SEALED WITH A SELF—LEVELING POLYURETHANE SUCH AS SONOLASTIC SL—1 OR APPROVED EQUAL.
- 7. MINIMUM 28-DAY COMPRESSIVE STRENGTH FOR CONCRETE USED FOR PCC PAVEMENTS SHALL BE 4,000 PSI.

GENERAL UTILITY NOTES

- VERIFY THE ELEVATION OF POSSIBLE CONFLICTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION OF PROPOSED WATER MAINS, SANITARY SEWERS, STORM SEWERS, ETC. ANY CONFLICTS MUST IMMEDIATELY BE BROUGHT TO THE ENGINEER'S ATTENTION.
- 2. ALL OPEN EXCAVATIONS SHALL BE PROTECTED WITH SAFETY FENCE, BARRIERS OR BARRICADES IN ACCORDANCE WITH OSHA REQUIREMENTS.

PIPE TRENCH WORK NOTES

- 1. PIPE TRENCH WORK SHALL BE IN ACCORDANCE WITH THE CITY OF CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. A COPY OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS REFERENCED IN THESE PLANS CAN BE FOUND AT:

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- 2. PLACE TRENCH AND STRUCTURE EXCAVATION BACKFILL 12 INCHES OR MORE ABOVE TOP OF PIPE IN 7 INCH MAXIMUM LIFTS AND COMPACT TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY WHEN UNDER THE PROPOSED PAVED AREAS. THE TOP 12-INCHES OF TRENCH BACKFILL BELOW FINISH SUBGRADE ELEVATION SHALL BE COMPATED TO MINIMUM 98% STANDARD PROCTOR DRY DENSITY WHEN UNDER THE PROPOSED PAVED AREAS. THE TRENCH BACKFILL SHALL BE COMPACTED TO MINIMUM 90% STANDARD PROCTOR DRY DENSITY WHEN NOT UNDER THE PROPOSED PAVED AREAS. INSTALL A MINIMUM CUSHION OF 2 FEET OF COMPACTED BACKFILL ABOVE PIPE ENVELOPE BEFORE USING HEAVY COMPACTION EQUIPMENT.
- 3. HAND PLACE AND COMPACT BACKFILL MATERIAL TO 12 INCHES ABOVE TOP OF PIPE TO 95% STANDARD PROCTOR DRY DENSITY (ASTM D698).
- . THE CONTRACTOR SHALL MAKE PROVISIONS TO HANDLE WATER ENCOUNTERED DURING CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE OF THE PROPOSED METHOD OF DEWATERING.
- 5. THE CONTRACTOR SHALL MAKE PROVISIONS TO PROTECT EXISTING RETAINING WALLS, PRECAST WALLS AND THEIR FOUNDATIONS (I.E. SPREAD FOOTINGS OR GRADE BEAMS ON DRILLED CONCRETE PIERS) DURING CONSTRUCTION. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT THE LOSS OF SUPPORT AND SOIL FROM UNDER THESE FOUNDATIONS. STORM SEWER TRENCHES THAT MUST RUN UNDER THE WALLS WHERE NOTED ON THE PLANS SHALL BE THE MINIMUM WIDTH THAT STILL ALLOWS THE GRANULAR AGGREGATE USED FOR BEDDING, HAUNCHING AND BACKFILL TO BE ADEQUATELY COMPACTED (22" WIDE TRENCH FOR 10" ## HDPE AND 30" WIDE TRENCH FOR 18" ## HDPE. THE TRENCHES THAT MUST RUN UNDER THE WALLS SHALL BE BACKFILLED WITH GRANULAR BACKFILL AGGREGATE AND WELL COMPACTED.

STORM SEWER NOTES

- STORM SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. A COPY OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS REFERENCED IN THESE PLANS CAN BE FOUND AT:

 http://www.cedar-rapids.org/government/departments/public-works/engineering/publicimprovementdocs/specifications
- 2. UNLESS OTHERWISE INDICATED ON THE PLANS, ALL STORM SEWER SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) PIPE MEETING THE REQUIREMENTS OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS (DUAL WALL CORRUGATED PIPE WITH INTEGRALLY FORMED SMOOTH INTERIOR).
- 3. ALL HDPE STORM SEWER SHALL BE NON-PERFORATED EXCEPT ANY SUBDRAINS NOTED ON THESE PLANS. NON-PERFORATED HDPE STORM SEWER SHALL BE CONSTRUCTED WITH CLASS A BEDDING PER CEDAR RAPIDS METROPOLITAN AREA STANDARD DETAIL NO. 2200-020. NON-PERFORATED HDPE STORM SEWER SHALL BE BACKFILLED WITH GRANULAR BACKFILL AGGREGATE TO A MINIMUM OF 12" ABOVE THE TOP OF THE HDPE PIPE. PERFORATED HDPE SUBDRAIN SHALL BE INSTALLED AS SHOWN IN DETAIL NO. 4 ON PLAN SHEET C6.0.
- 4. <u>ALL HDPE STORM SEWER PIPE JOINTS SHALL BE INTEGRAL BELL-TYPE WITH GASKETS MEETING ASTM D3212 AND F477, RESPECTIVELY. SPLIT COUPLERS ARE EXPRESSLY PROHIBITED FOR THE HDPE STORM SEWER PIPE JOINTS. SPLIT COUPLERS MAY BE USED FOR THE SINGLE WALL HDPE SUBDRAIN PIPE.</u>
- 5. ALL LINE AND GRADE CONTROL WILL BE DONE WITH A LASER BEAM, WITH GRADE CHECKS AT 25', 50' AND THEN EVERY 100' BETWEEN MANHOLES.
- 6. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL UNCOVER EXISTING UTILITIES AND WALL FOUNDATIONS AT POSSIBLE CONFLICT LOCATIONS TO VERIFY EXACT HORIZONTAL AND VERTICAL LOCATION. THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT FOR EXISTING WALLS, WATER, GAS, TELEPHONE OR OTHER UTILITIES THAT CROSS THE TRENCH.
- 7. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN A RECORD DRAWING SET SHOWING THE AS-BUILT LOCATIONS OF ALL SUBDRAINS, ELBOWS, WYES, TEES AND OTHER PERTINENT INFORMATION REGARDING THE STORM SEWER CONSTRUCTION. THE RECORD DRAWING SET WILL BE PROVIDED TO THE OWNER.
- 3. THE CONTRACTOR SHALL FURNISH AND INSTALL <u>ALL</u> NECESSARY FITTING (ELBOWS, WYES, TEES, ETC.) FOR STORM SEWER AND SUBDRAIN CONSTRUCTION SHOWN ON THESE PLANS.
- . THE STORM SEWER MANHOLES THAT WILL BE LOCATED WITHIN THE WARNING TRACK SHALL BE FURNISHED AND INSTALLED MEETING THE FOLLOWING ADDITIONAL REQUIREMENTS:
- A. THE MANHOLE LIDS SHALL BE BURIED NINE INCHES (9") BELOW FINISH GRADE.
- B. THE FRAMES AND LIDS SHALL BE WATERTIGHT AND SELF-SEALING WITH A COMPRESSION GASKET.
- C. AN INTERNAL CHIMNEY SEAL MEETING THE REQUIREMENTS OF SECTION 02300 OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS SHALL BE FURNISHED AND INSTALLED.
- 10. EXISTING TILE/SUBDRAIN LINES ENCOUNTERED IN THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR IN ONE OF THE FOLLOWING WAYS:
- A. CONNECT TILE TO THE NEAREST STORM SEWER.
- B. DAYLIGHT TO FINISHED GROUND.
- C. REPAIR TILE AND MAINTAIN SERVICE.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF A TILE/SUBDRAIN IS ENCOUNTERED AND SHALL INDICATE THE METHOD OF RESOLVING THE CONFLICT. THE ENGINEER SHALL APPROVE THE PROPOSED METHOD PRIOR TO THE CONTRACTOR PERFORMING THE WORK. THE LOCATION OF THE TILE/SUBDRAIN SHALL BE RECORDED ON THE CONSTRUCTION RECORD DRAWING SET TO BE PROVIDED TO THE OWNER UPON COMPLETION OF THE WORK.

