

Niles Township High School District 219

Synthetic Turf Athletic Field Sitework

Niles North



D 219

NILES TOWNSHIP HIGH SCHOOL

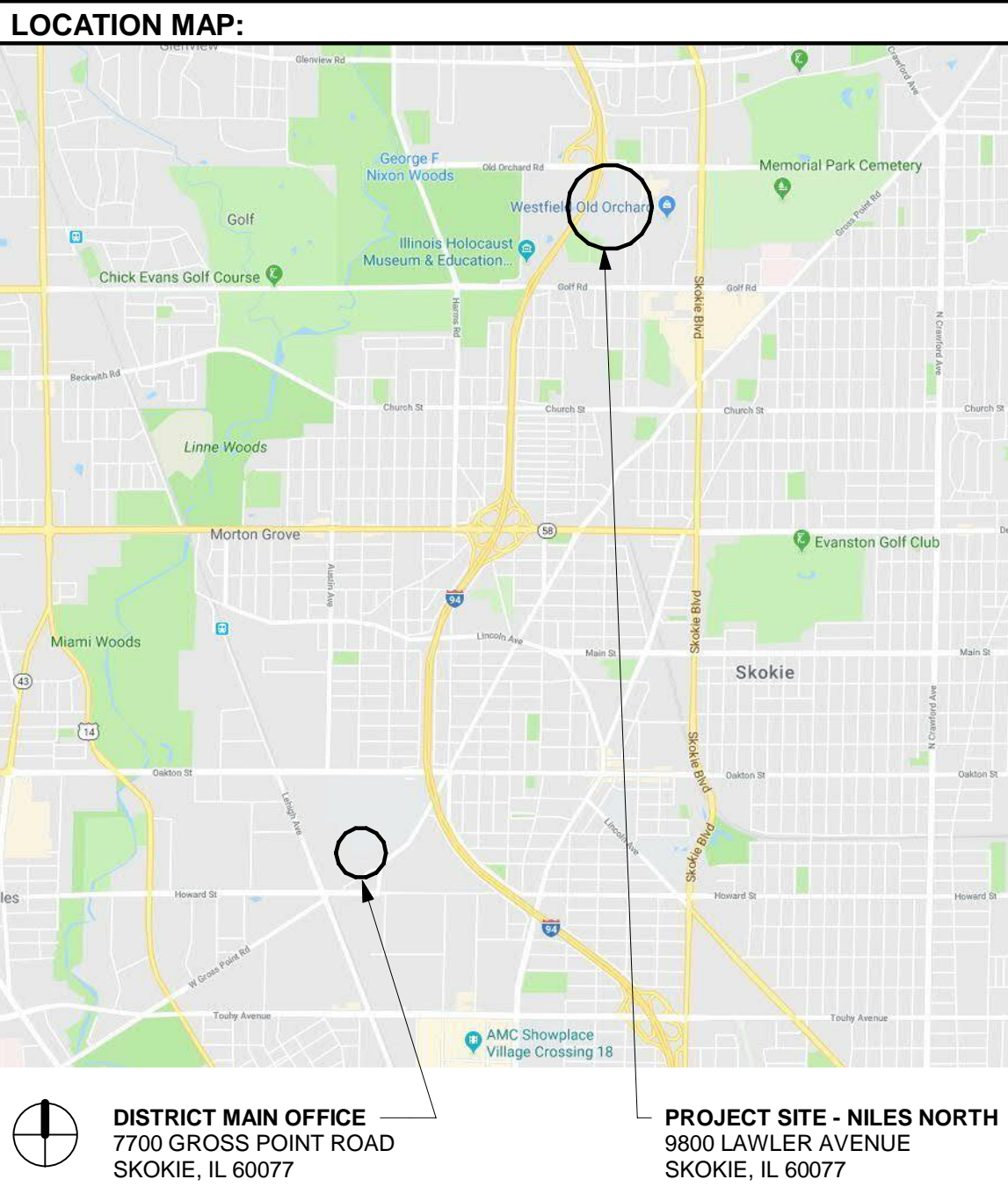
STUDIO GC

architecture + interiors


223 West Jackson Boulevard, Suite 1200
Chicago, Illinois 60606
(312) 253-3400

DRAWING INDEX	
SHEET NUMBER	SHEET NAME
T1.00	TITLE SHEET
GENERAL	GENERAL NOTES AND ABBREVIATIONS
G0.00	GENERAL NOTES AND ABBREVIATIONS
G1.00	SITE LOGISTICS
CIVIL	COVER SHEET
C0.0	SPECIFICATIONS
C0.1	MWRD NOTES
C0.2	DEMOLITION PLAN
C1.0	SITE PLAN
C2.0	CURB LIMIT EXHIBIT
C3.0	UTILITY PLAN
C4.0	GRADING PLAN
C5.0	STORM WATER POLLUTION PREVENTION PLAN
C5.1	STORM WATER NOTES
C6.2	STORM WATER DETAILS
C6.0	DETAILS
C6.1	DETAILS
C6.2	DETAILS
C6.3	DETAILS
C7.0	EXHIBIT R & MWRD DRAINAGE EXHIBIT
ARCHITECTURAL SITE	
AC1.00	ARCHITECTURAL SITE PLAN
AC1.10	ARCHITECTURAL SITE LAYOUT - VARSITY SOFTBALL FIELD
AC1.20	ARCHITECTURAL SITE LAYOUT - VARSITY BASEBALL FIELD
AC1.30	ARCHITECTURAL SITE LAYOUT - JV BASEBALL FIELD
AC2.00	ARCHITECTURAL SITE DETAILS
AC2.01	FENCE/EQUIPMENT DETAILS
ELECTRICAL	
E1.00	PARTIAL ELECTRICAL SITE PLAN
PLUMBING	
P1.00	PLUMBING SITE PLAN
P1.20	PLUMBING EXTERIOR HHD SPECIFICATIONS AND NOTES

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SCHAUMBURG, IL 60173
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ALTERNATES:		
ALTERNATE BID NO. 1: ELECTRICAL WORK - ACCEPTED	BASE BID:	DO NOT PROVIDE ELECTRICAL SCOPE OF WORK.
ALTERNATE BID:	PROVIDE ELECTRICAL WORK AS SHOWN ON PLANS.	
ALTERNATE BID NO. 2: SOFTBALL FIELD FENCING - ACCEPTED	BASE BID:	TEMPORARILY REMOVE EXISTING FENCING AT SOFTBALL FIELD AS REQUIRED FOR CONSTRUCTION, AND REINSTALL EXISTING FENCING UPON COMPLETION OF SYNTHETIC TURF INSTALLATION.
ALTERNATE BID:	REMOVE EXISTING FENCING AT SOFTBALL FIELD AND PROVIDE NEW FENCING PER PLANS.	
ALTERNATE BID NO. 3: COMMENCEMENT OF WORK - REJECTED	BASE BID:	COMMENCEMENT OF WORK ON SITE TO BE APRIL 3, 2023 AND SUBSTANTIALLY COMPLETE ON JUNE 30, 2023.
ALTERNATE BID:	COMMENCE WORK ON APRIL 8, 2024 AND BE SUBSTANTIALLY COMPLETE ON JUNE 28, 2024.	

CERTIFICATION:

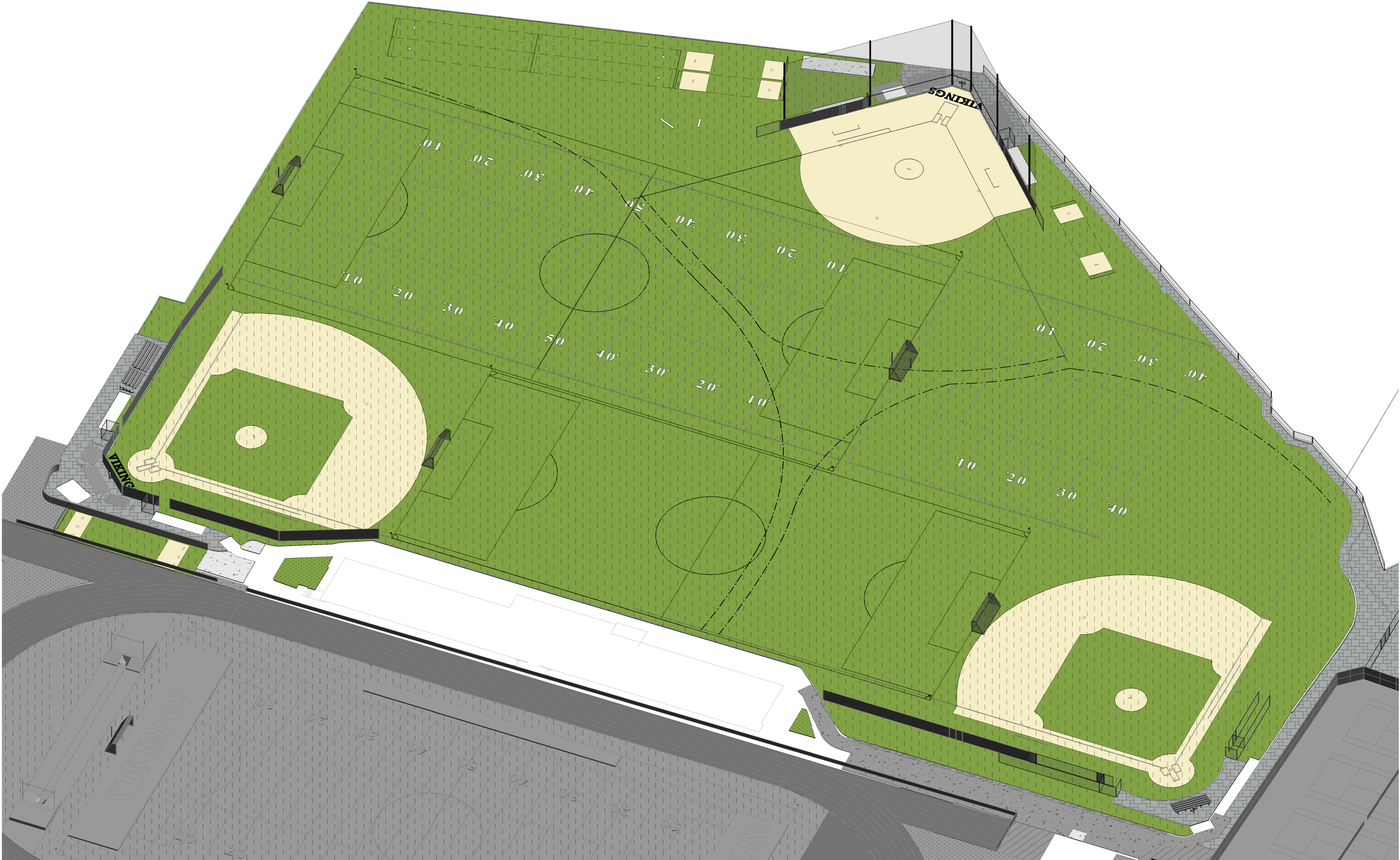
I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS WERE PREPARED IN THE OFFICES OF STUDIO GC, INC. UNDER MY DIRECT SUPERVISION AND TO THE BEST OF MY KNOWLEDGE, COMPLY WITH THE FOLLOWING:

HEALTHY LIFE SAFETY CODE FOR PUBLIC SCHOOLS
23 ILLINOIS ADMINISTRATIVE CODE, PART 80
2015 INTERNATIONAL BUILDING CODE
2015 INTERNATIONAL PROPERTY MAINTENANCE CODE
2014 ILLINOIS STATE PLUMBING CODE
2016 ILLINOIS ACCESSIBILITY CODE
2010 ADA STANDARDS FOR ACCESSIBLE DESIGN

ARCHITECT

LICENSE NO. AND EXPIRATION DATE

DATE SIGNED



Synthetic Turf Athletic Field Sitework

Niles Township High School District 219
7700 Gross Point Rd., Skokie, IL 60077

NO	ISSUE	DATE
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TITLE SHEET

T1.00

GENERAL NOTES		
GENERAL	1. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR VISITING THE PROJECT SITE AND OBSERVING THE SURROUNDING CONDITIONS PRIOR TO SUBMITTING A BID FOR THIS PROJECT. CONTRACTORS SHALL PROMPTLY CONTACT THE ARCHITECT IN WRITING IF THERE IS A CONFLICT BETWEEN THE DRAWINGS AND EXISTING CONDITIONS. THE CONTRACTOR SHALL ANSWER ALL QUESTIONS FROM THE ARCHITECT'S OBSERVATIONS.	32. CONTRACTORS SHALL FINISH DESIGNING AND FABRICATE ITEMS DESIGNATED AS A "DELEGATED DESIGN" WITHIN THE SPECIFICATIONS. COORDINATE WITH INDIVIDUAL SPECIFICATION SECTIONS FOR THESE ITEMS.
	2. BEFORE BEGINNING WORK AT THE SITE AND THROUGHOUT THE COURSE OF THE WORK, INSPECT AND VERIFY THE LOCATION AND CONDITION OF EVERY ITEM AFFECTED BY THE WORK UNDER THIS CONTRACT AND REPORT DISCREPANCIES TO THE ARCHITECT BEFORE BEGINNING WORK RELATED TO THAT BEING INSPECTED.	33. CONTRACTORS SHALL CAREFULLY COORDINATE ALL WORK WITH EQUIPMENT BEING FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTORS. ALL SHOP DRAWINGS AND OTHER SUBMITTALS SHALL BE CAREFULLY COORDINATED ACCORDINGLY. CONTRACTORS SHALL PROVIDE FOR SOME ADJUSTMENT IN FINAL DESIGN AND FABRICATION TO ACCOMMODATE INSTALLATION OF EQUIPMENT.
3. BEFORE BEGINNING WORK AT THE SITE, INSPECT THE EXISTING BUILDING AND DETERMINE THE EXTENT OF EXISTING FINISHES, SPECIALTIES, EQUIPMENT, AND OTHER ITEMS WHICH MUST BE REMOVED AND REINSTALLED IN ORDER TO PERFORM THE WORK UNDER THIS CONTRACT.	34. CONTRACTORS SHALL COORDINATE TESTING WITH OWNER'S PROVIDED TESTING SERVICE. CONTRACTOR SHALL PROVIDE TESTING SERVICES AS PART OF THEIR BID FOR THOSE TESTS SPECIFICALLY NOTED AS CONTRACTORS RESPONSIBILITY WITHIN THE INDIVIDUAL SPECIFICATIONS SECTION.	35. PROTECT ALL EXISTING CONSTRUCTION AND INFRASTRUCTURE FROM DAMAGE. WHERE SUCH SURFACES ARE SCHEDULED TO RECEIVE NEW FINISHES, PREPARE THE SURFACES TO RECEIVE THE NEW FINISHES.
4. THE ARCHITECTURAL DRAWINGS SHOW PRINCIPLE AREAS WHERE WORK MUST BE ACCOMPLISHED UNDER THIS CONTRACT. INCIDENTAL WORK MAY ALSO BE NECESSARY IN AREAS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS DUE TO CHANGES AFFECTING EXISTING MECHANICAL, ELECTRICAL, PLUMBING OR OTHER SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INDIVIDUAL TRADE CONTRACTORS TO INSPECT THOSE AREAS, AND ASCERTAIN WORK NEEDED, AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.	36. REPAIR, PATCH AND FINISH, OR REFINISH AS APPLICABLE, TO MATCH ADJACENT EXISTING FINISHES THOSE EXISTING SURFACES DAMAGED OR NEWLY EXPOSED DURING PERFORMANCE OF THE WORK UNDER THIS CONTRACT.	37. WHERE MATCH EXISTING IS INDICATED, NEW CONSTRUCTION, OR FINISHES, AS APPROPRIATE TO THE NOTE SHALL MATCH THE EXISTING IN EVERY PARTICULAR.
5. CONTRACTORS SHALL PROVIDE TEMPORARY BARRIERS AND CONTROLS IN THE PROXIMITY OF SITE THROUGHOUT THE WORK DAY. CONTRACTORS SHALL COORDINATE WITH THE LOCAL MUNICIPALITY AND OWNER TO LIMIT DISRUPTION AND TO PROTECT LOCAL TRAFFIC AND RESIDENTS DURING THE COURSE OF THE WORK.	38. WORK SHOWN IS NEW UNLESS SPECIFICALLY NOTED OR OTHERWISE INDICATED.	39. DETERMINE THE LOCATION OF PARTITIONS NOT DIMENSIONED BY THEIR RELATION TO COLUMN FACE OR CENTER, WINDOW JAMB OR MULLION, EXISTING WALLS, OR OTHER SIMILAR FIXED ITEM. IF THE LOCATION IS NOT DETERMINABLE, PLEASE NOTIFY THE ARCHITECT IMMEDIATELY.
6. ALL REQUIRED PRE-INSTALLATION MEETINGS AND MOCKUPS FOR CRITICAL WORK SHALL BE PERFORMED PRIOR TO COMMENCEMENT. EACH CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ADDITIONAL MEETINGS AND MOCKUPS WITH THE ARCHITECT AS THEY DEEM NECESSARY AT NO ADDITIONAL COST.	40. WHERE PERMANENT REMOVAL OF EXISTING MILLWORK, CASEWORK, DOORS AND FRAMES, CABINETRY, ACCESSORIES, EQUIPMENT OR FURNISHINGS IS REQUIRED, AND PREVIOUSLY CONCEALED SURFACES ARE TO REMAIN EXPOSED, PATCH SUCH SURFACES TO MATCH ADJACENT EXPOSED SURFACES. WHERE SUCH SURFACES ARE SCHEDULED TO RECEIVE NEW FINISHES, PREPARE THE SURFACES TO RECEIVE THE NEW FINISHES.	41. WHERE CUTTING OF EXISTING SURFACES OR REMOVAL OF EXISTING SURFACES IS REQUIRED TO PERFORM THE WORK UNDER THIS CONTRACT, AND A NEW FINISH IS NOT INDICATED, FILL RESULTING OPENINGS AND PATCH THE SURFACE AFTER DOING THE WORK, FINISH TO MATCH ADJACENT EXISTING SURFACES.
7. EACH CONTRACTOR SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES.	42. WHERE DUCTS AND SIMILAR ITEMS ARE SHOWN TO PENETRATE EXISTING WALLS OR PARTITIONS, NEATLY CHASE THE WALLS OR PARTITIONS, INSTALL THE ITEMS, AND PATCH WALLS OR PARTITIONS TO MAKE THE INSTALLATION NOT DISCERNIBLE IN THE FINISH WORK.	43. ALL TRADE CONTRACTORS TO INSTALL ALL NEW CONDUITS, PIPES, WIRING AND DUCTS ABOVE NEW OR EXISTING CEILING. REMOVE EXISTING CEILING AS NECESSARY TO PERFORM THE WORK. AFTER INSTALLATION OF CONCEALED WORK, REINSTALL, REMOVED CEILING AND PATCH AND REFINISH TO MATCH ADJACENT UNREMOVED CEILINGS.
8. WHERE DISCREPANCIES EXIST BETWEEN THE DRAWINGS OF THE VARIOUS TRADES, PROMPTLY REPORT THE DISCREPANCIES TO THE ARCHITECT IN WRITING FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.	44. ALL TRADE CONTRACTORS SHALL SEAL TIGHT WITH SMOKE SEAL CAULKING ANY NEW WORK THROUGH ALL NON-RATED WALLS.	45. PROVIDE WEATHER-TIGHT CONSTRUCTION OF EXISTING BUILDING AT ALL TIMES.
9. WHERE ANY PROVISIONS OF THE DRAWINGS AND SPECIFICATIONS CONFLICT WITH ONE ANOTHER, THE MORE STRINGENT OR COSTLY REQUIREMENT SHALL GOVERN UNLESS SPECIFICALLY DIRECTED OTHERWISE BY THE ARCHITECT.	46. MECHANICAL/HVAC CONTRACTOR SHALL PROVIDE FINISH COLLAR AT ALL LOCATIONS WHERE MECHANICAL DUCTWORK PENETRATES EXTERIOR WALL. GENERAL TRADES CONTRACTOR SHALL PROVIDE ALL FLASHINGS FOR WATER/WEATHERTIGHT SEAL AROUND COLLAR.	47. ALL AREAS OF DISTURBED EARTH, WHETHER BY CONSTRUCTION PROCESS, DEMOLITION OR MATERIAL STORAGE, ARE TO BE RESTORED WITH BLACK TOP SOIL, & SODDED PER SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE THE WORK IS TO BE PERFORMED BY A LANDSCAPE CONTRACTOR. ALL SOIL IS TO BE WATERED, MOVED & UTILIZED TO RECREATE THE ORIGINAL GRADE. CONTRACTOR IS RESPONSIBLE FOR TRUCKING IN ANY "BROWNEO" OR "BURNED OUT" SOIL IS TO BE REPLACED @ NO ADDITIONAL COST TO OWNER. (INCLUDING VANDALISM).
10. EACH CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FIELD CONDITIONS, MATERIALS, CONSTRUCTION METHODS AND DIMENSIONS PRIOR TO COMMENCING HIS WORK. CONTRACTORS SHALL PROMPTLY CONTACT ARCHITECT IN WRITING IF ISSUES OR QUESTIONS ARISE. COMMENCEMENT OF THE WORK BY A CONTRACTOR CONSTITUTES HIS ACCEPTANCE OF EXISTING CONDITIONS, AS WELL AS TAKING ON THE RESPONSIBILITY FOR ALL UNACCEPTABLE WORK CAUSED BY PREVIOUS CONDITIONS.	48. OWNER SHALL PAY FOR ALL BUILDING PERMITS PERTAINING TO THE PROJECT. CONTRACTORS SHALL BE RESPONSIBLE FOR SCHEDULING REQUIRED INSPECTIONS, AND SUBMITTING REQUIRED RECORDS, FORMS AND SUBMITTALS TO THE LOCAL MUNICIPALITY. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING LICENSE FEES AND PERMITS RELATED TO OPERATING AND WORKING WITHIN THE MUNICIPALITY.	49. THE CONTRACTORS SHALL PROVIDE ALL WORK AND MATERIALS WHICH ANY SECTION OR PART OF THE DRAWINGS, SPECIFICATIONS, OR CONDITIONS REQUIRE HIM TO PROVIDE. CONTRACTORS SHALL BE RESPONSIBLE FOR ALL SUCH SIMILAR WORK REGARDLESS OF WHETHER SUCH REQUIREMENT IS OR IS NOT FAITHFULLY REPEATED IN OTHER PARTS OF THE CONTRACT DOCUMENTS, THEREOF TO WHICH, THE PROVISIONS MIGHT BE APPROPRIATE.
11. ANY MATERIALS ORDERED, FABRICATED, OR INSTALLED PRIOR TO THE ARCHITECT'S REVIEW AND APPROVAL OR REQUIRED SUBMITTALS, AND ASSOCIATED SUBMITTALS PERTAINING TO THE WORK, IS DONE SO AT EACH CONTRACTOR'S OWN RISK. THE OWNER AND ARCHITECT ASSUME NO RESPONSIBILITY FOR DELAYS OR ADDED COSTS INCURRED BY ANY CONTRACTOR AS A RESULT OF WORK INSTALLED OR COMPLETED WITHOUT PROPER SUBMITTAL REVIEW AND APPROVAL.	50. CONFINE OPERATIONS TO AREAS WITHIN CONTRACT LIMITS INDICATED AND AS SPECIFICALLY NOTED BY THE ARCHITECT. PER WORKING AREA, AREAS OF THE SITE BEYOND THE LIMITS OF THE CONTRACT OPERATIONS ARE NOT TO BE DISTURBED. CONTRACTORS SHALL BE RESPONSIBLE FOR REPAIR AND RESTORATION OF ANY EXISTING SITE CONSTRUCTION DAMAGED OUTSIDE OF THE CONTRACT LIMITS.	51. KEEP CONSTRUCTION ENTRANCES AND LOCAL ACCESS ROAD SERVING THE SITE CLEAN AND CLEAR AT ALL TIMES. SCHEDULE DELIVERIES TO MINIMIZE SPACE AND TIME REQUIRED FOR STORAGE OF MATERIALS ON SITE.
12. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, NATIONAL, CODES AND ORDINANCES AND ALL AUTHORITIES HAVING JURISDICTION. EACH CONTRACTOR IS RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL APPLICABLE CODES AND ORDINANCES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION PRIOR TO SUBMITTING BIDS FOR THIS PROJECTS.	52. CONTRACTORS ARE RESPONSIBLE FOR THEIR OWN CLEANUP AT THE END OF EACH WORK DAY THROUGHOUT THE COURSE OF THE PROJECT.	53. CONTRACTORS SHALL PROVIDE A FINAL CLEANUP AT THE END OF THE PROJECT PRIOR TO FINAL COMPLETION. ALL SURFACES, FIXTURES AND FURNITURE ARE TO BE CLEANED THOROUGHLY SO NO MARKS, RESIDUE, STICKERS, OR RUBBISH REMAINS. ANY ITEM THAT CAN NOT BE EFFECTIVELY CLEANED SHALL BE REPLACED.
13. DO NOT SCALE DRAWINGS; READ DIMENSIONS ONLY. IF A REQUIRED DIMENSION IS NOT INDICATED OR ANY DIMENSIONING DISCREPANCIES EXIST ON THE DRAWINGS THE CONTRACTOR SHALL PROMPTLY WRITE TO THE ARCHITECT FOR RESOLUTION.	54. VERIFY ALL DIMENSIONS IN FIELD PRIOR TO SHOP FABRICATION OF ITEMS.	55. ALL HOLD DIMENSIONS ARE REQUIRED TO BE EXACT WITH 1/8" TOLERANCE ALONG FULL HEIGHT AND FULL WIDTH OF WALL, PARTITION OR BUILDING COMPONENT.
14. CONTRACTORS SHALL NOT CUT STRUCTURAL ELEMENTS OR MEMBERS IN A MANNER RESULTING IN A REDUCTION OF LOAD CARRYING CAPACITY OR LOAD DEFLECTION RATIO, UNLESS OTHERWISE NOTED.	56. PROVIDE ALL PREPARATION NECESSARY, PRIOR TO BEGINNING PAINTING WORK, INCLUDING BUT NOT LIMITED TO PATCHING HOLES, GOUGES, OR OTHER DAMAGE. SECURING LOOSE TRIM, CONDUITS AND ANY OTHER WALL OR CEILING HARDWARE ITEMS REQUIRING ATTENTION.	57. WALLS INDICATED TO BE PAINTED, OR REQUIRED TO BE RE-PAINTED DUE TO REPAIR OF DAMAGED/DISTURBED WORK SHALL HAVE THE ENTIRE WALL SURFACE FROM CORNER TO CORNER, OR OTHER NATURAL BREAK PAINTED.
15. ALL STRUCTURAL ITEMS, INCLUDING BUT NOT LIMITED TO, BEAMS, LINTELS, JOISTS, DECKS, MASONRY TIES, BOND BEAMS, COLUMNS, CONNECTORS AND CONNECTORS, ETC., APPEARING ON ARCHITECTURAL DRAWINGS ARE ONLY SHOWN TO ILLUSTRATE RELATIONSHIPS TO OTHER BUILDING MATERIALS AND SYSTEMS AND SHALL BE CONSIDERED FOR INFORMATION ONLY. REFER TO EACH DISCIPLINES DRAWINGS FOR DETAILED CONFIGURATIONS, TYPES, SIZES, CONNECTIONS, NOTES, AND SCHEDULES.	58. CONTRACTORS ARE RESPONSIBLE FOR PROCURING TEMPORARY UTILITIES AND PAYING FOR SUCH UTILITIES UNTIL SUCH TIME THAT THE PERMANENT UTILITIES ARE OPERATIONAL AND THE OWNER HAS GRANTED, IN WRITING, THEIR USE BY THE CONTRACTOR.	59. CONTRACTORS ARE RESPONSIBLE FOR PREPARING AND SUBMITTING FULLY DESIGNED FIRE SPRINKLER AND FIRE ALARM DRAWINGS TO THE LOCAL AUTHORITY HAVING JURISDICTION FOR REVIEW AND APPROVAL.
16. ALL COLD FORMED METAL AND WOOD FRAMING APPEARING ON ARCHITECTURAL DRAWINGS ARE SHOWN TO ILLUSTRATE INTENT. THE CONTRACTOR, AS PART OF THE SUBMITTAL REGION, SHALL BE RESPONSIBLE UNDER HIS SCOPE, IS TO PROVIDE CONNECTIONS, ACCESSORIES, AND CONFIGURATIONS REQUIRED TO MEET THE SPECIFICATIONS.	60. REPAIR, PATCH AND REFINISH, OR REPLACE, ANY EXISTING CONSTRUCTION AND INFRASTRUCTURE THAT IS DISTURBED OR DAMAGED DURING THE COURSE OF THE WORK. SUCH REPAIR OR REPLACEMENT WORK IS TO MATCH EXISTING CONSTRUCTION IN QUALITY AND FINISH.	61. SHOULD DISCREPANCIES APPEAR AMONG THE CONTRACT DOCUMENTS OR BETWEEN THE CONTRACT DOCUMENTS AND EXISTING SITE CONDITIONS, THE CONTRACTOR SHALL REQUEST AN INTERPRETATION FROM THE ARCHITECT BEFORE BIDDING. IF THE CONTRACTOR FAILS TO MAKE SUCH REQUESTS, IT IS PRESUMED THAT THE MORE COSTLY SHALL BE INCLUDED IN THE BID, AND THE ARCHITECT SHALL DETERMINE WHICH OF THE PROVISIONS WERE INCLUDED IN THE BID, AND THE ARCHITECT SHALL DETERMINE WHICH OF THE CONFLICTING REQUIREMENTS SHALL GOVERN. THE CONTRACTORS SHALL PERFORM THE WORK AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH THE ARCHITECT'S DETERMINATION.
17. ALL PLUMBING, HVAC, ELECTRICAL, AND FIRE PROTECTION ITEMS APPEARING ON ARCHITECTURAL DRAWINGS ARE ONLY SHOWN TO ILLUSTRATE RELATIONSHIPS TO OTHER BUILDING MATERIALS AND SYSTEMS. SUCH INCIDENTAL WORK IS ALSO PART OF THIS CONTRACT. INDIVIDUAL TRADE CONTRACTORS SHALL BE RESPONSIBLE FOR INSPECTING THOSE AREAS, AND ASCERTAIN WORK NEEDED, AND DO THAT WORK IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS, AT NO ADDITIONAL COST.	62. WHERE CONFLICT EXISTS BETWEEN, OR WITHIN, THE CONTRACT DOCUMENTS, BETWEEN THE CONTRACT DOCUMENTS AND APPLICABLE STANDARDS, CODES, ORDINANCES, OR MANUFACTURERS' RECOMMENDATIONS, AND CLARIFICATION HAS NOT BEEN REQUESTED FROM THE ARCHITECT PRIOR TO THE CLOSE OF BIDDING, THE MORE STRINGENT OR HIGHER QUALITY STANDARD SHALL PREVAIL.	63. LARGE SCALE DRAWINGS SHALL TAKE PRECEDENCE OVER SMALL SCALE DRAWINGS. FIGURED DIMENSIONS ON THE DRAWINGS OVER SCALED DIMENSIONS, AND NOTED MATERIAL OVER GRAPHIC REPRESENTATIONS.
18. ALL PENETRATIONS THROUGH THE NEW SLAB ON GRADE, ROOF DECK, WALLS BELOW GRADE, AND EXTERIOR WALLS SHALL BE WATER SEALED, WHERE PENETRATIONS ARE REQUIRED TO BE FIRE SEALED PER THE CONTRACT DOCUMENTS, THE WATER SEAL SHALL BE IN ADDITION, THE FIRE SEALANT SHALL BE INSTALLED FIRST (DEPRESSED A MINIMUM OF 3/4 INCH) AND WITH THE WATER SEAL INSTALLED OVER THE TOP. AN APPROPRIATE BOND BREAKER SHALL BE INSTALLED IN BETWEEN THE TWO TYPES OF SEALANT.		64. THE CONTRACTOR SHALL PROVIDE ALL WORK AND MATERIALS WHICH ANY SECTION OR PART OF THE DRAWINGS, SPECIFICATIONS, OR CONDITIONS REQUIRE HIM TO PROVIDE, REGARDLESS OF WHETHER SUCH REQUIREMENT IS OR IS NOT FAITHFULLY REPEATED IN OTHER PARTS OF DOCUMENTS THEREOF TO WHICH THE PROVISIONS MIGHT BE APPROPRIATE.
19. ALL PENETRATIONS THROUGH THE NEW SLAB ON GRADE, ROOF DECK, WALLS BELOW GRADE, AND EXTERIOR WALLS SHALL BE WATER SEALED, WHERE PENETRATIONS ARE REQUIRED TO BE FIRE SEALED PER THE CONTRACT DOCUMENTS, THE WATER SEAL SHALL BE IN ADDITION, THE FIRE SEALANT SHALL BE INSTALLED FIRST (DEPRESSED A MINIMUM OF 3/4 INCH) AND WITH THE WATER SEAL INSTALLED OVER THE TOP. AN APPROPRIATE BOND BREAKER SHALL BE INSTALLED IN BETWEEN THE TWO TYPES OF SEALANT.		
20. CONTRACTORS SHALL PROVIDE NEW UNDAMAGED MATERIALS. ANY DAMAGED MATERIALS, FIXTURES AND FURNITURE ARE NOT TO BE INSTALLED AND RETURNED TO THE MANUFACTURER/DISTRIBUTOR. INSTALLATION OF DAMAGED MATERIALS WILL BE REJECTED.		
21. PROVIDE GROUTED CELLS, AS REQUIRED, IN MASONRY WALLS TO ANCHOR ALL WALL MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, MILLWORK, CASEWORK, WALL CABINETS, HANDRAILS, COAT RACKS, DOOR STOPS, TOILET ACCESSORIES, OWNER FURNISHED EQUIPMENT, SHELVING, LIGHT FIXTURES, LIFE SAFETY EQUIPMENT AND OTHER SIMILAR ITEMS.		
22. PROVIDE WOOD OR STEEL FRAME BLOCKING, AS REQUIRED, IN FRAMED WALLS AND CEILINGS TO ANCHOR ALL WALL AND CEILING MOUNTED ITEMS INCLUDING, BUT NOT LIMITED TO, MILLWORK, CASEWORK, WALL CABINETS, HANDRAILS, COAT RACKS, WALL HOOKS, DOOR STOPS, TOILET ACCESSORIES, OWNER FURNISHED EQUIPMENT, SHELVING, LIGHT FIXTURES, LIFE SAFETY EQUIPMENT AND OTHER SIMILAR ITEMS.		
23. WOOD BLOCKING AND METAL FRAMING IS SHOWN GENERICALLY IN DETAILS TO ACHIEVE THE DESIRED OVERLAP, ITS RELATIONSHIP TO OTHER MATERIALS CAN NOT BE ALTERED OR REPLACED AS REQUIRED BY APPROPRIATE CONSTRUCTION PRACTICES TO ACHIEVE THE FINAL APPEARANCE INDICATED ON THE DRAWINGS.		
24. THE PERIMETER OF ALL OPENINGS ARE TO BE BACKED AS NECESSARY AND SEALED, INTERIOR AND EXTERIOR.		
25. ALL OPENINGS, INTERIOR AND EXTERIOR, THAT HAVE A RETURN FROM THE MAIN FACE, SHALL HAVE THE RETURN FINISHED THE SAME AS THE MAIN EXPOSED FACE U.N.O. THIS APPLIES TO BOTH SIDES OF ALL OPENINGS.		
26. CONTROL JOINTS IN MASONRY WALLS ARE TO BE PROVIDED AS SHOWN. IN AREAS WHERE JOINTS ARE NOT SHOWN, THE CONTRACTOR SHALL PROVIDE JOINTS AS FOLLOWS: 1. AT EVERY 20 FEET IN RUNNING WALLS AND 6 FEET FROM CORNERS. 2. AT ALL CORNERS OF AN L, U, OR T CONFIGURATION ON A WALL SURFACE. A CONTROL JOINT SHALL BE PROVIDED TO DIVIDE THE SECTIONS. CONTRACTOR IS TO REVIEW ALL LOCATIONS WITH THE ARCHITECT IN THE FIELD PRIOR TO COMMENCING MASONRY INSTALLATION. REGARDLESS OF WHETHER JOINTS ARE SHOWN OR THE JOINTS ARE BEING PROVIDED PER THE GUIDELINES NOTED HERE.		
27. PROVIDE BOND BREAKER MATERIAL AT CONTROL JOINTS WHERE JOINTS ARE FULLY PARGED OR GROUTED.		
28. CONTROL JOINTS IN GYPSUM BOARD ARE TO BE PROVIDED AS SHOWN. IN AREAS WHERE JOINTS ARE NOT SHOWN, THE CONTRACTOR SHALL PROVIDE JOINTS AS FOLLOWS: 1. AT EVERY 30 FEET IN WALLS OR CEILINGS. 2. AT ALL CORNERS OF AN L, U, OR T CONFIGURATION ON A WALL OR CEILING SURFACE. A CONTROL JOINT SHALL BE PROVIDED TO DIVIDE THE SECTIONS. CONTRACTORS ARE TO REVIEW ALL LOCATIONS WITH THE ARCHITECT IN THE FIELD PRIOR TO COMMENCING CONTROL JOINT INSTALLATION REGARDLESS OF WHETHER JOINTS ARE SHOWN OR THE JOINTS ARE BEING PROVIDED PER THE GUIDELINES NOTED HERE.		
29. CONTROL JOINTS IN RATED ASSEMBLIES ARE TO BE TREATED AS NOT TO COMPROMISE THE RATED ASSEMBLY. CONTRACTORS SHALL PROVIDE APPROPRIATE BACKING MATERIAL AND FIRE STOPPING TO CLOSE THE CAVITY AND PROVIDE AN APPROPRIATELY RATED SEALANT.		
30. THE TYPICAL CONDITION, UNLESS DETAILED OTHERWISE, WHERE GYPSUM WALLBOARD MEETS ANY KIND OF DISSIMILAR SURFACE, INCLUDING BUT NOT LIMITED TO MASONRY, WOOD, OR METAL, IS TO HAVE WALLBOARD EDGE FINISHED WITH A PAINTED J-BEAD EDGE AND DRYWALL COMPOUND AND THE JOINT CAULKED.		
31. WHENEVER MASONRY REQUIRES CUTTING TO ENCLOSE A STRUCTURAL MEMBER, PROVIDE MAXIMUM THICKNESS POSSIBLE AND STILL PREVENT CONTACT WITH THE STRUCTURE. EXCEPT FOR WALL TIES, USE THE SAME UNITS AS IN WALL. SO FACE TEXTURE AND APPEARANCE IS UNIFORM.		