SURFACE RESTORATION

- THE NOTES IN THIS SECTION SHALL APPLY ONLY TO THOSE UNPAVED AREAS OUTSIDE OF THE WARNING TRACK AND SPORTS TURF AREAS. REFER TO THE "SPORTS TURF, WARNING TRACK AND IRRIGATION SYSTEM SPECIFICATIONS" ON PLAN SHEET C5.2 FOR SURFACE RESTORATION OF DISTURBED, DAMAGED AND CONTAMINATED AREAS WITHIN THE WARNING TRACK AND SPORTS TURF AREAS.
- ALL DISTURBED AREAS (INCLUDING THE STAGING AREA) NOT HARD SURFACED OR WITHIN THE WARNING TRACK & SPORTS TURF AREAS SHALL BE FERTILIZED, SEEDED AND MULCHED IN ACCORDANCE WITH THESE PLANS AND THE REQUIREMENTS OF SECTION 02900 OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS. THE SEED MIX USED SHALL MEET THE REQUIREMENTS OF THE TYPE 1A, LAWN MIXTURE, SUNNY CONDITIONS.
- 3. A MINIMUM OF 6" TOPSOIL SHALL BE RESPREAD ON ALL UNPAVED AREAS OUTSIDE OF THE WARNING TRACK AND SPORTS TURF AREAS. SCARIFY AREAS TO RECEIVE TOPSOIL TO A DEPTH OF 3". REMOVE ALL STONES, WOOD AND OTHER DEBRIS LARGER THAN 2" FROM AREAS TO RECEIVE TOPSOIL. DO NOT COMPACT TOPSOIL. THE CONTRACTOR SHALL BE CAREFUL TO PREPARE THE SUBGRADE SUCH THAT THE COMBINED DEPTH OF THE TOPSOIL AND SOD, OR THE TOPSOIL AND MULCH, DOES NOT CAUSE THE FINISH GRADE TO EXCEED THE EXISTING GRADE PRIOR TO ANY OF THE PROPOSED CONSTRUCTION SHOWN ON THESE PLANS.
- THE EROSION CONTROL MATS USED FOR THIS PROJECT, AND THEIR INSTALLATION, SHALL MEET THE REQUIREMENTS OF SECTION 01300 OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS.
- 5. THE CONTRACTOR SHALL SHAPE AND FINE GRADE AREAS DISTURBED BY CONSTRUCTION TO REMOVE RUTS, WASHES OR GULLIES AND IRREGULARITIES TO A SMOOTH FIRM AND EVEN SURFACE PRIOR TO FERTILIZING, SEEDING AND MULCHING.
- AFTER THE BALANCE OF THE WORK IS COMPLETED, THE CONTRACTOR SHALL RESTORE THE PORTION OF THE CONTRACTOR'S ACCESS ROUTE BETWEEN THE STAGING AREA AND THE PAVING AT THE STADIUM MAINTENANCE YARD BY FURNISHING AND PLACING A SUFFICIENT AMOUNT OF CLASS 'A' ROAD STONE AGGREGATE TO FILL ANY RUTTING AND TO PROVIDE A LEVEL, UNIFORM ACCESS DRIVE SURFACE. THIS WORK MAY INCLUDE FIRST SHAPING THE SUBGRADE TO REMOVE ANY SURFACE IRREGULARITIES RESULTING FROM RUTTING CAUSED BY CONSTRUCTION TRAFFIC THAT COULD PROHIBIT CROSS—SLOPE DRAINAGE ON THE ACCESS DRIVE

TURF REINFORCEMENT MAT

- TURF REINFORCEMENT MAT (TRM) SHALL BE CONSTRUCTED OF A WEB OF MECHANICALLY OR MELT-BONDED POLYMER NETTING, MONOFILAMENTS, OR FIBERS THAT ARE ENTANGLED OR WOVEN TO FORM A STRONG AND DIMENSIONALLY STABLE MAT. NON-WOVEN BONDING METHODS INCLUDE POLYMER WELDING, THERMAL OR POLYMER FUSION, OR THE PLACEMENT OF FIBERS BETWEEN TWO HIGH-STRENGTH, BIAXIALLY ORIENTED NETS, MECHANICALLY BOUND BY PARALLEL STITCHING WITH POLYOLEFIN THREAD. USE ONLY COMPONENTS THAT ARE 100% SYNTHETIC AND RESISTANT TO BIOLOGICAL, CHEMICAL, AND ULTRAVIOLET DEGRADATION.
- 2. TURF REINFORCEMENT MAT (TRM) SHALL MEET THE MINIMUM MATERIAL AND PERFORMANCE REQUIREMENTS CONTAINED IN THE FOLLOWING TABLE

TEST METHOD | MINIMUM REQUIREMENT

ASTM D 6525

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MATERIA	TENSILE STRENGTH 1	ASTM D 6818	240 lb/ft		
	UV RESISTANCE ²	ASTM D 4355	80% @ 1,000 hrs		
PERFORMANCE	MAXIMUM SHEAR STRESS ³ (CHANNEL APPLICATIONS)	ASTM D 6460	10 lb/ft²		
	MAXIMUM SLOPE GRADIENT (SLOPE APPLICATIONS)	N/A	1:1 (H:V)		
	1. MINIMUM AVERAGE ROLL VALUES, MACHINE DIRECTION ONLY.				
	2. TENSILE STRENGTH OF STRUCTURAL COMPONENTS RETAINED AFTER UV EXPOSURE.				
NOTES	3. MINIMUM SHEAR STRESS THAT FULLY-VEGETATED TRM CAN SUSTAIN WITHOUT PHYSICAL DAMAGE OR EXCESS EROSION (0.5 IN SOIL LOSS) DURING A 30 MINUTE FLOW EVENT IN LARGE SCALE TESTING. ACCEPTABLE LARGE SCALE TESTING PROTOCOL INCLUDES ASTM D 6460 OR INDEPENDENT TESTING CONDUCTED BY THE TEXAS TRANSPORTATION INSTITUTE, COLORADO STATE UNIVERSITY, UTAH STATE UNIVERSITY, OR OTHER APPROVED TESTING FACILITY. BENCH SCALE TESTING IS NOT ACCEPTABLE.				