223 West Jackson Boulevard, Suite 1200
Chicago, Illinois 60606
(312) 253-3400

Synthetic Turf Athletic Field Sitework
Niles Township High School District 219
7700 Gross Point Rd., Skokie, IL 60077

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GENERAL NOTES AND ABBREVIATIONS

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GENERAL NOTES - LOGISTICS

1.

SCHOOL AND AFTER-SCHOOL SPORTS ON FOOTBALL/SOCCER FIELD AND TENNIS COURTS WILL BE IN SESSION FROM CONSTRUCTION COMMENCEMENT THROUGH MAY 24, 2023. CONTRACTOR IS TO COORDINATE WITH OWNER FOR ACCESS AND PROVIDE ALL MEANS TO ENSURE SAFETY.

2.

SUMMER SOCCER AND FOOTBALL CAMP ACTIVITIES WILL BE IN SESSION FROM MID-JUNE THROUGH END OF JULY, 3:00PM AND AFTER. CONTRACTOR IS TO COORDINATE WITH OWNER FOR ACCESS AND PROVIDE ALL MEANS TO ENSURE SAFETY.

3.

CONTRACTOR IS TO MAINTAIN ACCESS TO FOOTBALL/SOCCER FIELD AND TENNIS COURTS FOR OWNER'S USE THROUGHOUT CONSTRUCTION ACTIVITIES.

4.

NO LARGE DELIVERIES CAN OCCUR DURING STUDENT DROP-OFF AND PICK-UP TIMES WHILE SCHOOL IS IN SESSION.

LEGEND

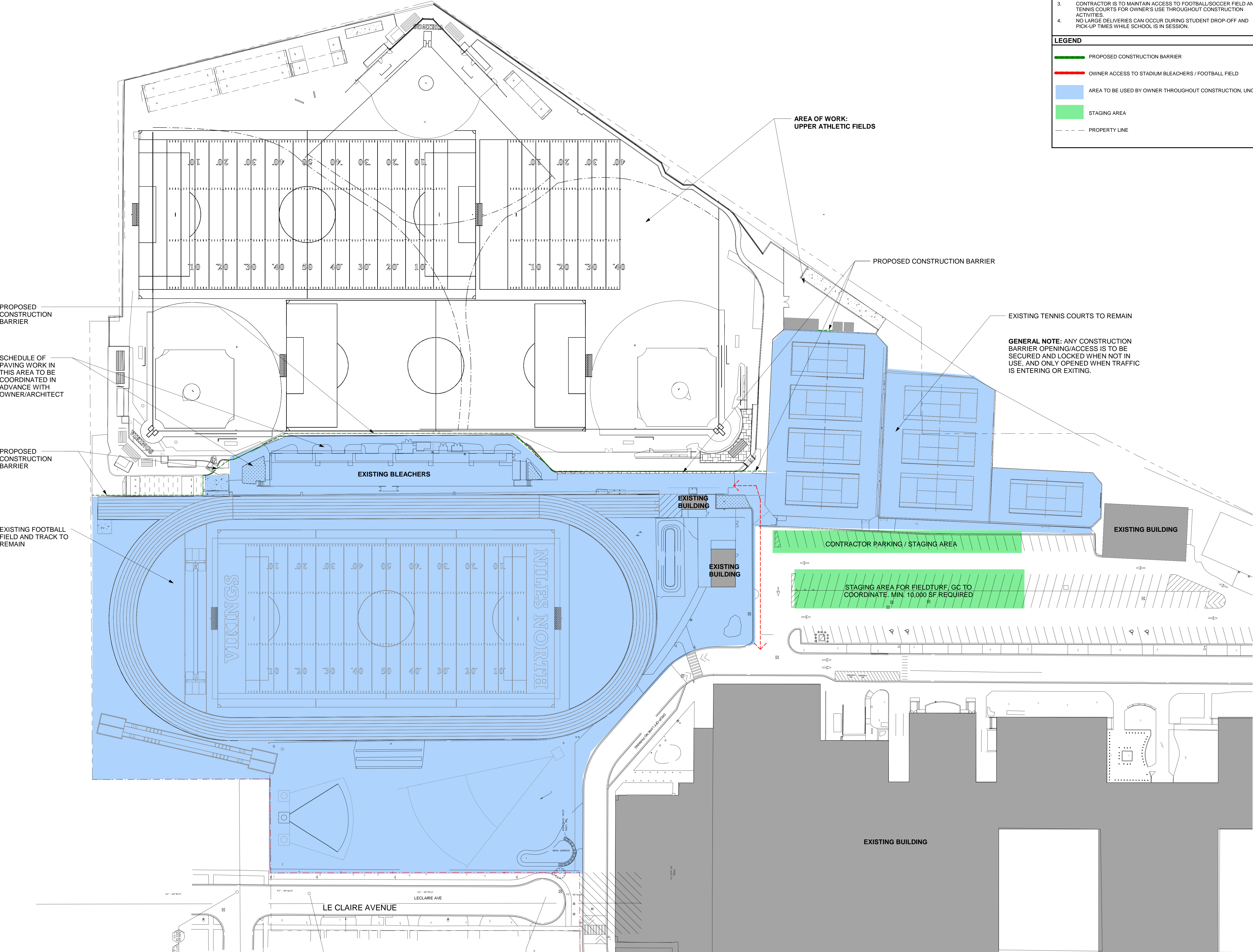
PROPOSED CONSTRUCTION BARRIER

OWNER ACCESS TO STADIUM BLEACHERS / FOOTBALL FIELD

AREA TO BE USED BY OWNER THROUGHOUT CONSTRUCTION, UNO

STAGING AREA

PROPERTY LINE



1 SITE LOGISTICS PLAN
1" = 40'-0"

NILES TOWNSHIP HIGH SCHOOL

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architecture + interiors

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(312) 253-3400

Synthetic Turf Athletic Field Sitework

Niles Township High School District 219
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NO	ISSUE	DATE
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SITE LOGISTICS



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ARCHITECTURAL
SITE PLAN

22053 AC1.00

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ARCHITECTURAL SITE SHEET NOTES - DENOTED

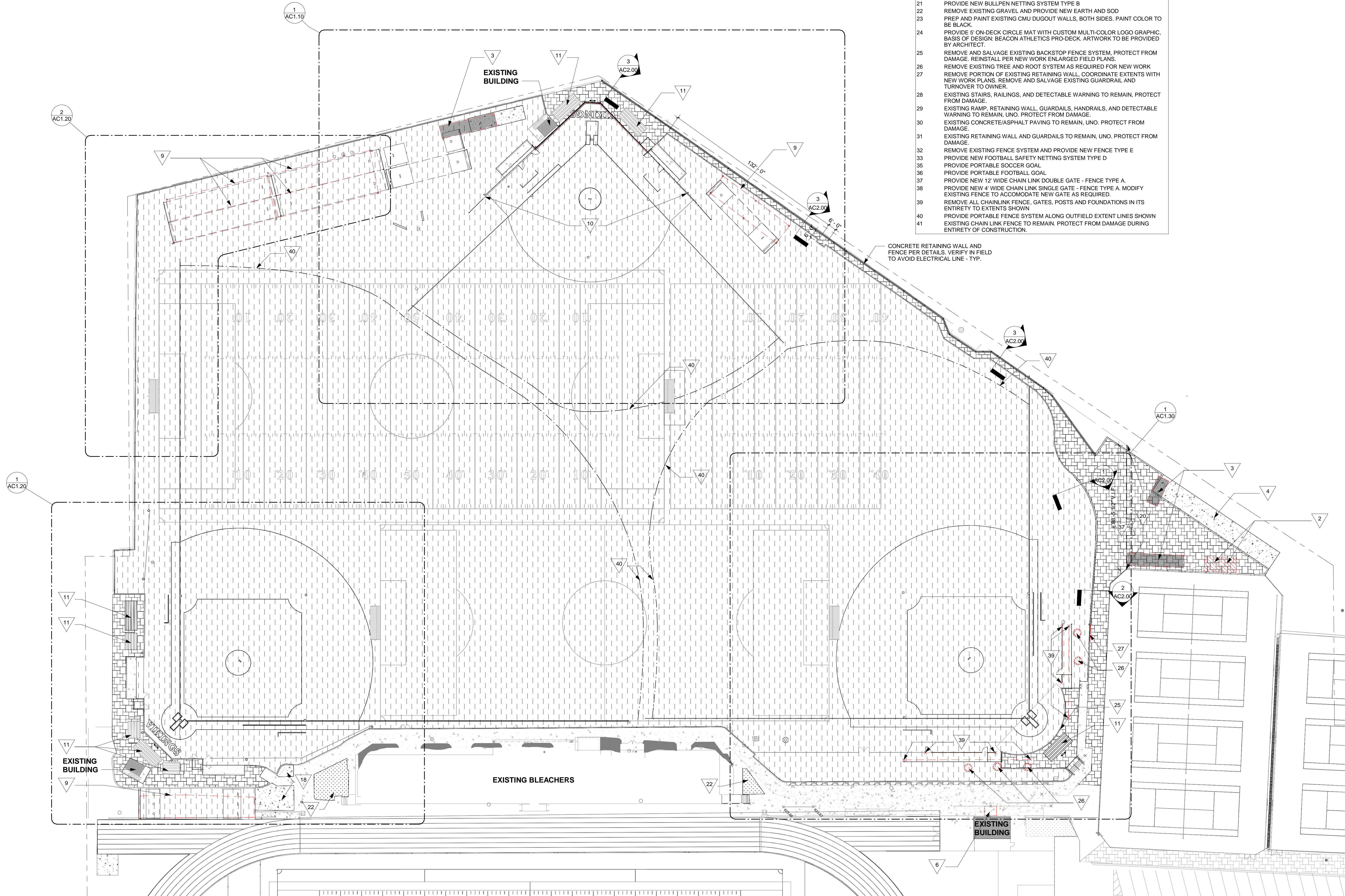
- EXISTING CHAIN LINK FENCE/GATES - REMOVE ALL EXISTING POSTS AND PROVIDE NEW POSTS; TEMPORARILY REMOVE AND REINSTALL FENCE FABRIC AND GATES, TYP. PROTECT FROM DAMAGE DURING ENTIRETY OF CONSTRUCTION.
- REMOVE EXISTING SHED STRUCTURE IN ITS ENTIRETY.
- TEMPORARILY RELOCATE EXISTING SHIPPING CONTAINER TO LOCATION COORDINATED WITH OWNER DURING CONSTRUCTION ACTIVITIES. REINSTALL AT NEW CONCRETE PAD LOCATIONS UPON CONSTRUCTION COMPLETION.
- NEW CONCRETE PAD FOR RELOCATED SHIPPING CONTAINER LOCATION. COORDINATE LOCATION OF PAD/CONTAINER IN FIELD WITH OWNER/ARCHITECT.
- DRINKING FOUNTAIN ANCHORED INTO NEW CONCRETE PIER, VERIFY LOCATION IN FIELD WITH OWNER/ARCHITECT.
- REMOVE PORTION OF EXISTING CONCRETE AS REQUIRED FOR NEW WORK; PROVIDE NEW CONCRETE PAVING.
- EXISTING SCOREBOARD TO REMAIN, PROTECT FROM DAMAGE.
- EXISTING FLAGPOLE TO REMAIN, PROTECT FROM DAMAGE.
- DEMO EXISTING BATTING CAGE/BULLPEN IN ITS ENTIRETY, INCLUDING POSTS, SUPPORTS, AND NETTING.
- REMOVE EXISTING SOFTBALL BACKSTOP FENCING SYSTEM IN ITS ENTIRETY AND PROVIDE NEW BACKSTOP NETTING SYSTEM AND CHAIN-LINK FENCE, TYPE C.
- REMOVE AND SALVAGE EXISTING BLEACHERS, PROTECT FROM DAMAGE. REINSTALL PER NEW WORK ENLARGED FIELD PLANS.
- PROVIDE ANCHORED BASE AND SLEEVE SYSTEM.
- PROVIDE PORTABLE MOUND.
- PROVIDE NEW BREAKAWAY PITCHING RUBBER.
- PROVIDE NEW SINGLE TUNNEL SOFTBALL BATTING CAGE SYSTEM WITH 4" DIRECT POLE EMBEDMENT.
- NEW DOUBLE TUNNEL BASEBALL BATTING CAGE SYSTEM WITH 4" DIRECT POLE EMBEDMENT.
- PROVIDE NEW ANCHORED PITCHING RUBBER AND SLEEVE SYSTEM.
- REMOVE EXISTING GRAVEL AND PROVIDE NEW CONCRETE PAVING.
- PROVIDE NEW BREAKAWAY HOME PLATE.
- PROVIDE NEW FENCE TYPE A.
- PROVIDE NEW BULLPEN NETTING SYSTEM TYPE B.
- REMOVE EXISTING GRAVEL AND PROVIDE NEW EARTH AND SOD.
- PREP AND PAINT EXISTING CMU DUGOUT WALLS, BOTH SIDES. PAINT COLOR TO BE BLACK.
- PROVIDE 5' ON-DECK CIRCLE MAT WITH CUSTOM MULTI-COLOR LOGO GRAPHIC, BASIS OF DESIGN: BEACON ATHLETICS PRO-DECK. ARTWORK TO BE PROVIDED BY ARCHITECT.
- REMOVE AND SALVAGE EXISTING BACKSTOP FENCE SYSTEM, PROTECT FROM DAMAGE. REINSTALL PER NEW WORK ENLARGED FIELD PLANS.
- REMOVE EXISTING TREE AND ROOT SYSTEM AS REQUIRED FOR NEW WORK.
- REMOVE PORTION OF EXISTING RETAINING WALL, COORDINATE EXTENTS WITH NEW WORK PLANS. REMOVE AND SALVAGE EXISTING GUARDRAIL AND TURNOVER TO OWNER.
- EXISTING STAIRS, RAILINGS, AND DETECTABLE WARNING TO REMAIN, PROTECT FROM DAMAGE.
- EXISTING RAMP, RETAINING WALL, GUARDRAILS, HANDRAILS, AND DETECTABLE WARNING TO REMAIN, UNO, PROTECT FROM DAMAGE.
- EXISTING CONCRETE/ASPHALT PAVING TO REMAIN, UNO, PROTECT FROM DAMAGE.
- EXISTING RETAINING WALL AND GUARDRAILS TO REMAIN, UNO, PROTECT FROM DAMAGE.
- REMOVE EXISTING FENCE SYSTEM AND PROVIDE NEW FENCE TYPE E.
- PROVIDE NEW FOOTBALL SAFETY NETTING SYSTEM TYPE D.
- PROVIDE PORTABLE SOCCER GOAL.
- PROVIDE PORTABLE FOOTBALL GOAL.
- PROVIDE NEW 12" WIDE CHAIN LINK DOUBLE GATE - FENCE TYPE A.
- PROVIDE NEW 4" WIDE CHAIN LINK SINGLE GATE - FENCE TYPE A. MODIFY EXISTING FENCE TO ACCOMMODATE NEW GATE AS REQUIRED.
- REMOVE ALL CHAIN LINK FENCE, GATES, POSTS AND FOUNDATIONS IN ITS ENTIRETY TO EXTENTS SHOWN.
- PROVIDE PORTABLE FENCE SYSTEM ALONG OUTFIELD EXTENT LINES SHOWN.
- EXISTING CHAIN LINK FENCE TO REMAIN, PROTECT FROM DAMAGE DURING ENTIRETY OF CONSTRUCTION.

SITE MATERIALS LEGEND

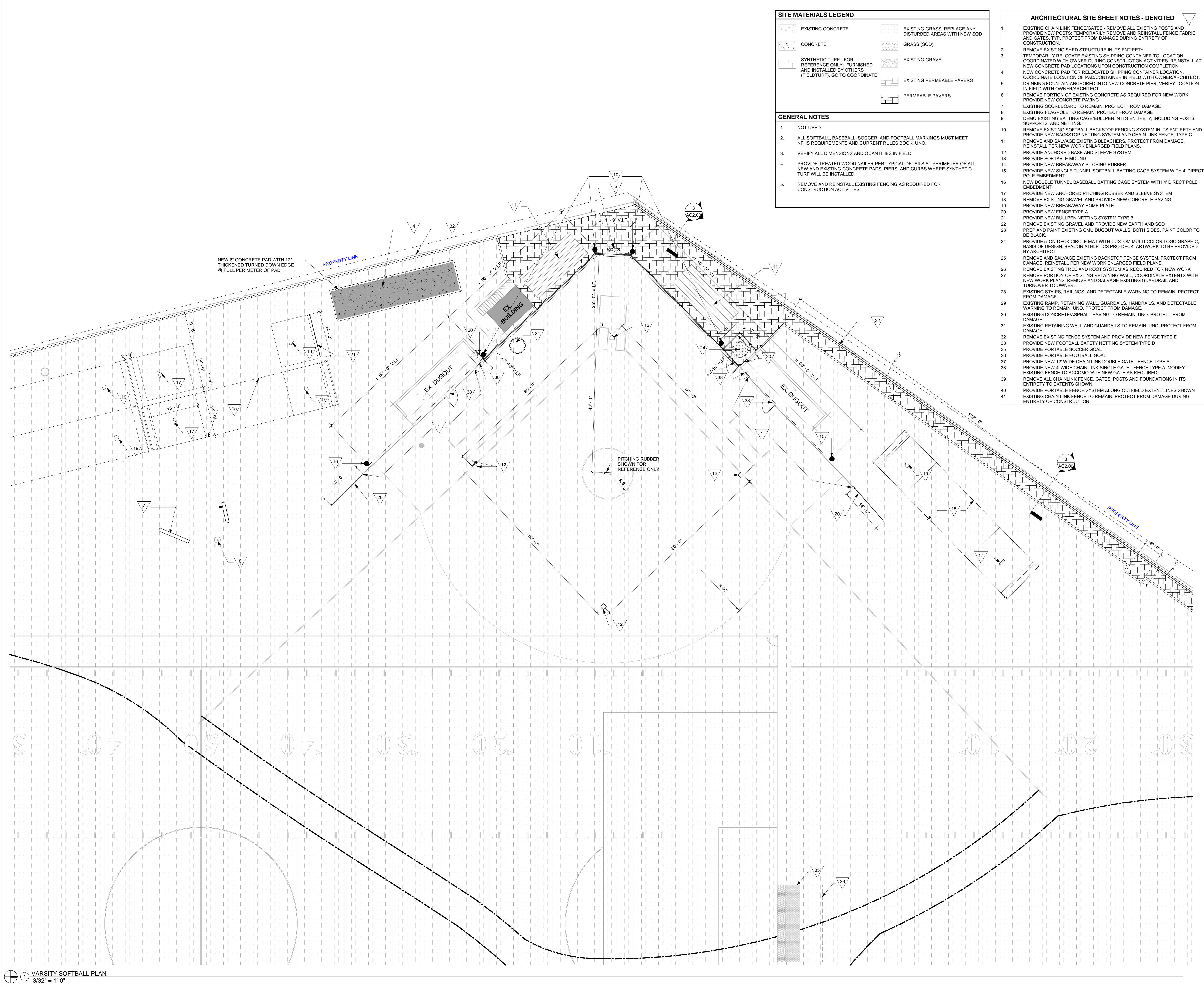
	EXISTING CONCRETE		EXISTING GRASS; REPLACE ANY DISTURBED AREAS WITH NEW SOD
	CONCRETE		GRASS (SOD)
	SYNTHETIC TURF - FOR REFERENCE ONLY; FURNISHED AND INSTALLED BY OTHERS (FIELDTURF). GC TO COORDINATE		EXISTING GRAVEL
			EXISTING PERMEABLE PAVERS
			PERMEABLE PAVERS

GENERAL NOTES

- NOT USED.
- ALL SOFTBALL, BASEBALL, SOCCER, AND FOOTBALL MARKINGS MUST MEET NFHS REQUIREMENTS AND CURRENT RULES BOOK, UNO.
- VERIFY ALL DIMENSIONS AND QUANTITIES IN FIELD.
- PROVIDE TREATED WOOD NAILER PER TYPICAL DETAILS AT PERIMETER OF ALL NEW AND EXISTING CONCRETE PADS, PIERS, AND CURBS WHERE SYNTHETIC TURF WILL BE INSTALLED.
- REMOVE AND REINSTALL EXISTING FENCING AS REQUIRED FOR CONSTRUCTION ACTIVITIES.



1 OVERALL SITE PLAN
1" = 30'-0"



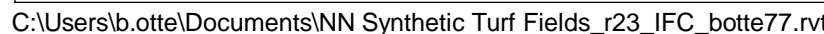
Synthetic Turf Athletic Field Sitework

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**ARCHITECTURAL
SITE LAYOUT -
VARSITY
SOFTBALL
FIELD**

AC1.10



GENERAL NOTES	
1.	NOT USED
2.	ALL SOFTBALL, BASEBALL, SOCCER, AND FOOTBALL MARKINGS MUST MEET NFHS REQUIREMENTS AND CURRENT RULES BOOK, UNO.
3.	VERIFY ALL DIMENSIONS AND QUANTITIES IN FIELD.
4.	PROVIDE TREATED WOOD NAILER PER TYPICAL DETAILS AT PERIMETER OF ALL NEW AND EXISTING CONCRETE PADS, PIERS, AND CURBS WHERE SYNTHETIC TURF WILL BE INSTALLED.
5.	REMOVE AND REINSTALL EXISTING FENCING AS REQUIRED FOR CONSTRUCTION ACTIVITIES.



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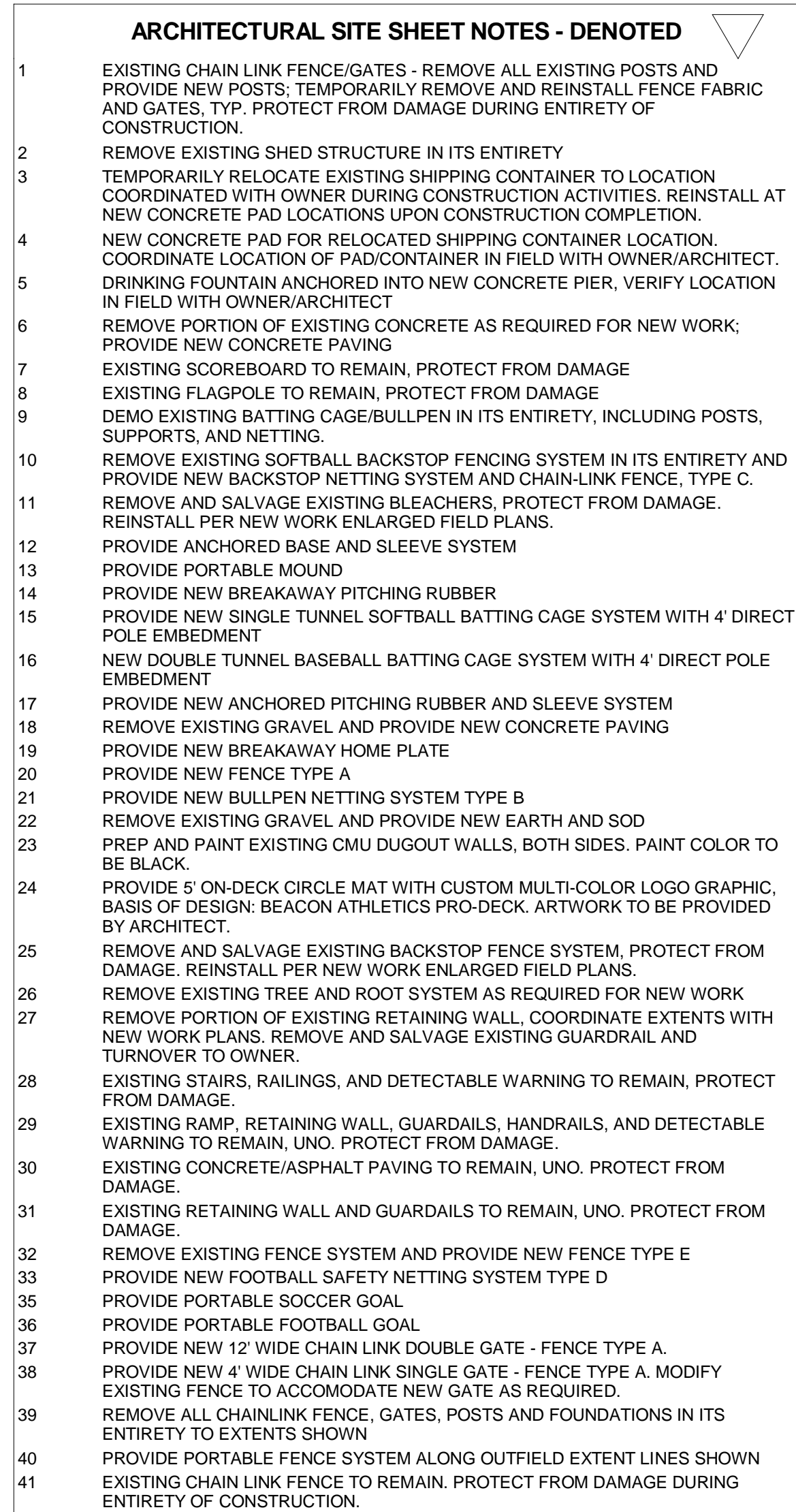
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ARCHITECTURAL SITE LAYOUT - VARSITY BASEBALL FIELD

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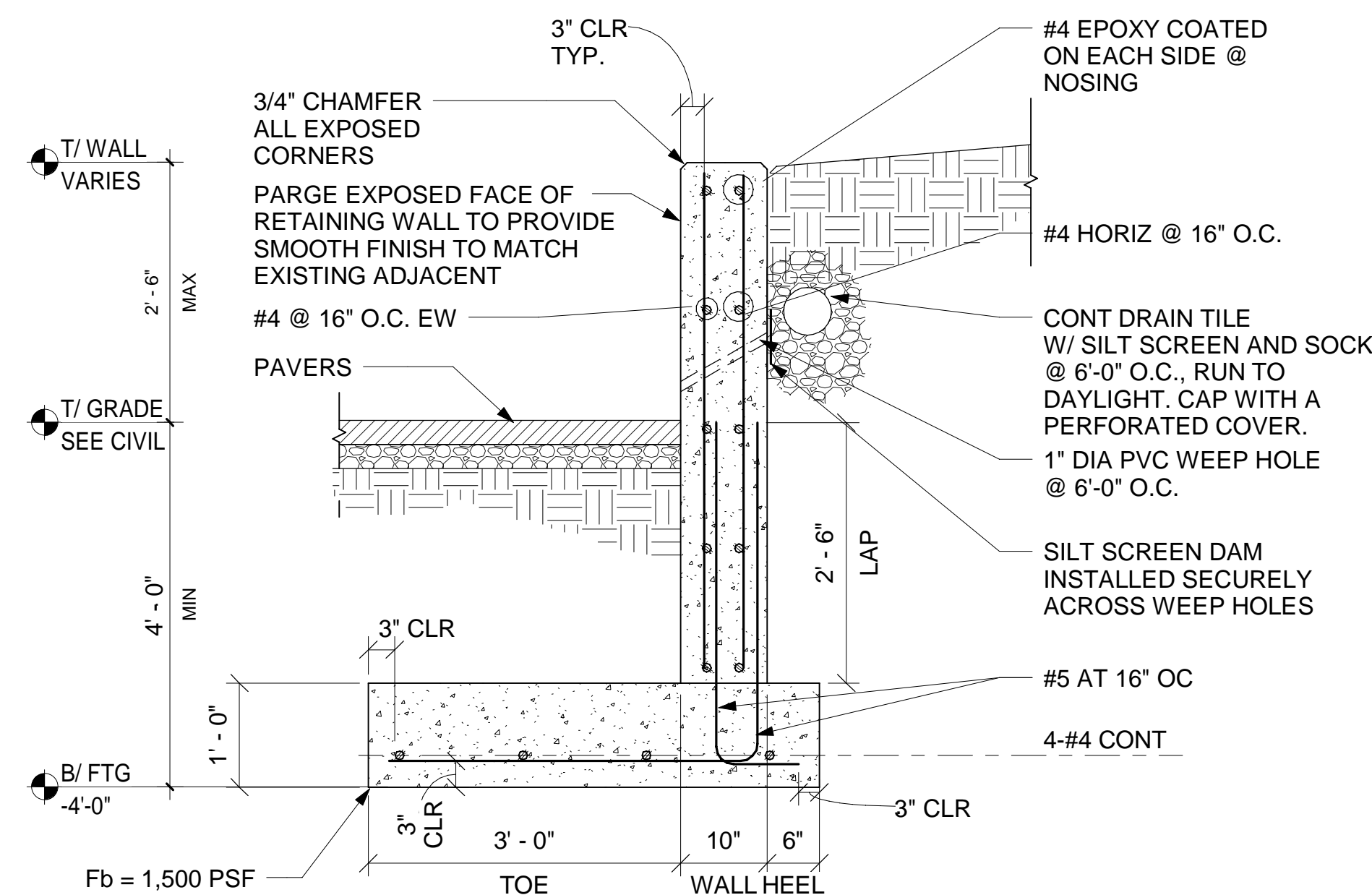


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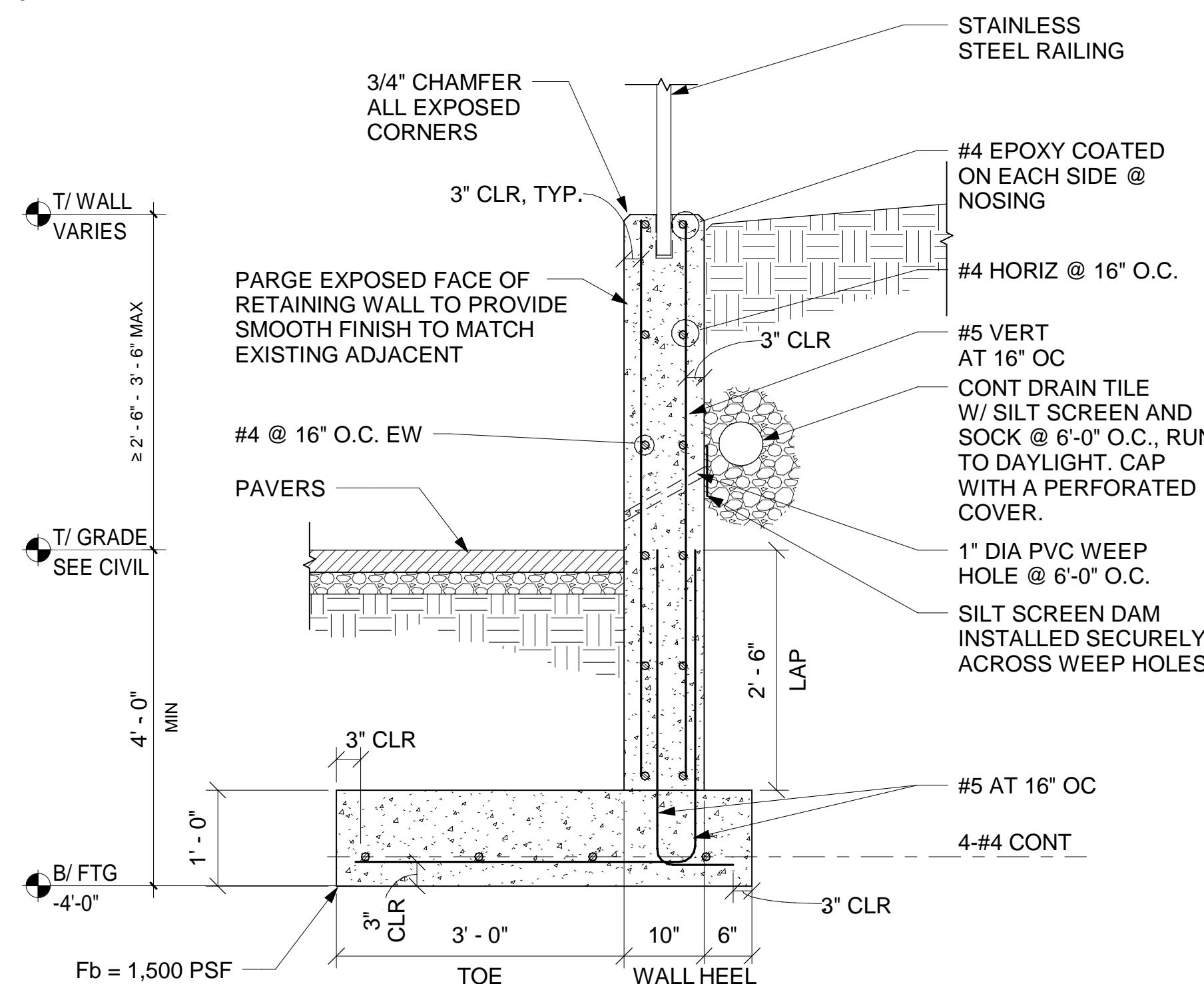
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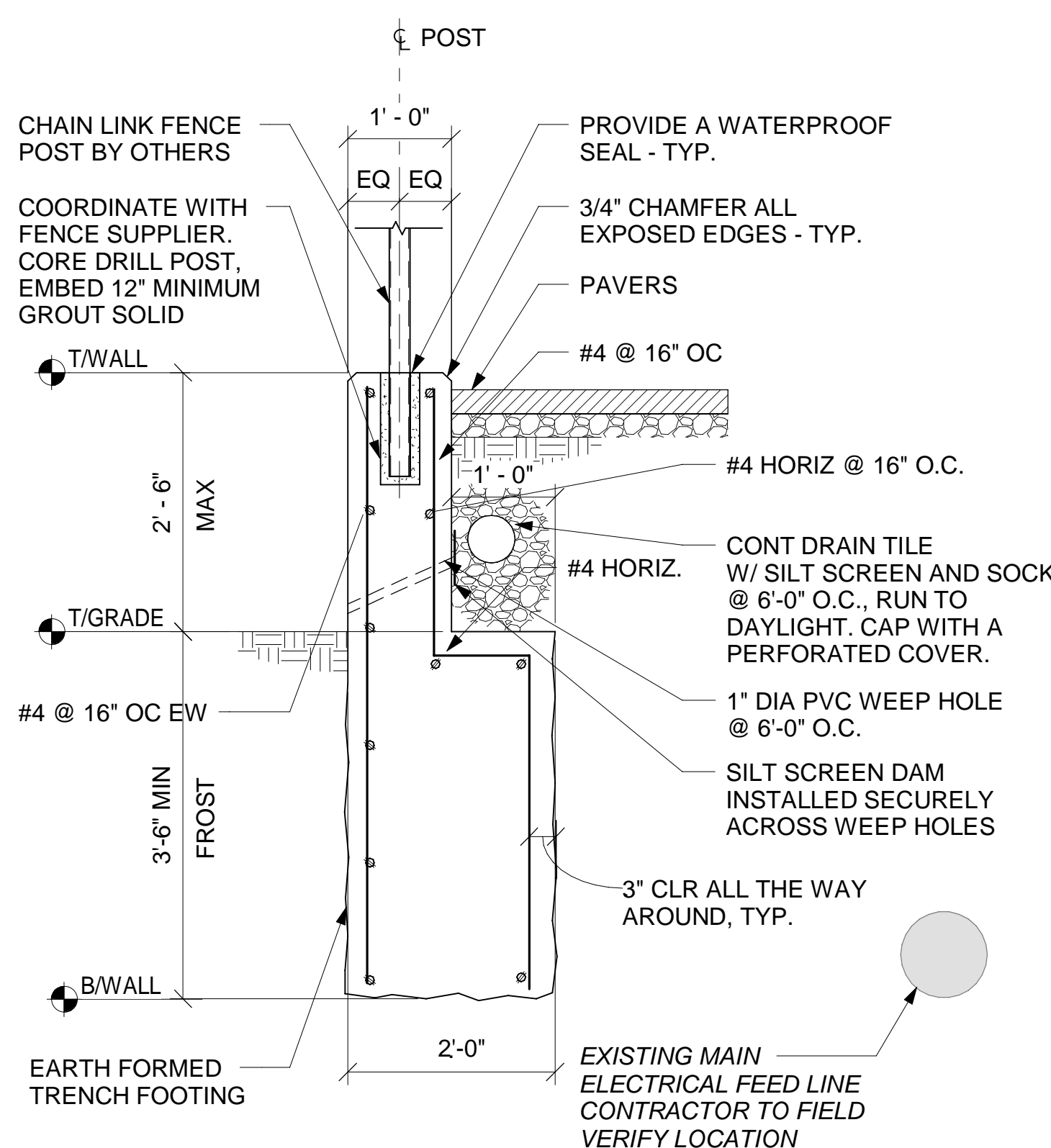
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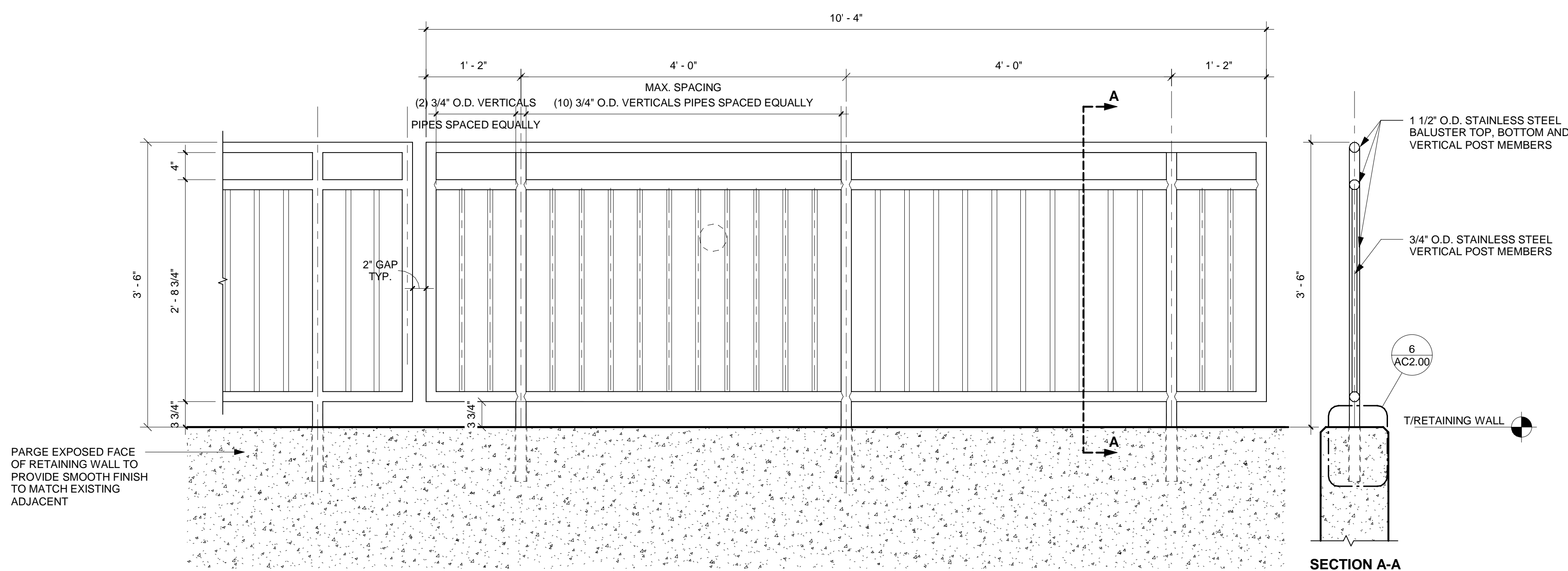
1 CONCRETE RETAINING WALL AT JV BASEBALL FIELD DETAIL
3/4" = 1'-0"