- THE CONTRACTOR SHALL FURNISH A MANUFACTURER'S CERTIFICATION, STATING THAT THE TRM SUPPLIED CONFORMS TO THE REQUIREMENTS OF THESE SPECIFICATIONS. THE CERTIFICATION SHALL INCLUDE OR HAVE ATTACHED, TYPICAL RESULTS OF TESTS FOR THE SPECIFIED PROPERTIES, REPRESENTATIVE OF THE TRM SUPPLIED.
- 4. INSTALL THE TRM IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION LITERATURE FOR THE PRODUCT SPECIFIED AND APPLICATION (SLOPE OR CHANNEL).

EROSION AND DUST CONTROL NOTES

- EROSION AND DUST CONTROL SHALL BE IN ACCORDANCE THE CITY OF CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, LATEST EDITION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. A COPY OF THE CEDAR RAPIDS METROPOLITAN AREA STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS REFERENCED IN THESE PLANS CAN BE FOUND AT:

 HTTP://www.cedar-rapids.org/government/departments/public-works/engineering/publicimprovementdocs/specifications
- 2. THE WORK SHOWN ON THESE PLANS WILL RESULT IN THE DISTURBANCE OF APPROXIMATELY 22,000 SQ. FT. OF SURFACE AREA
- 3. UNLESS OTHERWISE INDICATED, THE CONTRACTOR SHALL INCORPORATE ALL EROSION CONTROL FEATURES INTO THE PROJECT PRIOR TO DISTURBING THE SOIL. SITE CONDITIONS MAY NECESSITATE ADDITIONAL OR REPLACEMENT EROSION CONTROL AND/OR SEDIMENT CONTROL MEASURES, TO WHICH THE CONTRACTOR IS
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSPECT THE TEMPORARY EROSION & SEDIMENT CONTROL MEASURES A MINIMUM OF ONCE PER WEEK. IF A CONTROL MEASURE HAS BEEN REDUCED IN CAPACITY BY 50% OR MORE, THE CONTRACTOR SHALL RESTORE SUCH FEATURES TO THEIR ORIGINAL CONDITION IMMEDIATELY, WEATHER PERMITTING.
- 5. ERECT TEMPORARY EROSION CONTROLS AS SHOWN ON THE PLANS TO LIMIT LOSS OF MATERIAL FROM THE SITE. DEVICES TO REMAIN IN PLACE AND TO BE MAINTAINED UNTIL A PERMANENT GROUND COVER IS ESTABLISHED. FILTER SOCK MAY BE USED AS LONG AS IT EFFECTIVELY KEEPS EROSION ON SITE.
- 6. MINIMIZE SOIL EROSION BY MAINTAINING ALL EXISTING VEGETATIVE GROWTH WITHIN THE GRADING LIMITS FOR AS LONG AS PRACTICAL.
- 7. INSTALL A SILT FENCE OR FILTER SOCK AROUND ALL STOCKPILED SOIL. SILT FENCE OR FILTER SOCK MAY BE USED AS LONG AS IT EFFECTIVELY KEEPS EROSION ON SITE.
- 8. THE CONTRACTOR SHALL PROVIDE TEMPORARY SEEDING FOR ALL AREAS THAT ARE DISTURBED AND OPERATIONS WILL NOT COMMENCE OR PERMANENT SEEDING WILL NOT BE COMPLETED IN LESS THAN 14 DAYS.
- 9. REFER TO THE SITE LANDSCAPING PLAN FOR TREATMENT (I.E. SEED, SOD, PERMANENT MULCH, ETC.) OF THOSE AREAS NOT TO BE HARD SURFACED.
- 10. SEQUENCE OF EROSION AND SEDIMENT CONTROL EVENTS:
- A. PRIOR TO BEGINNING ANY SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL FURNISH & INSTALL THE PERIMETER SILT FENCES ALONG THE DOWNGRADE PERIMETER OF THE GRADING LIMITS AS INDICATED ON PLAN SHEET C3.1. SILT FENCE MAY BE USED AS LONG AS IT EFFECTIVELY PROHIBITS SEDIMENT
- B. THE CONTRACTOR SHALL UTILIZE THE EXISTING ACCESS DRIVE INDICATED ON PLAN SHEET C2.0 FOR CONSTRUCTION ACCESS. THE CONTRACTOR SHALL ADD GRAVEL TO THE ACCESS DRIVE AS NECESSARY TO PROHIBIT TRACKING SOIL ONTO THE HARD SURFACE PAVEMENT AND ALSO TO MINIMIZE DUST GENERATION. IF VEHICLES ARE ENTERING OR EXITING THE SITE AT POINTS OTHER THAN THE CONSTRUCTION ENTRANCE, THE CONTRACTOR SHALL INSTALL FENCING AND/OR FLAGGING TO DIRECT TRAFFIC TO THE DESIGNATED CONSTRUCTION ENTRANCE.
- C. THE CONTRACTOR SHALL UTILIZE THE AREA INDICATED ON PLAN SHEETS C2.0 AND C3.1 FOR CONSTRUCTION STAGING AND PARKING. IF NECESSARY, THE CONTRACTOR SHALL ADD GRAVEL TO THIS AREA AS NECESSARY TO MINIMIZE OFF—SITE TRACKING AND DUST GENERATION.
- D. IF THE CONTRACTOR'S OPERATIONS REQUIRE ANY TEMPORARY STOCKPILING OF EXCESS OR UNSUITABLE SOILS, THE CONTRACTOR SHALL FIRST CONFIRM THE LOCATION OF THE STOCKPILE(S) WITH THE OWNER'S REPRESENTATIVE, AND THEN THE CONTRACTOR SHALL FURNISH & INSTALL A SILT FENCE AROUND THE STOCKPILE LOCATION(S) PRIOR TO SOIL PLACEMENT. SILT FENCE MAY BE USED AS LONG AS IT EFFECTIVELY KEEPS EROSION WITHIN THE STOCKPILE APEA(S)
- E. STABILIZE ALL DISTURBED AREAS, INCLUDING ANY SOIL STOCKPILES, WHICH WILL NOT BE DISTURBED FOR AT LEAST 21 DAYS WITH TEMPORARY SEEDING WITHIN 14 DAYS. FERTILIZE AND LIME IF NEEDED. APPLY MULCH ON SLOPES GREATER THAN 6:1 (HORIZONTAL: VERTICAL)
- PRIOR TO BEGINNING ANY CONSTRUCTION WITH PORTLAND CEMENT CONCRETE (I.E. STORM SEWER STRUCTURES AND SIDEWALK), THE CONTRACTOR SHALL INSTALL A CONCRETE WASHOUT AS INDICATED ON PLAN SHEET C3.1 AND ENSURE CONCRETE SUPPLIERS AND CONTRACTORS USE IT. THE CONCRETE WASHOUT SHALL REMAIN IN PLACE AND BE ACTIVELY UTILIZED UNTIL ALL CONSTRUCTION WITH PORTLAND CEMENT CONCRETE IS COMPLETED. ONLY THEN MAY THE CONCRETE WASHOUT BE REMOVED AND PROPERLY DISPOSED OF. THE CONTRACTOR SHALL ENSURE THAT ALL PORTLAND CEMENT CONCRETE SUPPLIERS AND SUBCONTRACTORS UTILIZE THE WASHOUT(S) FOR EQUIPMENT WASHING AND WET CONCRETE DISPOSAL.
- G. AS SOON AS PRACTICABLE AFTER COMPLETION OF STORM SEWER WORK IN THE YARD AREA NORTHEAST OF THE PLAYING FIELD (BETWEEN STORM SEWER STRUCTURES S-1 AND S-3), THE CONTRACTOR SHALL RESPREAD TOPSOIL, FERTILIZE, SEED AND MULCH THAT AREA, AS WELL AS INSTALL THE PERMANENT TURF REINFORCEMENT MAT. THIS IS IMPORTANT DUE TO THE NEED TO STABILIZE THE STEEP SLOPES IN THIS AREA AS QUICKLY AS POSSIBLE TO LIMIT THE AMOUNT OF EROSION.
- H. AS SOON AS PRACTICABLE AFTER INSTALLATION OF THE STORM SEWER INTAKES IN THE GRASS SEATING AREAS (BEEHIVE INTAKES S-7 AND S-9), THE CONTRACTOR SHALL RESPREAD TOPSOIL, FERTILIZE, SEED AND INSTALL THE EROSION CONTROL MAT IN THOSE DISTURBED AREAS. THIS IS IMPORTANT DUE TO THE NEED TO STABILIZE THE STEEP SLOPES IN THIS AREA AS QUICKLY AS POSSIBLE TO LIMIT THE AMOUNT OF EROSION.
- AS SOON AS PRACTICABLE AFTER COMPLETION OF THE STORM SEWER INSTALLATION WITHIN THE PLAYING FIELD (SPORTS TURF & WARNING TRACK) AND COMPLETION OF THE PCC SIDEWALK PAVING, THE CONTRACTOR SHALL REMOVE ANY DAMAGED OR CONTAMINATED SPORTS TURF & WARNING TRACK, PREPARE THE RESULTING SUBGRADE, REPLACE & REINSTALL THOSE PORTIONS OF THE IRRIGATION SYSTEM REMOVED, AND INSTALL THE REPLACEMENT SPORTS TURF AND WARNING TRACK.
- J. AS SOON AS PRACTICABLE AFTER THE COMPLETION OF THE STORM SEWER INSTALLATION AND ALL OTHER SURFACE RESTORATIONS, THE CONTRACTOR SHALL RESTORE THE ACCESS DRIVE AS DESCRIBED IN SURFACE RESTORATION NOTE #5 ON THIS PLAN SHEET.
- WHEN CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED WITH PERMANENT SEEDING/SPORTS TURF/WARNING TRACK/PCC PAVING, THE CONTRACTOR SHALL REMOVE ACCUMULATED ABOVE SILT FENCES, REMOVE THE SILT FENCES AND RESEED ALL AREAS DISTURBED BY THE REMOVALS.