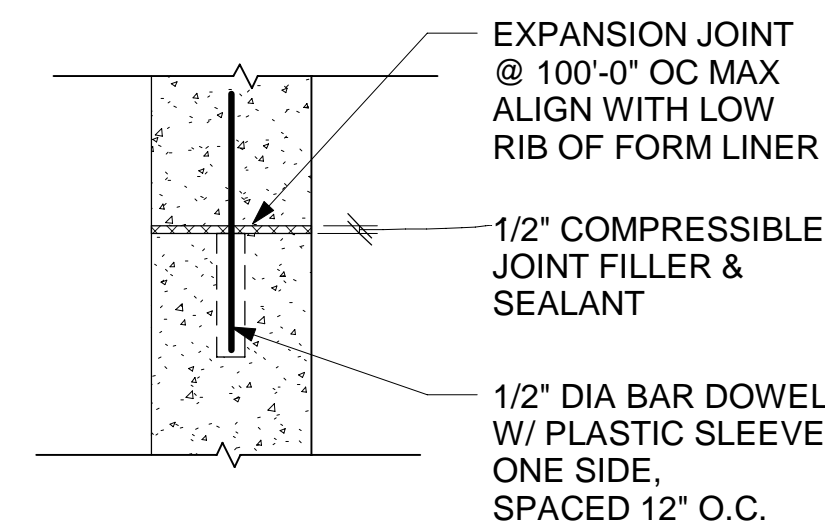
2 CONCRETE RETAINING WALL WITH GUARDRAIL DETAIL
3/4" = 1'-0"



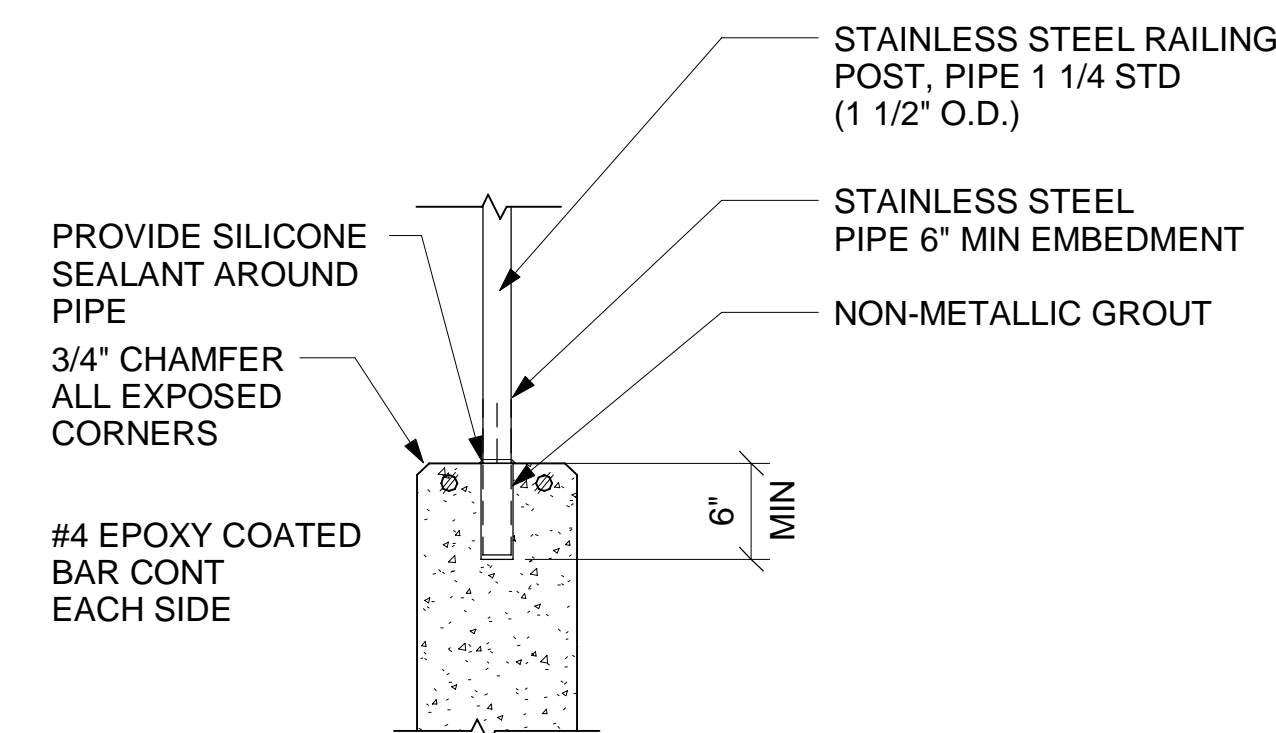
3 CONCRETE RETAINING WALL ALONG PATH DETAIL
3/4" = 1'-0"



4 GUARDRAIL PANEL - TYPICAL
1" = 1'-0"



5 RETAINING WALL EXPANSION JOINT - TYPICAL
1" = 1'-0"



6 RAILING CONNECTION - TYPICAL
1" = 1'-0"

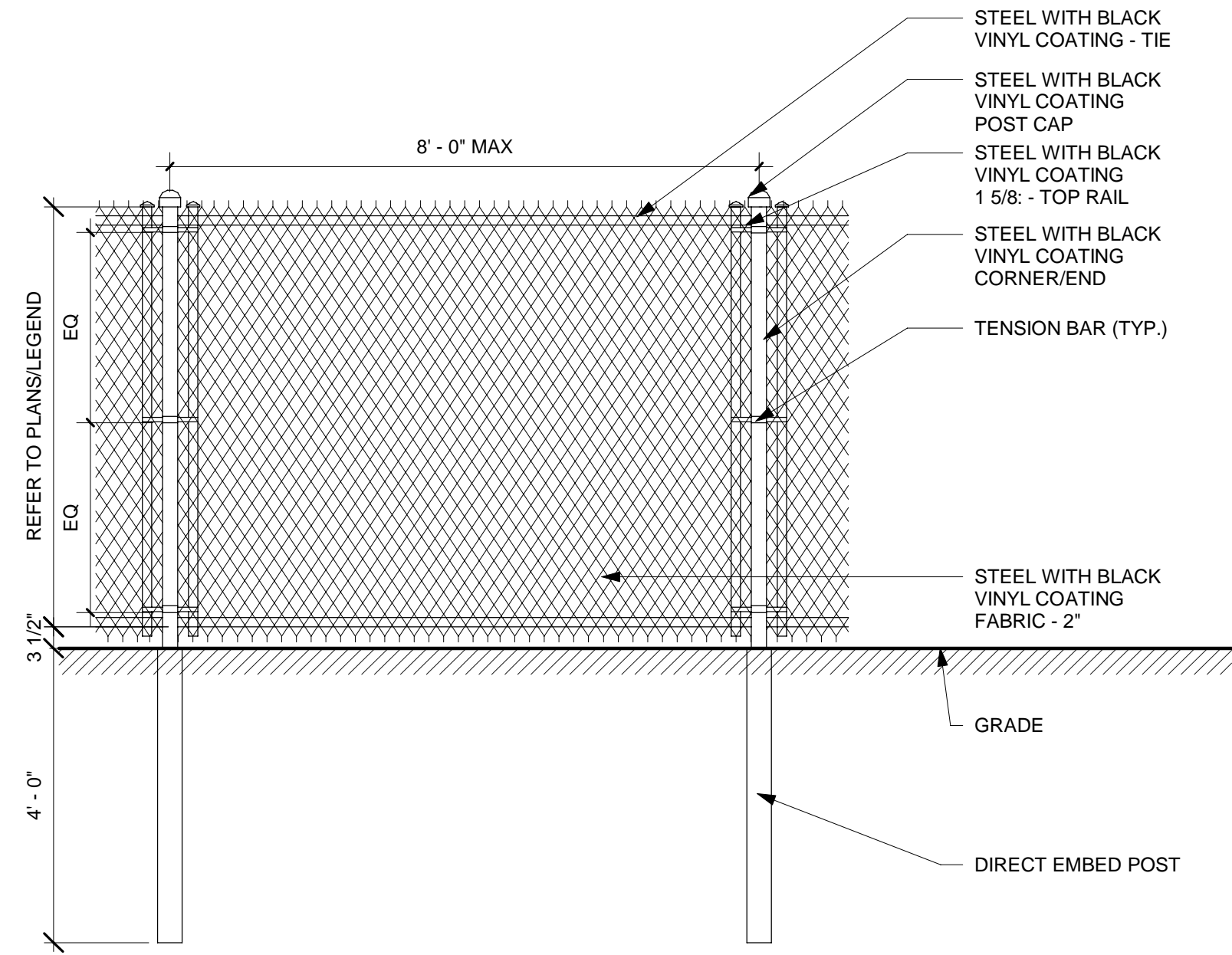
Synthetic Turf Athletic Field Sitework

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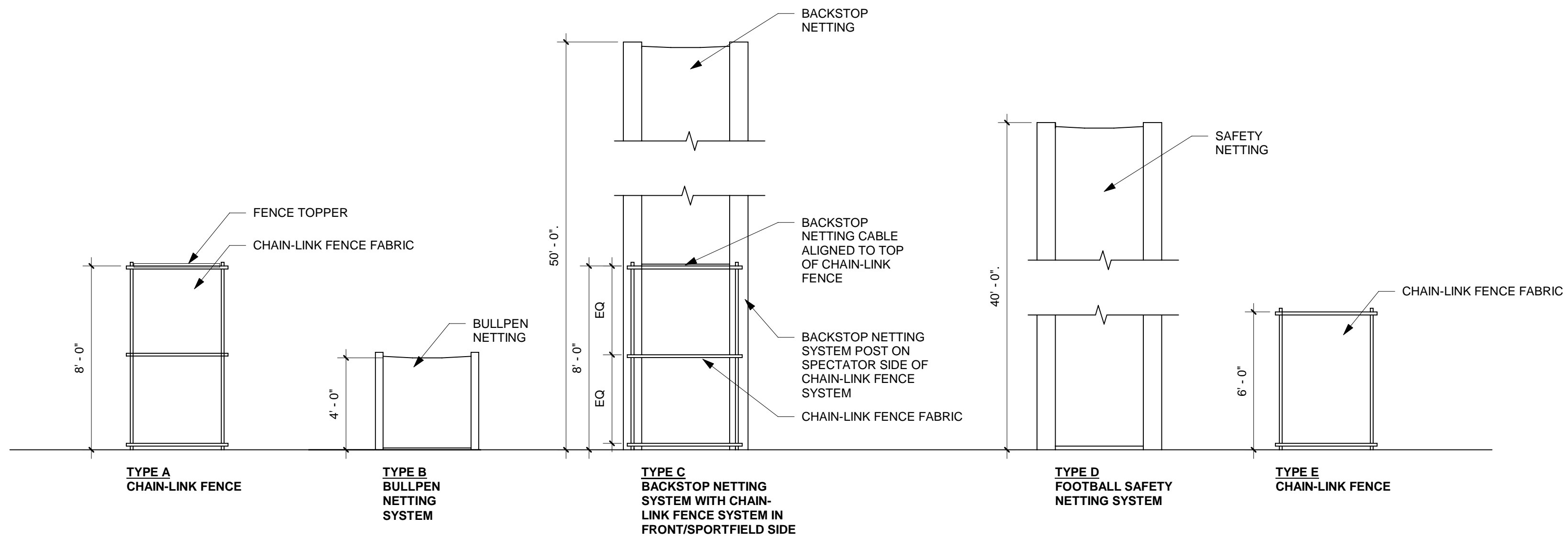
ARCHITECTURAL
SITE DETAILS

22053 **AC2.00**



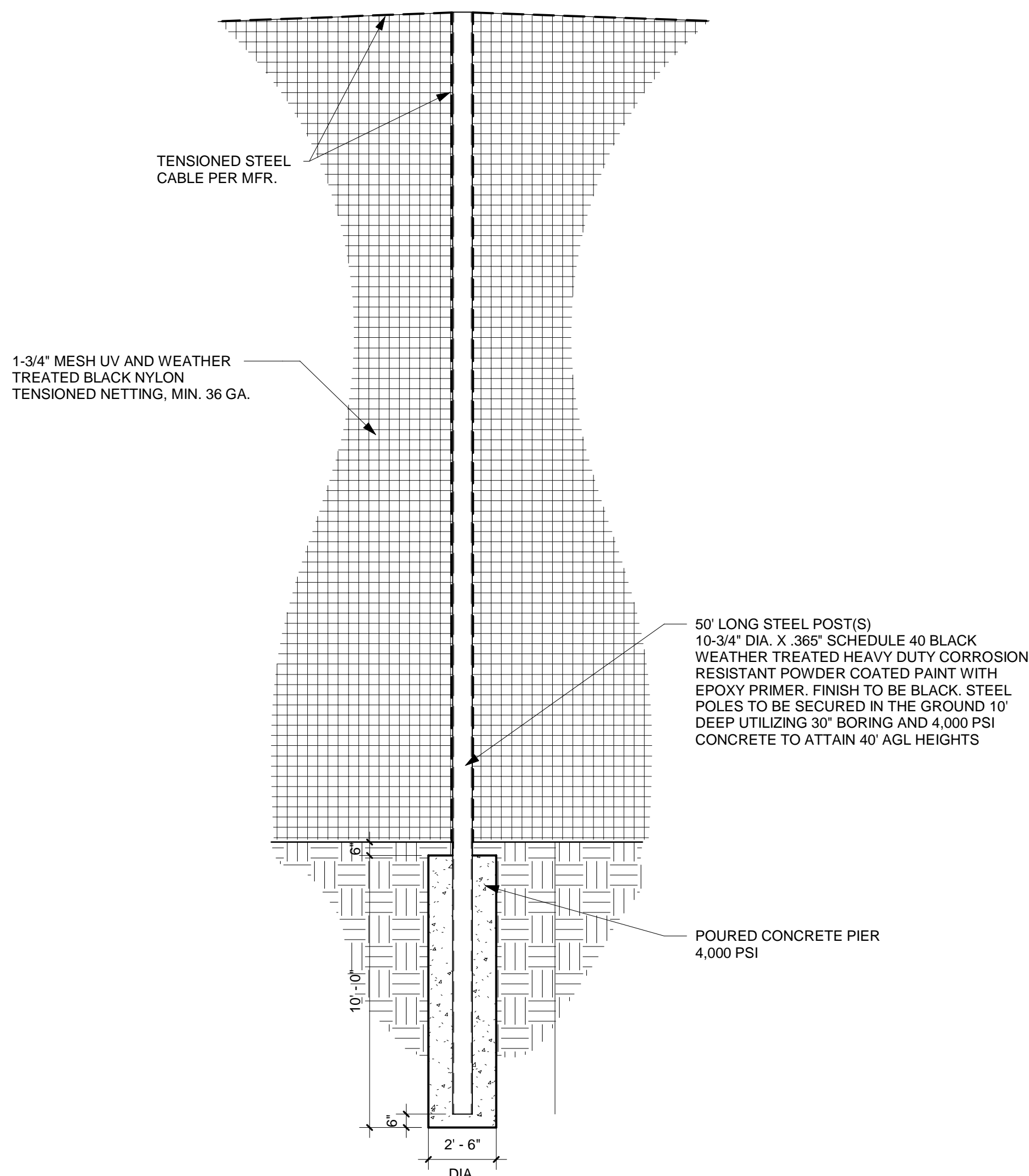
NOTE: FENCE TYPE E AND C (CHAIN-LINK PORTION) SIMILAR

1 TYPICAL FENCE DETAIL - TYPE A
1/2" = 1'-0"

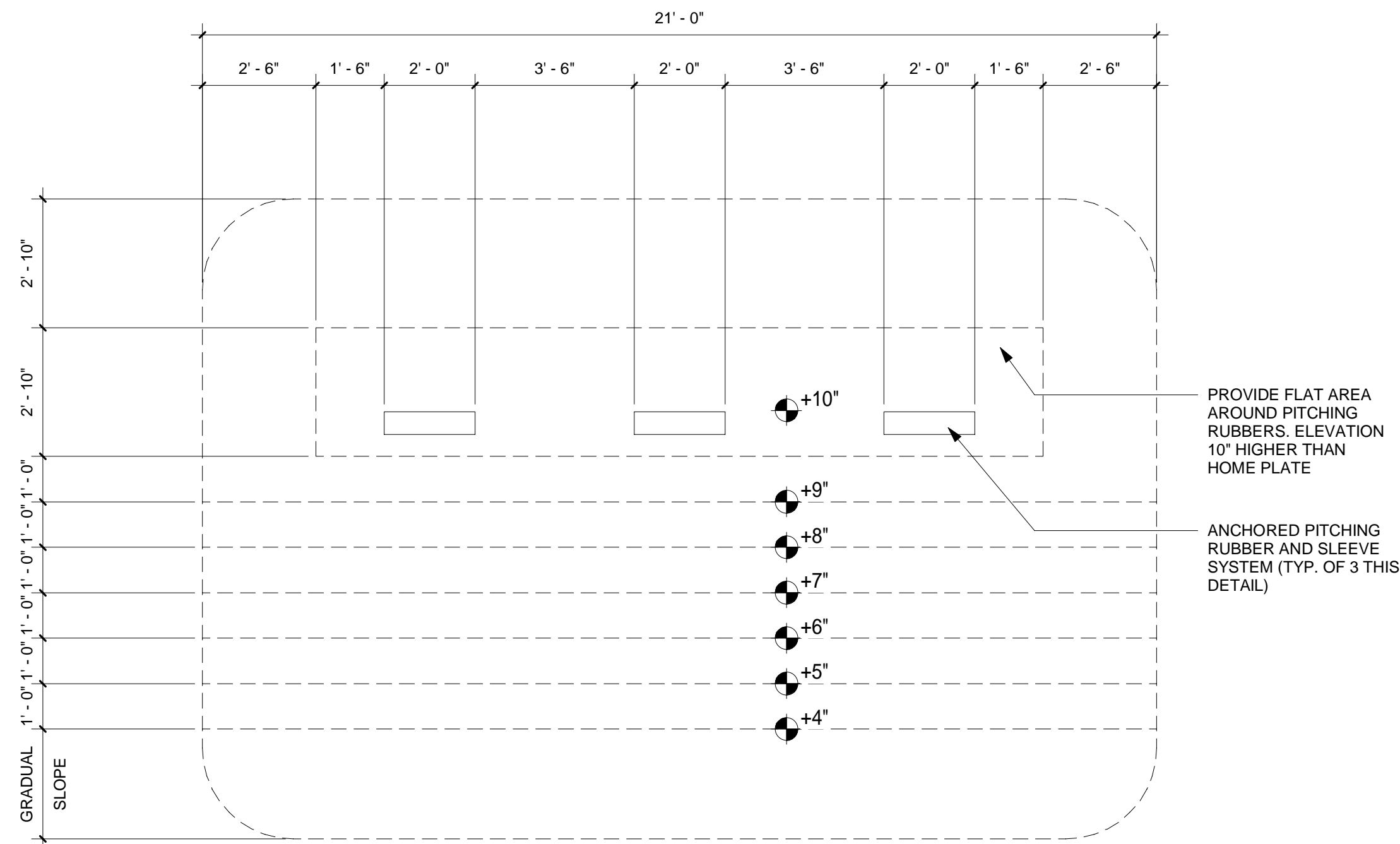


NOTES:
1.) ONLY ONE PANEL OF FRAMING POSTS AND RAILS SHOWN FOR CLARITY
2.) TYPE A AND CHAINLINK PORTION OF TYPE C: VERTICAL POSTS SHALL BE 8'-0" O.C. MAX AND 2" HIGHER THAN TOP RAIL OF FENCE

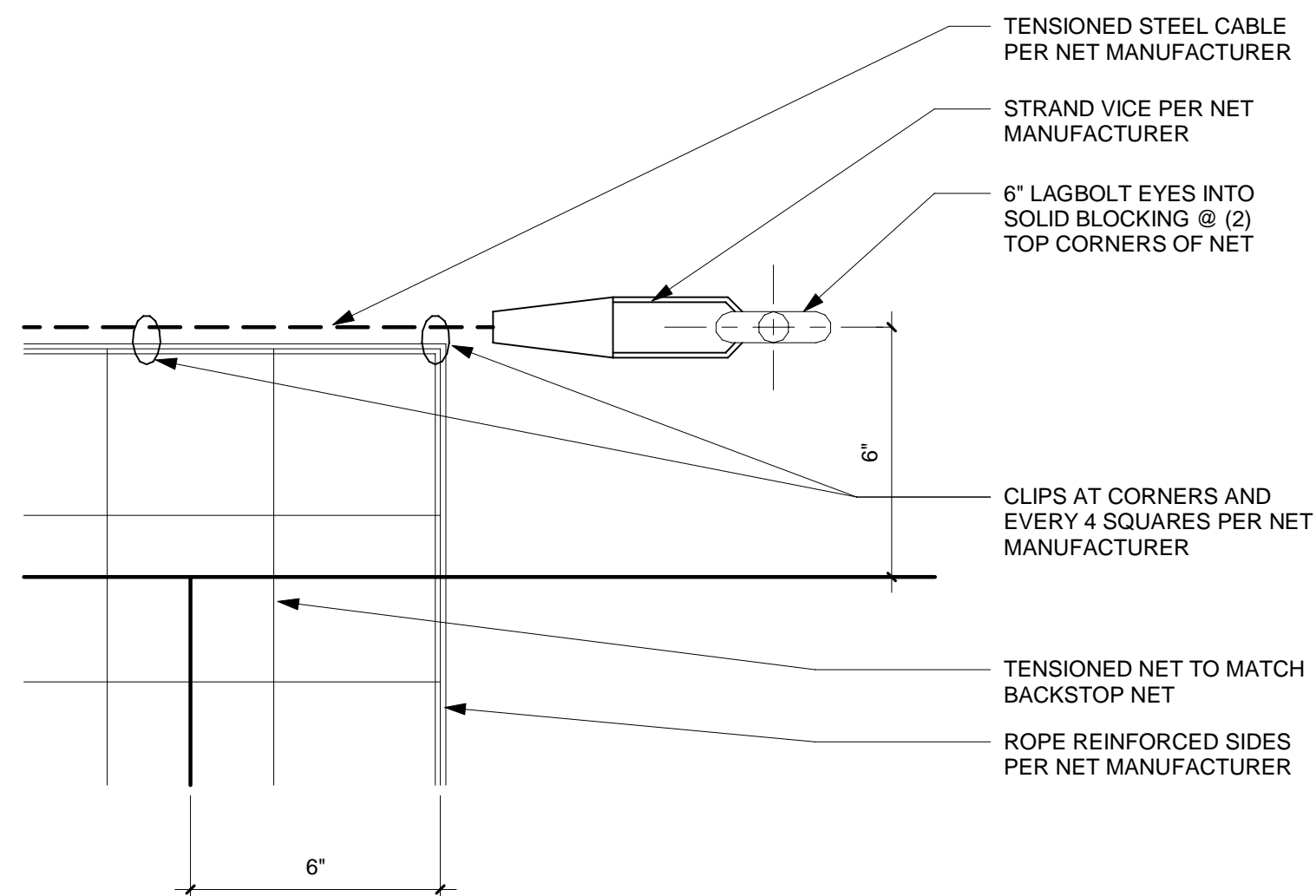
FENCE AND NETTING LEGEND
1/4" = 1'-0"



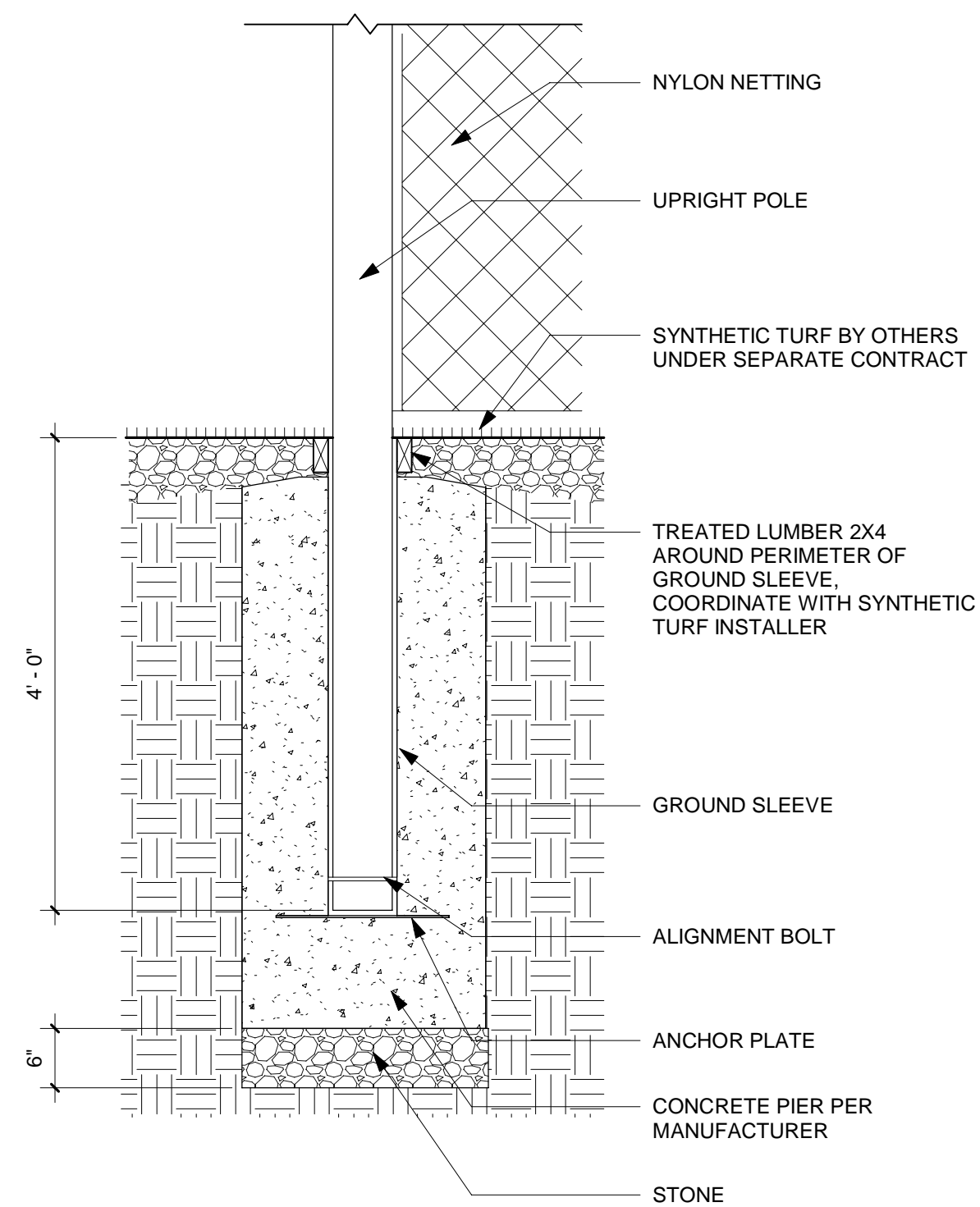
2 TYPICAL NET POST DETAIL
1/4" = 1'-0"



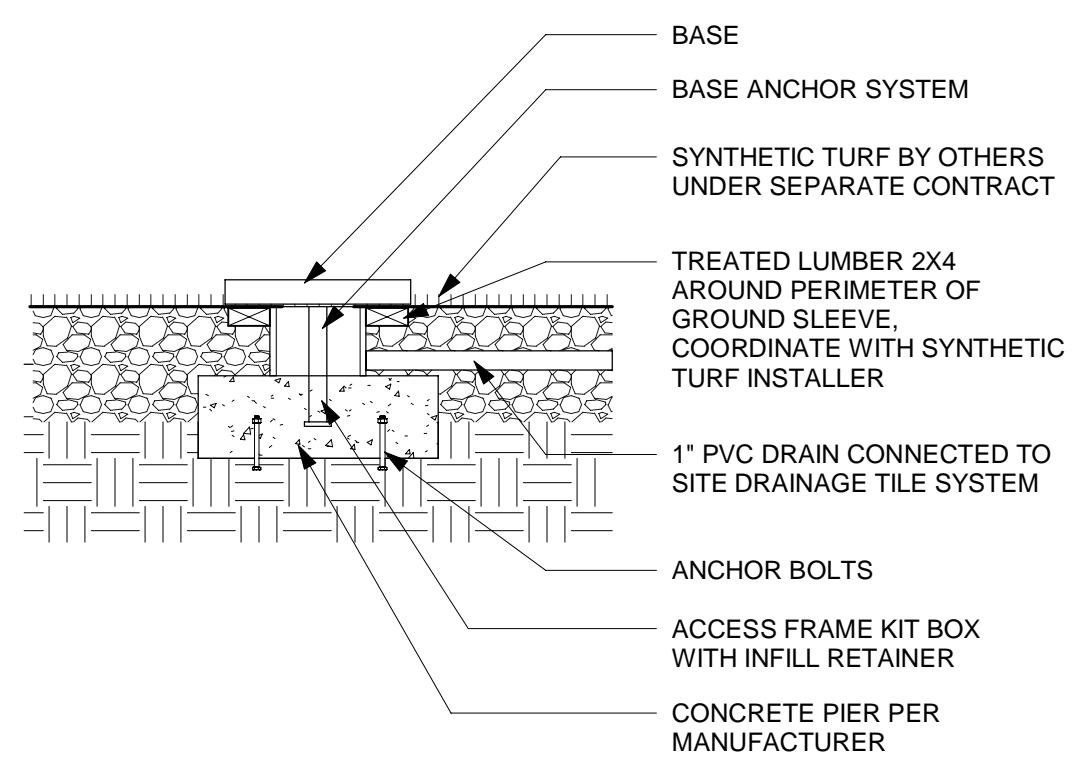
4 BASEBALL BULLPEN DETAIL
3/8" = 1'-0"



3 EYEBOLT DETAIL
3" = 1'-0"



5 FOOTBALL SAFETY NETTING FOOTING DETAIL - TYPE D
3/4" = 1'-0"

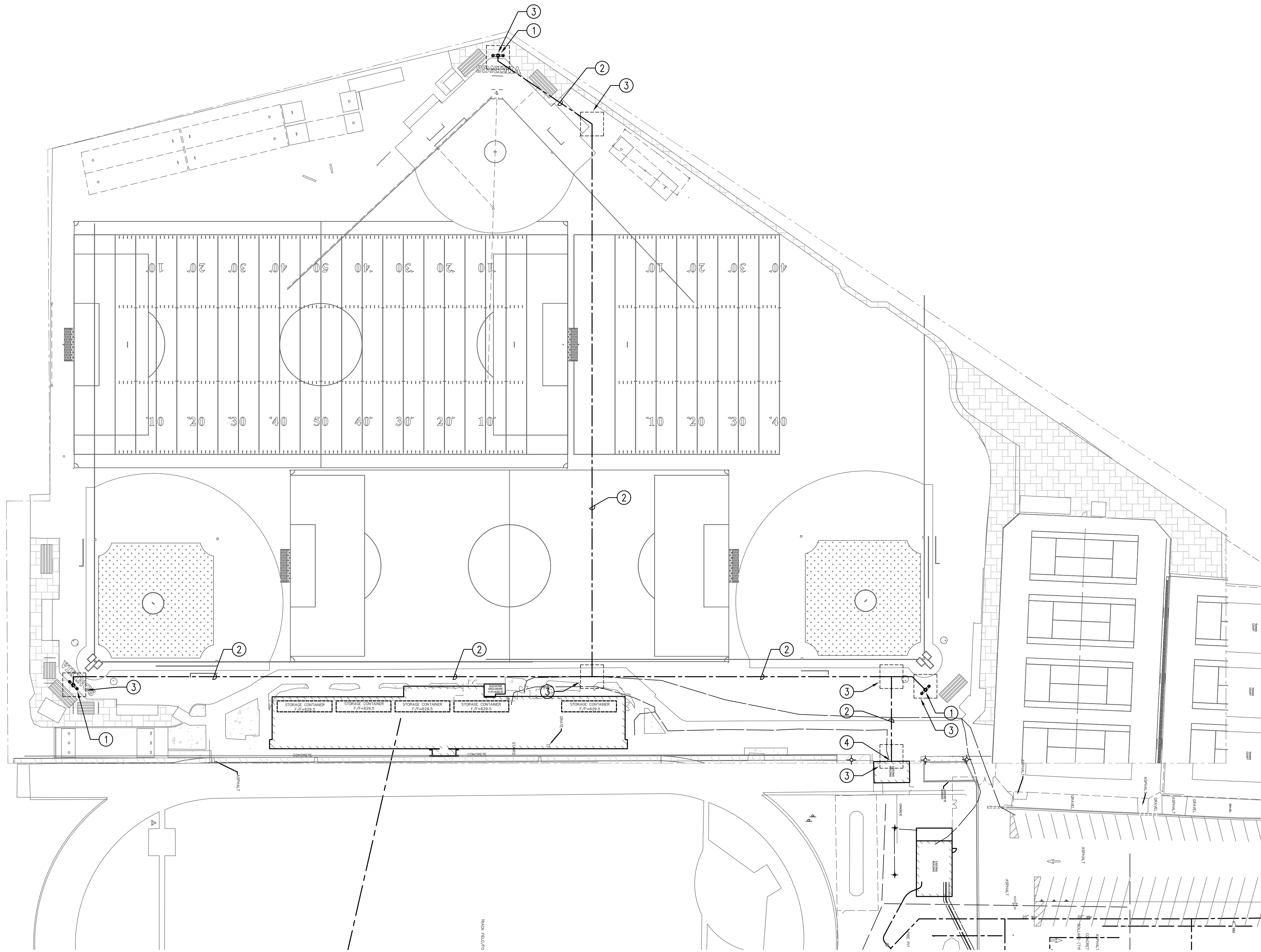


6 BASE ANCHOR DETAIL - TYPICAL
3/4" = 1'-0"

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FENCE/ EQUIPMENT DETAILS

NAME: 1782A10-P1.00.dwg BY: PJK DATE: FEB 17, 2023 TIME: 10:56 AM



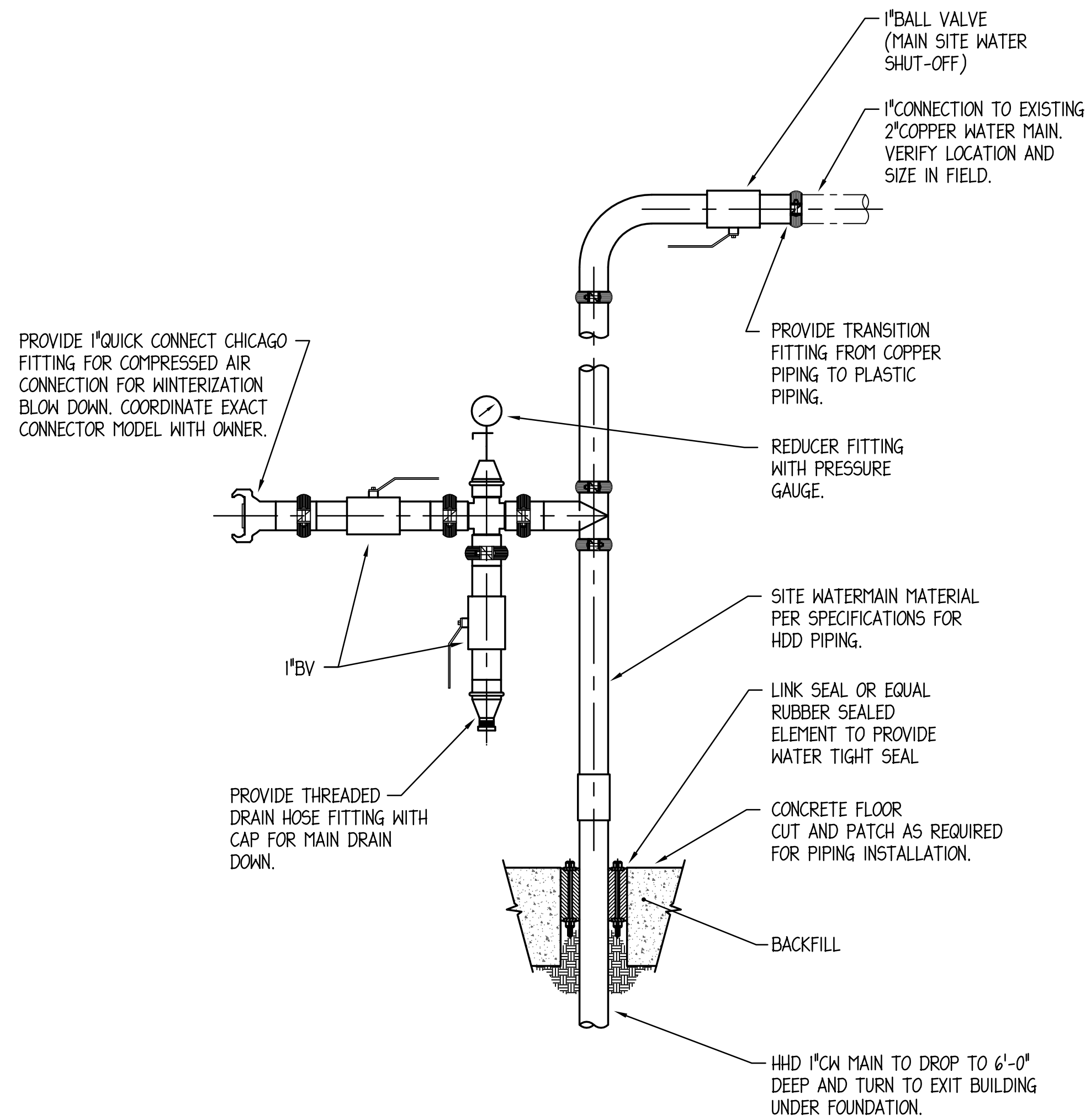
1 PLUMBING SITE PLAN
1" = 40'-0"