SCHNOOR-BONIFAZI
ENGINEERING & SURVEYING, LC
431 FIFTH AVENUE SW
CEDAR RAPIDS, IA 52404
(319) 298-8888 (PHONE)
(319) 298-8889 (FAX)

s-b-engineering.com

REVISIONS

TRED SCHNOOR

APPROVED: TRED SCHNOOR

ISSUED FOR: 98% REVIEW

DATE: 03/29/2014 S-B PROJECT NO.: 12150

C.I.P. NO.: 314338-03

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VETERANS MEMORIAL STA 2014 STORM SEWER IMPROVEMENTS - PHASE

SITE CONSTRUCTION NOTES

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SPORTS TURF, WARNING TRACK AND IRRIGATION SYSTEM SPECIFICATIONS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. SPORTS TURF.
- B. WARNING TRACK.
- C. IRRIGATION SYSTEM.

1.02 DESCRIPTION OF WORK

- A. SPORTS TURF INCLUDES FURNISHING AND INSTALLING PEA GRAVEL SUBBASE, SAND/PEAT BASE AND SOD TO REPLACE SPORT TURF THAT HAS BEEN DAMAGED AND/OR REMOVED DURING STORM SEWER INSTALLATION OPERATIONS.
- B. WARNING TRACK INCLUDES FURNISHING AND INSTALLING PEA GRAVEL SUBBASE, SAND BASE AND CRUSHED BRICK CHIP SURFACE TO REPLACE WARNING TRACK THAT HAS BEEN DAMAGED AND/OR REMOVED DURING STORM SEWER INSTALLATION OPERATIONS.
- C. IRRIGATION SYSTEM INCLUDES FURNISHING AND INSTALLING PVC IRRIGATION PIPE TO REPLACE IRRIGATION PIPE THAT HAS BEEN DAMAGED AND/OR REMOVED DURING STORM SEWER INSTALLATION OPERATIONS. ALSO INCLUDES SALVAGING EXISTING VALVES AND SPRINKLER HEADS THAT ARE WITHIN THE PROJECT'S CONSTRUCTION LIMITS, AND REINSTALLING THEM AFTER THE STORM SEWER INSTALLATION IS COMPLETED.

1.03 SUBMITTALS

- A. SUBMIT SAMPLE OF SPORTS TURF SOD BY SEPTEMBER FOR OWNER APPROVAL TO INSURE PROPER COLOR MATCH WITH THE EXISTING SOD AND ACCEPTABLE
- B. SUBMIT SAMPLE OF WARNING TRACK BRICK CHIPS BY SEPTEMBER FOR APPROVAL TO INSURE PROPER COLOR MATCH WITH THE EXISTING WARNING TRACK AND ACCEPTABLE QUALITY.
- C. SUBMIT CERTIFICATE OF COMPLIANCE INDICATING THAT THE SAND, PEAT AND PEA GRAVEL TO BE INCORPORATED INTO THE WORK COMPLY WITH THESE SPECIFICATIONS.
- D. SUBMIT CERTIFICATE OF COMPLIANCE INDICATING THAT THE FERTILIZER TO BE INCORPORATED INTO THE WORK COMPLIES WITH THESE SPECIFICATIONS.
- E. SUBMIT PROOF OF EXPERIENCE AND REFERENCES TO COMPLY WITH EXPERIENCE REQUIREMENT OUTLINED IN "SPECIAL REQUIREMENTS".

1.04 DELIVERY, STORAGE AND HANDLING

- A. STORE MATERIALS IN ACCORDANCE WITH MANUFACTURERS' RECOMMENDATIONS AND IN LOCATIONS WHICH WILL MINIMIZE THE INTERFERENCE WITH OPERATIONS, MINIMIZE ENVIRONMENTAL DAMAGE AND PROTECT ADJACENT AREAS FROM FLOODING, RUNOFF AND SEDIMENT DISPOSITION.
- B. STORE MIXED ROOTZONE MATERIAL (SAND/PEAT MIX) IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM F2396 11.

1.05 SPECIAL REQUIREMENTS

- A. THE SPORTS TURF AND WARNING TRACK INSTALLER MUST HAVE PREVIOUSLY PROVIDED SOD TO THREE (3) MAJOR LEAGUE OR MINOR LEAGE BALLPARKS.
 THE CONTRACTOR SHALL PRESENT PROOF AND THREE (3) REFERENCES THAT SHOW COMPLIANCE WITH THE ABOVE EXPERIENCE REQUIREMENT. BUSH TURF IS A PRE—APPROVED CONTRACTOR FOR THIS WORK. BUSH TURF'S CONTACT PHONE NUMBER IS (309) 787—2676.
- B. CONTRACTOR SHALL GUARANTEE SOD UNTIL ROOTS HAVE TAKEN HOLD INTO THE SOIL AND CANNOT BE PULLED UP, AT WHICH TIME, THE WORK WILL BE DEEMED COMPLETE.
- C. CONTRACTOR SHALL PROVIDE A TWELVE (12) MONTH WARRANTY THAT THE SOD IS POA FREE.

1.05 REFERENCED DOCUMENTS

- A. ASTM STANDARDS
- 1. F2396 11 CONSTRUCTION OF HIGH PERFORMANCE SAND BASED ROOTZONES FOR ATHLETIC FIELDS. A COPY OF THIS STANDARD CAN BE FOUND IN THE PROJECT MANUAL.

PART 2 PRODUCTS

2.01 SOD

A. BLUEGRASS, LOW-MOW SPORTS TURF SOD GROWN ON 90% SAND MATCHING THE EXISTING PLAYING FIELD SPORTS TURF SOD. THE PLAYING SURFACE IS A SAND BASED FIELD.

B. COMPLY WITH ASTM F2396 - 11.

2.02 SAND

A. COMPLY WITH ASTM F2396 - 11.

2.03 PEAT

A. COMPLY WITH ASTM F2396 - 11.

2.04 PEA GRAVEL

- A. COMPLY WITH ASTM F2396 11.
- B. SOFT GRAVEL MINERALS (SUCH AS LIMESTONE, SANDSTONE OR SHALE) ARE NOT ACCEPTABLE FOR USE.

2.05 BRICK CHIPS

A. MATCH EXISTING WARNING TRACK BRICK CHIP MATERIAL IN SIZE AND COLOR.

2.06 FERTILIZER

A. A COMMERCIAL "STARTER" FERTILIZER, WITH GUARANTEED ANALYSIS OF 17-23-6, OR AS RECOMMENDED BY LOCAL GRASS SUPPLIER, FOR RAPID GERMINATION AND ROOT DEVELOPMENT.

2.07 IRRIGATION PIPE

A. POLYVINYL CHLORIDE MATCHING EXISTING IRRIGATION PIPE.

2.08 IRRIGATION SYSTEM VALVES AND SPRINKLER HEADS

A. SALVAGE EXISTING VALVES AND HEADS. ANY VALVES AND HEADS DAMAGED AND UNSUITABLE FOR REINSTALLATION SHALL MATCH EXISTING COMPONENTS.

PART 3 EXECUTION

3.01 SPORTS TURF

- A. CONSTRUCT IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM F2396 11.
- B. ROOTZONE MATERIAL BLEND SHALL CONSIST OF 90% SAND AND 10% PEAT.
- C. FERTILIZE SPORTS TURF WITH COMMERCIAL "STARTER" FERTILIZER AS DIRECTED BY THE OWNER'S REPRESENTATIVE FOR RAPID GERMINATION AND ROOT
- D. THE OWNER SHALL BE RESPONSIBLE FOR WATERING WITH THE REINSTALLED IRRIGATION SYSTEM.

3.02 WARNING TRACK

- A. CONSTRUCT SUBGRADE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM F2396 11.
- B. PRIOR TO PLACING PEA GRAVEL DRAINAGE LAYER, FIRST INSTALL IRRIGATION SYSTEM, OBTAIN OWNER APPROVAL OF IRRIGATION SYSTEM LAYOUT AND PERFORM IRRIGATION SYSTEM PRESSURE CHECK.
- C. AFTER OBTAINING OWNER APPROVAL AND PASSING PRESSURE CHECK FOR THE IRRIGATION SYSTEM, CONSTRUCT PEA GRAVEL DRAINAGE LAYER IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM F2396 11.
- D. PLACE SAND BASE MATERIAL OVER ROLLED AND UNIFORMLY SHAPED PEA GRAVEL DRAINAGE AREA. COMPACT AND SHAPE THE FINISHED SURFACE OF THE SAND BASE MATERIAL. CORRECT ANY IRRGULARITIES AND DEPRESSIONAL AREAS BEFORE PLACING BRICK CHIP SURFACE.
- E. PLACE BRICK CHIP SURFACE. ONCE THE MATERIAL IS LEVELED, THE AREA SHOULD BE ROLLED AND THE FINAL GRADE ESTABLISHED SO AS TO PROVIDE AN EVEN GRADE TRANSITION FROM THE PLAY AREA TO THE WARNING TRACK. THE SMOOTH TRANSITION IS IMPERATIVE TO LOWER THE POTENTIAL FOR TRIPPING OR STUMBLING. CORRECT ANY IRREGULARITIES AND DEPRESSIONAL AREAS.

SPORTS TURF, WARNING TRACK AND IRRIGATION SYSTEM SPECIFICATIONS (CONTINUED)

3.03 IRRIGATION

- A. PRIOR TO REMOVING ANY IRRIGATION PIPE, VALVES, SPRINKLER HEADS OR OTHER APPURTENANCES, THE CONTRACTOR SHALL MEASURE AND DOCUMENT THE EXACT LOCATION OF THE IRRIGATION FEATURE SO THAT IT CAN BE REINSTALLED AT THE EXACT SAME LOCATION THAT WAS MEASURED AND DOCUMENTED. THE IRRIGATION SYSTEM PIPE, VALVES & SPRINKLER HEAD LOCATIONS SHOWN ON THESE PLANS WERE GENERALLY TAKEN FROM ORIGINAL IRRIGATION SYSTEM CONSTRUCTION PLANS AND COULD NOT BE FIELD VERIFIED. THIS MAKES MEASUREMENT & DOCUMENTATION OF THE IRRIGATION SYSTEM COMPONENT LOCATIONS BY THE CONTRACTOR A CRITICAL TASK SO THE IRRIGATION SYSTEM CAN BE RESTORED TO WORKING CONDITION AFTER THE STORM SEWER WORK IS COMPLETED.
- B. AFTER STORM SEWER INSTALLATIONS HAVE BEEN COMPLETED AND THE RESULTING SUBGRADE HAS BEEN SHAPED AND COMPACTED, INSTALL THE REPLACEMENT IRRIGATION PIPING AND SALVAGED VALVES AND APPURTENANCES. IN PARTICULAR, VALVES, SPRINKLER HEADS, AND OTHER APPURTENANCES SHALL BE REINSTALLED AT THE EXACT SAME LOCATION AS THEY WERE ORIGINALLY LOCATED PRIOR TO BEING REMOVED. ANY VARIATION FROM PRE-CONSTRUCTION CONDITIONS SHALL BE REVIEWED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- C. INSTALL REPLACEMENT IRRIGATION PIPING AND SALVAGED VALVES AND OTHER APPURTENANCES TO MATCH THE CONDITION OF THE EXISTING IRRIGATION SYSTEM (PRIOR TO ANY WORK BEING DONE ON THE SPORTS TURF OR WARNING TRACK).
- D. IRRIGATION COMPONENTS AND LAYOUT SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLACEMENT OF PEA GRAVEL DRAINAGE LAYER.
- E. IRRIGATION COMPONENTS AND LAYOUT SHALL BE PRESSURE CHECKED (24 HOUR STATIC PRESSURE) PRIOR TO PLACEMENT OF PEA GRAVEL DRAINAGE LAYER.
- F. AFTER OWNER APPROVAL AND PASSING PRESSURE CHECK TESTING, PLACE PEA GRAVEL DRAINAGE LAYER AS SPECIFIED, TAKING CARE NOT TO DAMAGE ANY IRRIGATION PIPES.