PLUMBING SYMBOLS AND ABBREVIATIONS

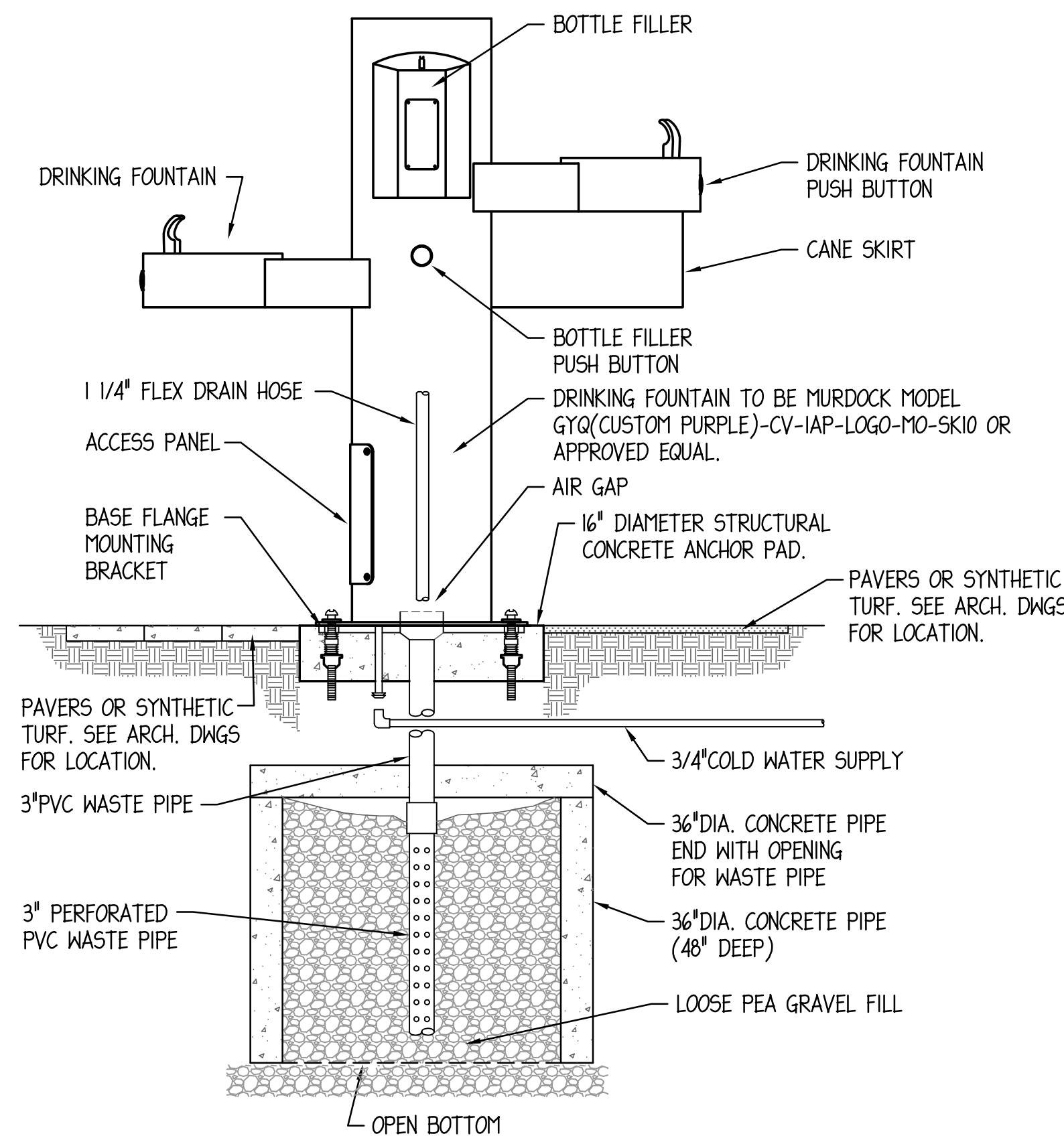
---	WATER MAIN TO BE DEMOLISHED/ABANDONED (OR PER NOTATION)
---	NEW WATER MAIN/CW PIPING
⊗	UNDERGROUND WATER SERVICE VALVE AND BOX
⊕	BALL VALVE
○	PIPE ELBOW (TURNED UP)
⤵	PIPE ELBOW (TURNED DOWN)
○	PIPE TEE DOWN (DROP)
○	PIPE TEE UP
NC	NEW CONNECTION
CI	CAST IRON
CO	CLEANOUT
CW	COLD WATER
DN	DOWN
NC	NEW CONNECTION
TYP.	TYPICAL

DRAWING NOTES: (TYPICAL FOR THIS DRAWING ONLY.)

- DF-1: NEW SELF DRAINING DRINKING FOUNTAIN. SEE DETAILS AND SPECIFICATIONS FOR MODEL AND INSTALLATION REQUIREMENTS. ARCHITECT TO DETERMINE FINAL LOCATION AND ORIENTATION OF DRINKING FOUNTAIN UNIT.
- CONTRACTOR TO HORIZONTAL DIRECTIONALLY DRILL (HDD) NEW 1" WATERMAIN (POTABLE) AT A DEPTH OF 6'-0" OR DEEPER. COORDINATE PIPE ROUTING AND BORE PIT LOCATIONS WITH ARCHITECT PRIOR TO STARTING ANY WORK ON SITE.
- CONTRACTOR TO EXCAVATE AS NEEDED FOR INSTALLATION OF WATERMAIN AND CONNECTIONS TO WATERMAIN. CONTRACTOR TO BED PIPING AND BACKFILL ALL EXCAVATIONS PER SPECIFICATION. CONTRACTOR TO PREPARE AND GRADE FOR FINAL SURFACE. RESTORE FINAL ASPHALT AND GRASS SURFACES. COORDINATE PIPE ROUTING AND BORE PIT LOCATIONS WITH ARCHITECT PRIOR TO STARTING ANY WORK ON SITE.
- CONTRACTOR TO HORIZONTAL DIRECTIONALLY DRILL (HDD) NEW 1" WATERMAIN (POTABLE) TO EXISTING TOILET BUILDING MECHANICAL ROOM. RISE IN MECHANICAL ROOM AND CONNECT TO EXISTING POTABLE WATER SUPPLY TO FIXTURES. PROVIDE WINTERIZATION BLOW DOWN CONNECTIONS AND TRIM AS INDICATED ON DETAIL.



PLUMBING PIPING THROUGH FLOOR
NO SCALE



EXTERIOR DRINKING FOUNTAIN DETAIL
NO SCALE



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Mechanical - Electrical Engineers

1216 Tower Road
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ENGINEERING GROUP LLC

Design Firm Registration Number:
184.004110-0006

Synthetic Turf Athletic Field Sitework

Niles Township High School District 219
7700 Gross Point Rd., Skokie, IL 60077

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PLUMBING SITE
PLAN

P1.00

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NAME: 1782A10-F120.dwg BY: PJK DATE: FEB 17, 2023 TIME: 10:56 AM

SITE PIPING SPECIFICATIONS

HORIZONTAL DIRECTIONAL DRILLING OF PRESSURE MAINS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. SCOPE OF WORK: FURNISH AND INSTALL UNDERGROUND UTILITIES USING THE HORIZONTAL DIRECTIONAL DRILLING (HDD) METHOD OF INSTALLATION, ALSO COMMONLY REFERRED TO AS DIRECTIONAL BORING OR GUIDED HORIZONTAL BORING FOR PRESSURE PIPE. THIS WORK SHALL INCLUDE ALL PIPING SERVICES, EQUIPMENT, MATERIALS, AND LABOR FOR THE COMPLETE AND PROPER INSTALLATION TESTING, RESTORATION OF UNDERGROUND UTILITIES, AND ENVIRONMENTAL PROTECTION AND RESTORATION.

1.2 QUALITY ASSURANCE

A. QUALIFICATIONS

1. DIRECTIONAL DRILLING CONTRACTOR OR SUBCONTRACTOR SHALL HAVE A MINIMUM OF 4-YEARS EXPERIENCE CONSTRUCTING WATER, WASTEWATER, OR RECLAIMED WATER EXPERIENCE TO INCLUDE PIPELINES OF THE SAME OR LARGER DIAMETER AND THE SAME OR GREATER LENGTHS. ALL PIPE AND APPURTENANCES OF SIMILAR TYPE AND MATERIAL SHALL BE FURNISHED BY A SINGLE MANUFACTURER.
2. THE CONTRACTOR'S OPERATIONS SHALL BE IN CONFORMANCE WITH THE DIRECTIONAL CROSSING CONTRACTORS ASSOCIATION (DCCA) PUBLISHED GUIDELINES (LATEST EDITION) AND PIPE MANUFACTURER'S GUIDELINES AND RECOMMENDATIONS.

1.3 SHOP DRAWINGS AND SUBMITTALS

- A. SUBMITTALS SHALL BE SUBMITTED TO THE COUNTY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION IN ACCORDANCE WITH THE GENERAL CONDITIONS AND SPECIFICATIONS SECTION 0300 "SUBMITTALS."

1. WORK PLAN
2. PIPE
3. COUPLINGS
4. HDPE MECHANICAL JOINT ADAPTERS
5. TRAINING AND EXPERIENCE OF DIRECTIONAL BORING MACHINE OPERATOR
6. DIRECTIONAL DRILLING EQUIPMENT SPECIFICATIONS INCLUDING CALIBRATION RECORDS

- B. PRIOR TO BEGINNING WORK, THE CONTRACTOR MUST SUBMIT A WORK PLAN TO THE SCHOOL DISTRICT DETAILING THE PROCEDURE AND SCHEDULE TO BE USED TO EXECUTE THE PROJECT. THE WORK PLAN SHOULD INCLUDE THE FOLLOWING:

1. A DESCRIPTION OF ALL EQUIPMENT TO BE USED
2. DOWN-HOLE TOOLS
3. LIST OF PERSONNEL AND THEIR QUALIFICATIONS AND EXPERIENCE
4. LIST OF SUBCONTRACTORS
5. A SCHEDULE OF WORK ACTIVITY
6. A SAFETY PLAN AND TRAFFIC CONTROL PLAN (IF APPLICABLE)
7. AN ENVIRONMENTAL PROTECTION PLAN AND
8. CONTINGENCY PLANS FOR POSSIBLE PROBLEMS

C. EQUIPMENT

1. THE CONTRACTOR WILL SUBMIT SPECIFICATIONS ON DIRECTIONAL DRILLING EQUIPMENT TO BE USED TO ENSURE THAT THE EQUIPMENT WILL BE ADEQUATE TO COMPLETE THE PROJECT. EQUIPMENT SHALL INCLUDE BUT NOT BE LIMITED TO THE FOLLOWING:

- a. DRILLING RIG
- b. MUD SYSTEM
- c. MUD MOTORS (IF APPLICABLE)
- d. DOWN-HOLE TOOLS
- e. GUIDANCE SYSTEM AND
- f. RIG SAFETY SYSTEMS

PART 2 - PRODUCTS

2.1 GENERAL

- A. ALL MATERIAL SUPPLIED SHALL BE ONE OF THE PRODUCTS SPECIFIED IN APPENDIX D "LIST OF APPROVED PRODUCTS" APPENDED TO THESE TECHNICAL SPECIFICATIONS.

- B. THE DIRECTIONAL DRILLING EQUIPMENT SHALL CONSIST OF THE FOLLOWING:

1. A DIRECTIONAL DRILLING RIG OF SUFFICIENT CAPACITY TO PERFORM THE BORE AND PULLBACK OPERATIONS.
2. A DRILLING FLUID MIXING, DELIVERY, AND RECOVERY SYSTEM OF SUFFICIENT CAPACITY TO COMPLETE THE CROSSING.
3. A DRILLING FLUID RECCLNG SYSTEM TO REMOVE SOLIDS FROM THE DRILLING FLUID SO THAT THE FLUID CAN BE REUSED.
4. A MAGNETIC GUIDANCE SYSTEM TO ACCURATELY GUIDE BORING OPERATIONS.
5. A VACUUM TRUCK OF SUFFICIENT CAPACITY TO HANDLE THE DRILLING FLUID VOLUME AND
6. TRAINED AND COMPETENT PERSONNEL SHALL OPERATE THE SYSTEM.

- C. ALL EQUIPMENT SHALL BE IN GOOD, SAFE OPERATING CONDITION WITH SUFFICIENT SUPPLIES, MATERIALS, AND SPARE PARTS ON HAND TO MAINTAIN THE SYSTEM IN PROPER WORKING ORDER.

2.2DRILLING SYSTEM

- A. THE DIRECTIONAL DRILLING MACHINE SHALL CONSIST OF A HYDRAULICALLY POWERED SYSTEM TO ROTATE, PUSH, AND PULL HOLLOW DRILL PIPE INTO THE GROUND AT A VARIABLE ANGLE WHILE DELIVERING A PRESSURIZED FLUID MIXTURE TO A GUIDABLE DRILL (BORE) HEAD. THE MACHINE SHALL BE ANCHORED TO THE GROUND TO WITHSTAND THE PULLING, PUSHING, AND ROTATING PRESSURE REQUIRED TO COMPLETE THE CROSSING. THE HYDRAULIC POWER SYSTEM SHALL BE SELF-CONTAINED WITH SUFFICIENT PRESSURE AND VOLUME TO POWER DRILLING OPERATIONS. HYDRAULIC SYSTEM SHALL BE FREE OF LEAKS. RIG SHALL HAVE A SYSTEM TO MONITOR AND RECORD MAXIMUM PULLBACK PRESSURE DURING PULLBACK OPERATIONS. THE RIG SHALL BE GROUNDED DURING DRILLING AND PULLBACK OPERATIONS. THERE SHALL BE A SYSTEM TO DETECT ELECTRICAL CURRENT FROM THE DRILLING STRING AND AN AUDIBLE ALARM THAT AUTOMATICALLY SOUNDS WHEN AN ELECTRICAL CURRENT IS DETECTED.

2.3PIPE

- A. PIPE SHALL BE PVC OR HDPE PIPE WITH DUCTILE IRON PIPE OUTSIDE DIAMETERS IN ACCORDANCE WITH ANMA C900 (C905) OR C906 RESPECTIVELY. THE DIMENSION RATIO SHALL BE VERIFIED BY THE CONTRACTOR BASED ON THE PIPE, JOINT, AND MATERIAL PULL STRENGTH REQUIRED FOR THE DIRECTIONAL DRILLING.

B. PVC PIPE

1. PVC RESTRAINED JOINT PIPE SHALL HAVE MAXIMUM DIMENSION RATIOS EQUAL TO THE FOLLOWING TABLE:

TABLE 1

MAXIMUM DIMENSION RATIOS FOR PVC PIPE	
TYPE OF PIPE SYSTEM	MAXIMUM DIMENSION RATIO

WATER

18

1. PVC PIPE SHALL MEET THE REQUIREMENTS OF ANMA C900. THE PIPE SHALL BE JOINED USING SEPARATE COUPLINGS THAT HAVE BEVELED EDGES, BUILT-IN SEALING GASKETS AND RESTRAINING GROOVES OR STEEL RING-AND-PIN GASKETED JOINTS. THE RESTRAINING SPLINES SHALL BE SQUARE AND MADE FROM NYLON 101. PIPE AND COUPLINGS SHALL BE UNDERWRITERS LABORATORY AND FACTORY MUTUAL APPROVED.
2. INSTALLATION CURVATURE: THE PIPELINE CURVATURE SHALL NOT HAVE A RADIUS LESS THAN AS SHOWN IN TABLE 2.

TABLE 2 PVC PIPE DEFLECTION INFORMATION				
PIPE DIAMETER (INCHES)	MINIMUM RADIUS OF CURVATURE (FEET)	OFFSET PER 20-FT LENGTH (INCHES)	DEFLECTION PER 20-FT LENGTH (DEGREES)	
1-4	133	17.25	8.6	
6-8	200	12.00	5.7	

A. HDPE PIPE

1. HDPE PIPE AND RELATED FITTINGS SHALL BE MADE WITH PRIME VIRGIN RESINS EXHIBITING A MINIMUM CELL CLASSIFICATION AS DEFINED IN ASTM D3350 AND MEETING THE PE 3408 CODE DESIGNATION WITH MAXIMUM DIMENSION RATIOS EQUAL TO THE FOLLOWING.