3.04 ACCEPTANCE

- A. SPORTS TURF ACCEPTANCE SHALL BE BASED ON THE FOLLOWING CRITERIA:
- 1. ALL REQUIREMENTS FOR THE COMPLETED INSTALLATION AND MAINTENACE HAVE BEEN PROVIDED.
- 2. ALL SOD AREAS PLACED ARE HEALTHY.
- 3. EVEN-COLORED VIABLE SPORTS TURF IS ESTABLISHED.
- 4. FREE OF WEEDS, UNDESIRABLE GRASS SPECIES, DISEASE AND INSECTS.
- 5. SOD IS "KNIT DOWN" TO THE ROOTZONE MATERIAL SO THAT IT CANNOT BE PULLED UP.
- 6. ALL SOD AREAS PLACED ARE WITHOUT SCATTERED BARE SPOTS, DEAD OR DORMANT SOD.
- 7. CLEAN-UP OPERATIONS ARE COMPLETED.
- B. WARNING TRACK ACCEPTANCE SHALL BE BASED ON THE FOLLOWING CRITERIA:
 - 1. ALL REQUIREMENTS FOR THE COMPLETED INSTALLATION HAVE BEEN PROVIDED.
 - 2. THE SLOPES OF THE ROLLED AND FINISHED WARNING TRACK AREAS PLACED SHALL BE EVEN AND SMOOTH.
 - 3. ALL ROLLED AND FINISHED WARNING TRACK AREAS SHALL NOT HAVE ANY IRREGULARITIES OR DEPRESSIONAL AREAS.
- C. IRRIGATION SYSTEM ACCEPTANCE SHALL BE BASED ON THE FOLLOWING CRITERIA:
 - 1. ALL PORTIONS OF THE IRRIGATION SYSTEM THAT WERE EITHER REMOVED TO ACCOMMODATE THE CONSTRUCTION, OR DAMAGED BY CONSTRUCTION OPERATIONS HAVE BEEN REINSTALLED.
 - 2. THE PORTIONS OF THE IRRIGATION SYSTEM THAT WERE REPLACED PASS A 24-HOUR STATIC PRESSURE CHECK.
 - 3. THE PORTIONS OF THE IRRIGATION SYSTEM THAT WERE REPLACED ARE FULLY FUNCTIONAL.



SCHNOOR-BONIFAZI
ENGINEERING & SURVEYING, LC
431 FIFTH AVENUE SW
CEDAR RAPIDS, IA 52404
(319) 298-8888 (PHONE)
(319) 298-8889 (FAX)
s-b-engineering.com

REVISIONS

DRAWN: TRED SCHNOOR

APPROVED: TRED SCHNOOR

ISSUED FOR: 98% REVIEW

03/29/2014

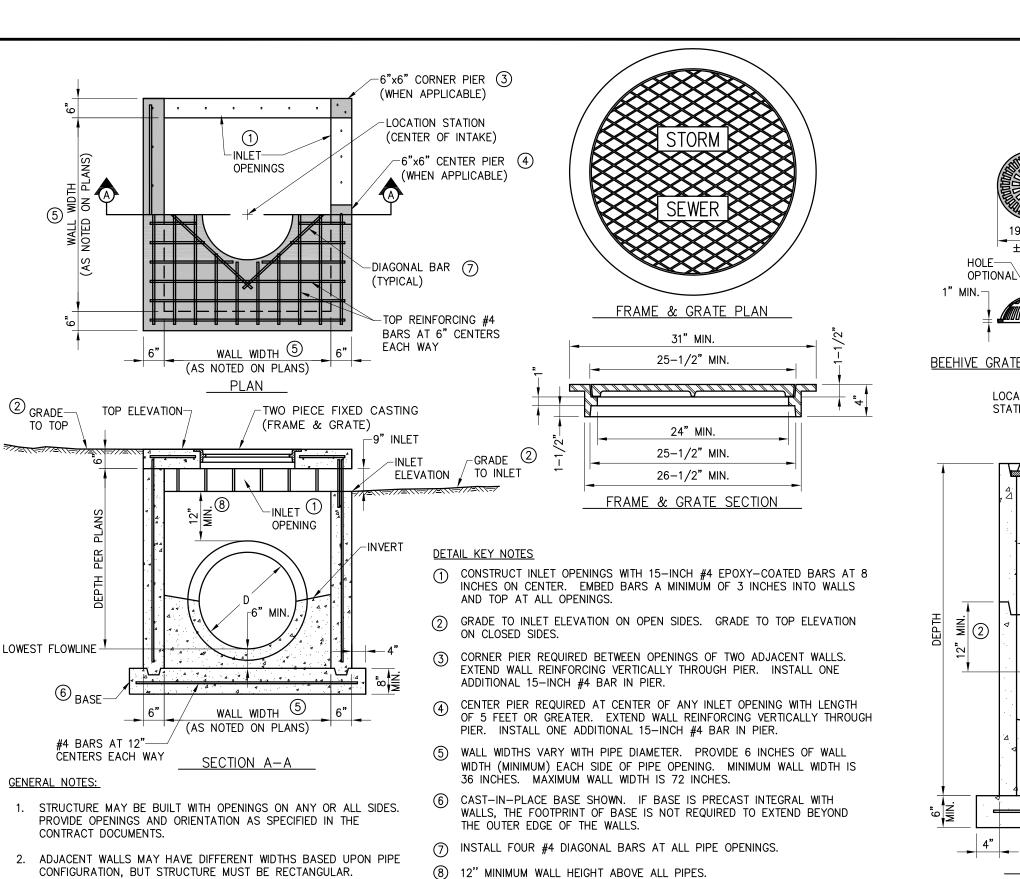
S-B PROJECT NO.: 12150

C.I.P. NO.: 314338-03

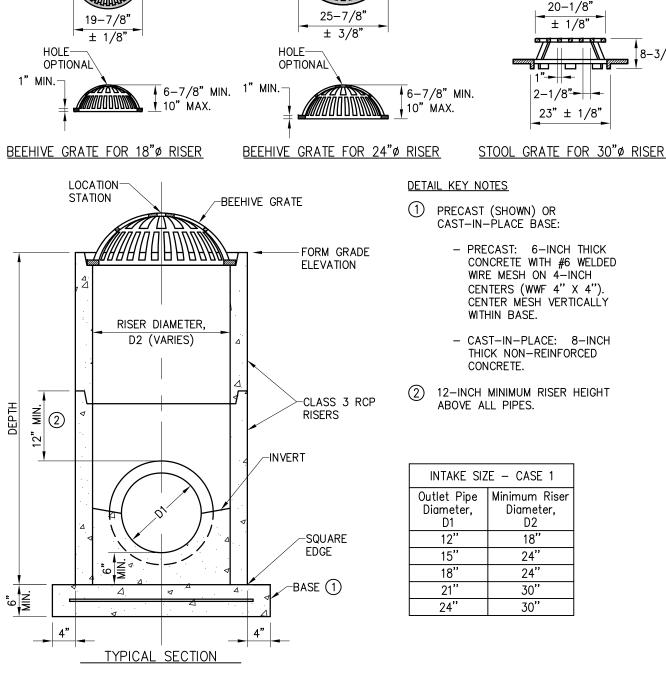
GS OF PROPOSED PUBLIC SITE IMPROVEMENTS FO ITERANS MEMORIAL STADIUM 2014 STORM SEWER IMPROVEMENTS – PHASE II

SITE CONSTRUCTION NOTES

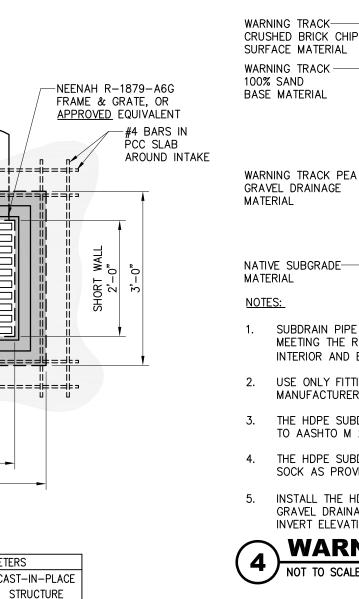
C5.2

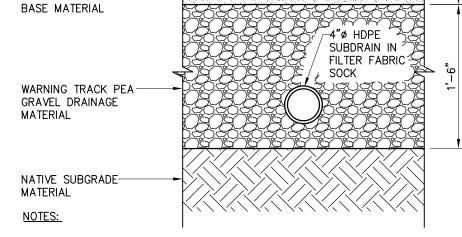


BEEHIVE GRATE FOR 18" Ø RISER BEEHIVE GRATE FOR 24"Ø RISER DETAIL KEY NOTES STATION BEEHIVE GRATE -FORM GRADE WITHIN BASE. RISER DIAMETER, D2 (VARIES) CONCRETE. -CLASS 3 RCP ABOVE ALL PIPES. RISERS ∕-INVERT Diameter. D2 EDGE TYPICAL SECTION



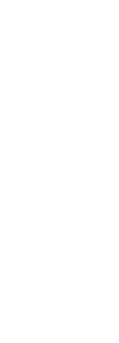


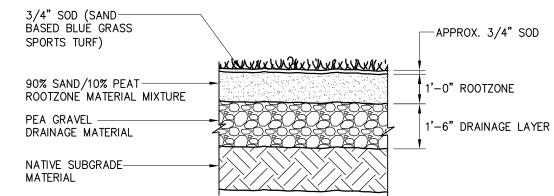




- 1. SUBDRAIN PIPE SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) PIPE MEETING THE REQUIREMENTS OF AASHTO M 252, TYPE C, CORRUGATED INTERIOR AND EXTERIOR (I.E. "SINGLE WALL" PIPE).
- 2. USE ONLY FITTINGS SUPPLIED OR RECOMMENDED BY THE PIPE MANUFACTURER FOR SOIL TIGHT SERVICE.
- 3. THE HDPE SUBDRAIN PIPE SHALL BE SLOTTED OR PERFORATED ACCORDING TO AASHTO M 252, TYPE CP OR TYPE SP.
- 4. THE HDPE SUBDRAIN PIPE SHALL BE ENCLOSED WITHIN A FILTER FABRIC SOCK AS PROVIDED BY THE MANUFACTURER.
- 5. INSTALL THE HDPE SUBDRAIN PIPE WITHIN THE WARNING TRACK'S PEA GRAVEL DRAINAGE LAYER AS INDICATED. REFER TO THE PLANS FOR INVERT ELEVATIONS AT SPECIFIC LOCATIONS

WARNING TRACK SUBDRAIN





1. REFER TO THE "SPORTS TURF, WARNING TRACK, AND IRRIGATION SYSTEM REPAIR SPECIFICATIONS" ON PLAN SHEET C5.1 FOR FURTHER INFORMATION.

WWF 6x6-W2.1xW2.1-

PORTLAND CEMENT-

CONCRETE (PCC)

GRANULAR BASE

SCARIFIED & -

SUITABLE -

(NATIVE)

SUBGRADE SOIL

SUBGRADE SOIL

MATERIAL (SEE NOTES)

RECOMPACTED SUITABLE

SUITABLE SUBGRADE SOIL LAYER.

NOT TO SCALE

PAVEMENT

─6 MIL VAPOR BARRIER

W/TAPED JOINTS

1. THIS SECTION SHOWS THE PAVEMENT IN A TYPICAL CUT AREA. WHEN

IN A FILL AREA, PLACE COMPACTED ENGINEERED FILL BETWEEN THE

SECTION 4123 (MODIFIED GRANULAR SUBBASE, GRADATION NO. 14) OF

SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, LATEST

(WWF) WITH CHAIRS OR CONCRETE BRICKS SPACES AT 36" CENTERS

CONFORMANCE WITH THE THE CEDAR RAPIDS METRO SPECIFICATIONS.

3. MAINTAIN TWO INCHES (2") TOP COVER OVER WELDED WIRE FABRIC

GRANULAR BASE LAYER AND THE SCARIFIED & RECOMPACTED

2. GRANULAR BASE MATERIAL SHALL MEET THE REQUIREMENTS OF

THE IOWA DEPARTMENT OF TRANSPORTATION'S STANDARD

(MAXIMUM). FILED LIFTING MESH IS NOT ACCEPTABLE

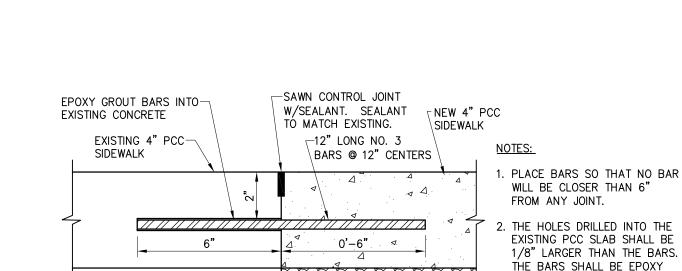
PAVING SECTION

PCC SIDEWALK

4. ALL EARTHWORK AND COMPACTION SHALL BE COMPLETED IN

- AFTER THE STORM SEWER INSTALLATION & PCC SIDEWALK REPLACEMENT HAVE BEEN COMPLETED, THE CONTRACTOR SHALL REMOVE ALL EXISTING SPORTS TURF (SOD, SAND/PEAT ROOTZONE MATERIAL AND PEA GRAVEL DRAINAGE LAYER) DAMAGED OR CONTÁMINATED BY THE CONSTRUCTION WORK. THEN SCARIFY & RECOMPACT THE RESULTING SUBGRADE AS NECESSARY, AND THEN SHAPE THE SUBGRADE TO
- ACCOMMODATE NEW SPORTS TURF AS SHOWN IN THIS TYPICAL SECTION. FINISH GRADE OF THE REPLACEMENT SPORTS TURF SHALL MATCH THE EXISTING GRADE PRIOR TO THE CONSTRUCTION WORK.





GRANULAR BASE DOWELED JOINT AT CONNECTION BETWEEN ' NEW AND EXISTING SIDEWALKS ("DJ" JOINT) NOT TO SCALE

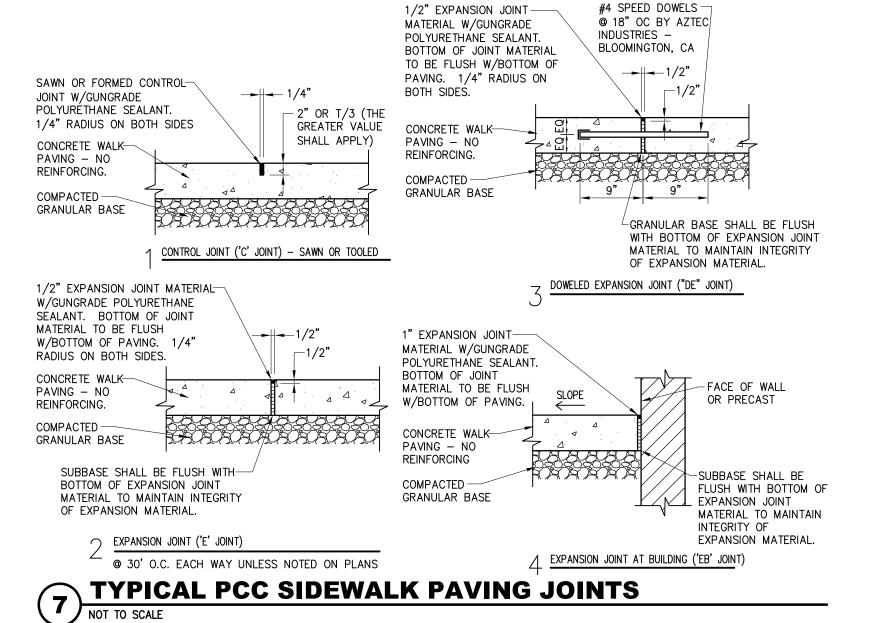
COMPACTED-

GROUTED INTO THE EXISTING

PCC SLAB. DRIVING BARS

SHALL NOT BE PERMITTED.

INTO THE DRILLED HOLES



CRUSHED BRICK-CHIP SURFACE MATERIAL 3" CRUSHED BRICK SURFACE 100% SAND-0'-6" SAND BASE BASE MATERIAL PEA GRAVEL -1'-6" DRAINAGE LAYER DRAINAGE MATERIAL NATIVE SUBGRADE MATERIAL

1. REFER TO THE "SPORTS TURF, WARNING TRACK, AND IRRIGATION SYSTEM REPAIR SPECIFICATIONS" ON PLAN SHEET C5.1 FOR FURTHER INFORMATION.

AFTER THE STORM SEWER INSTALLATION & PCC SIDEWALK REPLACEMENT HAVE BEEN COMPLETED, THE CONTRACTOR SHALL REMOVE ALL EXISTING WARNING TRACK (SBRICK CHIP SURFACE, SAND BASE AND PEA GRAVEL DRAINAGE LAYER) DAMAGED OR CONTAMINATED BY THE CONSTRUCTION WORK. THEN SCARIFY & RECOMPACT THE RESUTING SUBGRADE AS NECESSARY, AND THEN SHAPE THE SUBGRADE TO ACCOMMODATE NEW WARNING TRACK AS SHOWN IN THIS TYPICAL SECTION. FINISH GRADE OF THE REPLACEMENT WARNING TRACK SHALL MATCH THE EXISTING GRADE

9 TYPICAL WARNING TRACK SECTION
NOT TO SCALE

Engineering & Surveying SCHNOOR-BONIFAZI ENGINEERING & SURVEYING, LC 431 FIFTH AVENUE SW CEDAR RAPIDS, IA 52404 (319) 298-8888 (PHONE) (319) 298-8889 (FAX) s-b-engineering.com REVISIONS

TRED SCHNOOR DRAWN: APPROVED: TRED SCHNOOR ISSUED FOR: 98% REVIEW

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C.I.P. NO.: XXXXXX-XX

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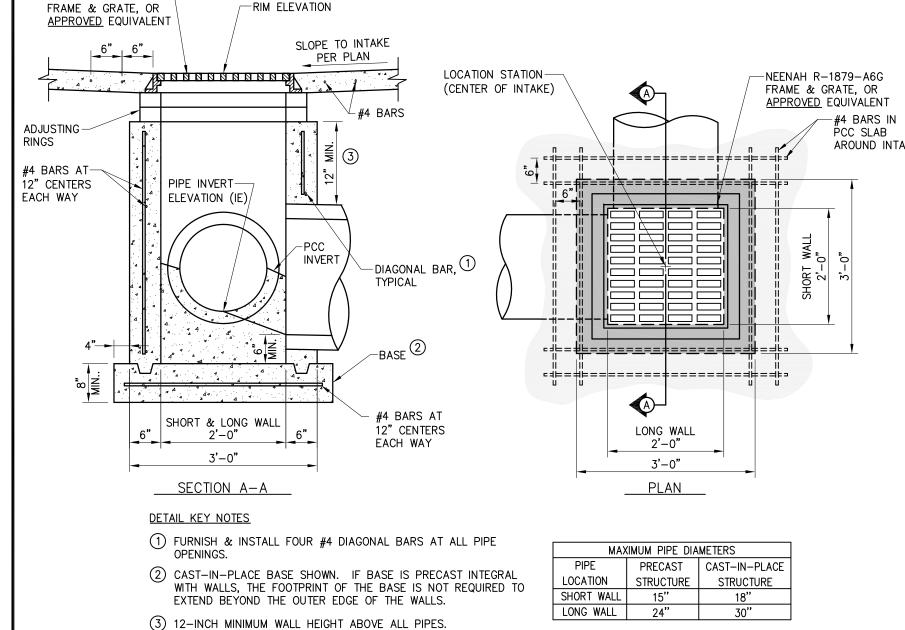
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SITE CONSTRUCTION **DETAILS**

C6.0



NOPEN SIDED AREA INTAKE

NOT TO SCALE

NEENAH R-1879-A6G-

2' x 2' AREA INTAKE

NOT TO SCALE