TABLE 3 MAXIMUM DIMENSION RATIOS FOR HDPE PIPE	
TYPE OF PIPE SYSTEM	MAXIMUM DIMENSION RATIO
WATER	11

2. HDPE PIPE 4-INCH AND LARGER NOMINAL DIAMETER SHALL BE JOINED BY MEANS OF ZERO LEAK-RATE BUTT (THERMAL HEAT) FUSION WELDS AND/OR APPROVED FLANGED JOINTS. JOINTS SHALL PROVIDE AXIAL PULLOUT RESISTANCE. PIPE SHALL MEET THE REQUIREMENTS OF ANSI/ANMA C906, AND HAVE AN OUTSIDE DIAMETER DIMENSION OF DUCTILE IRON PIPE. FLANGED JOINTS SHALL NOT BE USED BELOW FINISHED GRADE FOR HORIZONTAL DIRECTIONAL DRILLING APPLICATIONS.

3. HDPE PIPE SHALL HAVE BEEN CONTINUOUSLY MARKED BY THE MANUFACTURER WITH PERMANENT PRINTING INDICATING AT A MINIMUM THE FOLLOWING:

- a. NOMINAL SIZE (INCHES)
- b. DIMENSION RATIO (DR)
- c. PRESSURE RATING (PSI)
- d. TRADE NAME
- e. MATERIAL CLASSIFICATION (PE 3408)
- f. PLANT, EXTRUDER, AND OPERATOR CODES
- g. RESIN SUPPLIER CODE
- h. DATE PRODUCED AND
- i. HDPE PIPE USED FOR PORTABLE WATER MAINS SHALL BEAR THE NSF SEAL OF APPROVAL.

4. HDPE PIPE SHALL BE BLACK IN COLOR WITH PERMANENT COLORED STRIPES EXTRUDED INTO THE PIPE LENGTH OR SHALL BE 1 SOLID-COLOR, PER THE APPLICABLE SERVICE.

TABLE 4 PIPE COLOR	
PIPE USE	COLOR CODING
POTABLE WATER	BLUE

5. INSTALLATION CURVATURE

- a. THE PIPELINE CURVATURE SHALL NOT HAVE A RADIUS LESS THAN AS SHOWN IN TABLE 5.

TABLE 5 HDPE PIPE DEFLECTION INFORMATION		
PIPE DIAMETER (INCHES)	MINIMUM RADIUS OF CURVATURE (FEET)	OFFSET PER 20-FT LENGTH (INCHES)
1-4	23	9.3
6-8	34	6.1

2.4LOCATING WIRE

- A. LOCATING WIRE SHALL BE 10-GAUGE CONTINUOUS SINGLE STRAND SOLID CORE COPPER WIRE WITH NON-METALLIC INSULATION.

- B. COLOR-CODING SHALL BE SIMILAR TO PIPELINE IDENTIFICATION COLORS.

- C. A MINIMUM OF 3 LOCATING WIRES SHALL BE ATTACHED WITH NYLON WIRE TIES AT DIFFERENT RADIAL LOCATIONS AROUND THE PIPE TO ENSURE CONTINUITY IN AT LEAST 1 WIRE SUBSEQUENT TO INSTALLATION. CONTRACTOR SHALL BE REQUIRED TO PROVIDE AS MANY WIRES AS NECESSARY TO MAINTAIN CONTINUITY THROUGHOUT THE LENGTH OF THE DIRECTIONAL BORE. FAILURE OF CONTINUOUS CONTINUITY IN THE LOCATING WIRE SHALL RESULT IN ABANDONMENT AND REINSTALLATION OF THE DIRECTIONAL DRILL, AT THE DISCRETION OF THE COUNTY.

2.5DRILLING FLUIDS

- A. DRILLING FLUIDS SHALL CONSIST OF A MIXTURE OF POTABLE WATER AND GEL-FORMING COLLOIDAL MATERIAL, SUCH AS BENTONITE OR A POLYMER SURFACTANT MIXTURE PRODUCING A SLURRY OF CUSTARD-LIKE CONSISTENCY.

PART 3 - EXECUTION

3.1 PERSONNEL REQUIREMENTS

- A. RESPONSIBLE REPRESENTATIVES OF THE CONTRACTOR AND SUBCONTRACTOR(S) SHALL BE PRESENT AT ALL TIMES DURING DIRECTIONAL DRILLING OPERATIONS. A RESPONSIBLE REPRESENTATIVE AS SPECIFIED HEREIN IS DEFINED AS A PERSON EXPERIENCED IN THE TYPE OF WORK BEING PERFORMED AND WHO HAS THE AUTHORITY TO REPRESENT THE CONTRACTOR IN A ROUTINE DECISION MAKING CAPACITY CONCERNING THE MANNER AND METHOD OF CARRYING OUT THE WORK.

- B. THE CONTRACTOR AND SUBCONTRACTOR(S) SHALL HAVE SUFFICIENT NUMBER OF COMPETENT WORKERS ON THE PROJECT AT ALL TIMES TO ENSURE THE UTILITY PLACEMENT IS MADE IN A TIMELY, SATISFACTORY MANNER. ADEQUATE PERSONNEL FOR CARRYING OUT ALL PHASES OF THE DIRECTIONAL DRILLING OPERATION (WHERE APPLICABLE: TUNNELING SYSTEM OPERATORS, OPERATOR FOR REMOVING SOIL MATERIAL, AND LABORERS AS NECESSARY FOR VARIOUS RELATED TASKS) MUST BE ON THE JOB SITE AT THE BEGINNING OF WORK. A COMPETENT AND EXPERIENCED SUPERVISOR REPRESENTING THE CONTRACTOR OR SUBCONTRACTOR THAT IS THOROUGHLY FAMILIAR WITH THE EQUIPMENT AND TYPE OF WORK TO BE PERFORMED, MUST BE IN DIRECT CHARGE AND CONTROL OF THE OPERATION AT ALL TIMES. IN ALL CASES, THE SUPERVISOR MUST BE CONTINUALLY PRESENT AT THE PROJECT SITE DURING THE DIRECTIONAL DRILLING OPERATION.

3.2WORK PLAN

- A. WORK PLAN SHOULD BE COMPREHENSIVE, REALISTIC, AND BASED ON ACTUAL WORKING CONDITIONS FOR THIS PARTICULAR PROJECT. PLAN SHOULD DOCUMENT THE REQUIREMENTS TO COMPLETE THE PROJECT.

1. CALIBRATION RECORDS FOR GUIDANCE EQUIPMENT SHALL BE INCLUDED. SPECIFICATIONS FOR ANY DRILLING FLUID ADDITIVES THAT THE CONTRACTOR INTENDS TO USE OR MIGHT USE SHALL BE SUBMITTED.

3.3PROCEDURE

- A. THE INSTALLATION OF APPROPRIATE SAFETY AND WARNING DEVICES IN ACCORDANCE WITH THE "FDOT MANUAL ON TRAFFIC CONTROL AND SAFE PRACTICES" SHALL BE COMPLETED PRIOR TO BEGINNING WORK.

3.4INSTALLATION

- A. EROSION AND SEDIMENTATION CONTROL MEASURES AND ON-SITE CONTAINERS SHALL BE INSTALLED TO PREVENT DRILLING MUD FROM SPILLING OUT OF ENTRY AND/OR EXIT PITS. DRILLING MUD SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REQUIREMENTS AND/OR PERMIT CONDITIONS.

1. NO OTHER CHEMICALS OR POLYMER SURFACTANT SHALL BE USED IN THE DRILLING FLUID WITHOUT WRITTEN CONSENT OF THE COUNTY AND AFTER A DETERMINATION IS MADE THAT THE CHEMICALS TO BE ADDED ARE NOT HARMFUL OR CORROSIVE TO THE FACILITY AND ARE ENVIRONMENTALLY SAFE.

- B. PILOT HOLE: PILOT HOLE SHALL BE DRILLED ON BORE PATH WITH NO DEVIATIONS GREATER THAN 2% OF DEPTH OVER A LENGTH OF 100-FEET. IN THE EVENT THAT PILOT HOLE DEVIATE FROM BORE PATH MORE THAN 2% OF DEPTH IN 100-FEET, THE CONTRACTOR SHALL NOTIFY THE COUNTY. THE COUNTY MAY REQUIRE THE CONTRACTOR TO PULLBACK AND RE-DRILL FROM THE LOCATION ALONG BORE PATH BEFORE THE DEVIATION.

- C. REAMING: UPON SUCCESSFUL COMPLETION OF PILOT HOLE, THE CONTRACTOR WILL REAM BOREHOLE TO A MINIMUM OF 25% GREATER THAN OUTSIDE DIAMETER OF PIPE USING THE APPROPRIATE TOOLS. CONTRACTOR WILL NOT ATTEMPT TO REAM AT ONE TIME MORE THAN THE DRILLING EQUIPMENT AND MUD SYSTEM ARE DESIGNED TO SAFELY HANDLE.

- D. PULLBACK: AFTER SUCCESSFUL REAMING BOREHOLE TO THE REQUIRED DIAMETER, CONTRACTOR SHALL PUT THE PIPE THROUGH THE BOREHOLE. IN FRONT OF THE PIPE SHALL BE A SHAWL AND BARREL REAMER TO COMPACT BORE HOLE WALLS. ONCE PULLBACK OPERATIONS HAVE COMPLETED, OPERATIONS MUST CONTINUE WITHOUT INTERRUPTION UNTIL PIPE IS COMPLETELY PULLED INTO BOREHOLE. DURING PULLBACK OPERATIONS, THE CONTRACTOR SHALL NOT APPLY MORE THAN THE MAXIMUM SAFE PIPE PULL PRESSURE AT ANY TIME. A BREAK AWAY HEAD RATED AT THE MAXIMUM SAFE PULL PRESSURE SHALL BE UTILIZED.

- E. AS-BUILT VARIANCE FROM THE DESIGNED BORE PATH SHALL NOT EXCEED ± (PLUS OR MINUS) 1-FOOT IN THE VERTICAL PLANE AND ± 2-FEET IN THE HORIZONTAL PLANE. THE CONTRACTOR SHALL SUBMIT ANY PROPOSED DEVIATIONS FROM THE DESIGN BORE PATH WITH SHOP DRAWINGS.

- F. THE PIPE ENTRY AREA SHALL BE GRADED TO PROVIDE SUPPORT FOR THE PIPE TO ALLOW FREE MOVEMENT INTO THE BOREHOLE. THE PIPE SHALL BE GUIDED IN THE BOREHOLE TO AVOID DEFORMATION OF, OR DAMAGE TO, THE PIPE.

- G. IF UNEXPECTED SUBSURFACE CONDITIONS ARE ENCOUNTERED DURING THE BORE, THE PROCEDURE SHALL BE STOPPED. THE INSTALLATION SHALL NOT CONTINUE UNTIL THE COUNTY HAS BEEN ADVISED.

- H. THE PIPE SHALL BE PULLED BACK THROUGH THE BOREHOLE USING THE WET INSERTION CONSTRUCTION TECHNIQUE. THE PIPE SHALL BE INSTALLED FULL OF WATER.

- I. THE PIPE SHALL BE INSTALLED IN A MANNER THAT DOES NOT CAUSE UPHEAVAL, SETTLEMENT, CRACKING, MOVEMENT OR DISTORTION OF SURFACE FEATURES.

- J. A BORING LOG SHALL BE KEPT WITH HORIZONTAL AND VERTICAL LOCATION EVERY 10- FEET. THE HORIZONTAL LOCATION OF THE BORE SHALL BE MARKED IN THE FIELD DURING THE BORE. THE SURVEYOR SHALL LOCATE THESE MARKS AND INCLUDE THIS INFORMATION WITH THE BORE DEPTHS IN THE RECORD DRAWINGS. THE SURVEYOR MAY MAKE A NOTE ON THE DRAWING PAGE CONTAINING THE DIRECTIONAL DRILL AND PROVIDE AN EXCEPTION FOR THE DIRECTIONAL DRILL ONLY, AS THE DIRECTIONAL DRILL ROUTE CANNOT BE UNCOVERED AND PHYSICALLY LOCATED.

- K. THE PIPE SHALL BE INSTALLED AT A DEPTH OF NO MORE THAN 15- FEET BELOW PAVEMENT, AS MEASURED FROM THE TOP OF PIPE.

3.5FIELD TESTING

A. PVC PIPE

1. PERFORM HYDROSTATIC TESTING FOR LEAKAGE FOLLOWING INSTALLATION IN ACCORDANCE WITH THE APPLICABLE TEST SECTIONS.

B. HDPE PIPE

1. PERFORM HYDROSTATIC TESTING FOR LEAKAGE FOLLOWING INSTALLATION OF THE DIRECTIONAL DRILL.

- a. TEST DURATION: THE TOTAL TEST TIME INCLUDING INITIAL PRESSURIZATION, INITIAL EXPANSION, AND TIME AT TEST PRESSURE MUST NOT EXCEED 8-HOURS. IF THE TEST IS NOT COMPLETED DUE TO LEAKAGE, EQUIPMENT FAILURE, ETC., THE TEST SECTION SHALL BE DEPRESSURIZED AND ALLOWED TO "RELAX" FOR A MINIMUM OF 8-HOURS BEFORE IT IS BROUGHT BACK UP TO TEST PRESSURE. THE TEST PROCEDURE CONSISTS OF THE INITIAL EXPANSION PHASE AND LEAKAGE TEST PHASE.

- b. INITIAL EXPANSION PHASE: DURING THE INITIAL EXPANSION PHASE, THE TEST SECTION IS PRESSURIZED TO THE TEST PRESSURE AND ENOUGH MAKE-UP LIQUID IS ADDED EACH HOUR FOR 3-HOURS TO RETURN TO TEST PRESSURE.

- c. LEAKAGE TEST PHASE: THE LEAKAGE TEST PHASE FOLLOWS IMMEDIATELY AND SHALL BE EITHER 2 OR 3-HOURS IN DURATION. AT THE END OF THE TIME TEST, THE TEST SECTION SHALL BE RETURNED TO TEST PRESSURE BY ADDING A MEASURED AMOUNT OF LIQUID. THE AMOUNT OF MAKE-UP LIQUID ADDED SHALL NOT EXCEED THE VALUES PROVIDED IN TABLE 6 PLUS ALLOWABLE LEAKAGE.

TABLE 6 ALLOWANCE FOR MAKE-UP WATER UNDER PRESSURE*										
TEST DURATION (HOURS)	2	4	6	8	12	16	20	24		

ALLOWANCE/100- FEET OF PIPELINE										
2	0.11	0.25	0.60	1.00	2.30	3.30	5.50	8.90		
4	0.19	0.40	0.90	1.50	3.40	5.50	8.00	13.30		

*APPLIES TO TEST PERIOD AND NOT TO INITIAL EXPANSION PHASE

C. PRESSURE TESTING

1. THE TEST PRESSURE FOR THE PIPE SHALL BE 150-PSI FOR WATER AND RECLAIMED WATER AND 100-PSI FOR WASTEWATER.

D. MANDREL TESTING

1. PERFORM MANDREL TESTING THROUGH THE ENTIRE LENGTH OF THE INSTALLED PIPE. THE MANDREL SIZE SHALL BE 90% OF THE INSIDE DIAMETER OF THE PIPE.

SITEWORK SPECIFICATIONS AND NOTES:

GENERAL NOTES

REFERENCED SPECIFICATIONS AND CODES.

- 1.2 THE STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION (SSRBC), ADOPTED JANUARY 1, 2012 AND SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS, ADOPTED JANUARY 1, 2015 BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION, AND ALL AMENDMENTS THERETO. THE DESIGN MANUAL, HIGHWAY STANDARDS, AND THE CULVERT MANUAL, ALSO PREPARED BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION.

- 1.3 THE STANDARD SPECIFICATION FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION EXCEPT AS MODIFIED HEREIN OR BY ANY PUBLIC AGENCY PERMITS ISSUED FOR THIS WORK.

- 1.4 THE ILLINOIS PROCEDURES AND STANDARD FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL, AND LEPA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL.

- 1.5 ALL REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION.

- 1.6 THE CITED STANDARD SPECIFICATIONS, CODES AND PERMITS, WITH THESE CONSTRUCTION PLANS AND DETAILS, ARE ALL TO BE CONSIDERED PART OF THE WORK. INCIDENTAL ITEMS OR ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE CONSIDERED A PART OF THESE IMPROVEMENTS.

- 1.7 IN CASE OF CONFLICT, THE MORE RESTRICTIVE PROVISION SHALL APPLY.

UTILITY LOCATIONS

- 2.1 IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM OR ESTABLISH THE EXISTENCE OF ALL EXISTING UTILITY FACILITIES AND THEIR EXACT LOCATIONS, AND TO SAFELY SCHEDULE ALL UTILITY RELOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. THE ENGINEER DOES NOT WARRANT THE LOCATION OF ANY EXISTING UTILITIES SHOWN ON THE PLAN. THE CONTRACTOR SHALL CALL J.U.L.I.E. AT 800-892-0023 AND THE VILLAGE OF TINLEY PARK FOR UTILITY LOCATIONS. FOR ADDITIONAL INFORMATION, THE AGENCIES LISTED ON THIS SHEET MAY BE CONTACTED.

- 2.2 IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT WITH LOCATIONS OF THE NEW CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

UTILITY COORDINATION

- 3.1 THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE NATURE AND STATUS OF ALL UTILITY RELOCATION WORK PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THAT CONSTRUCTION OPERATIONS DO NOT INTERFERE WITH THE UTILITY FACILITIES AND RELOCATION WORK. THE SCHEDULE SHOULD REFLECT CONSTRUCTION SEQUENCING WHICH COORDINATES WITH ALL UTILITY RELOCATION WORK. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST THE ORDER OF WORK FROM TIME TO TIME, TO COORDINATE SAME WITH UTILITY RELOCATION WORK, AND SHALL PREPARE REVISED SCHEDULE(S) IN COMPLIANCE THEREWITH AS DIRECTED BY THE OWNER.

COMMENCING CONSTRUCTION

- 4.1 PRIOR TO COMMENCEMENT THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THE WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IN ADDITION, THE CONTRACTOR WILL BE RESPONSIBLE FOR CONSTRUCTION LAYOUT. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTIONS ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.

- 4.2 THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN AND VEHICULAR ACCESS AT ALL TIMES. AT NOT TIME SHALL ACCESS BE DENIED TO PROPERTIES SURROUNDING THE SITE.

- 4.3 ITEMS SPECIFIED FOR REMOVAL, INCLUDING BUT NOT LIMITED TO THEIR, PAVEMENT, SIDEWALK, CURB, CURB AND GUTTER, CULVERTS, ETC. SHALL BE LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. THE CONTRACTOR IS RESPONSIBLE FOR ANY PERMIT REQUIRED FOR SUCH DISPOSAL.

- 4.4 THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY ON THE JOB.

- 4.5 THE CONTRACTOR SHALL COLLECT AND REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIALS, TRASH, OIL AND GREASE RESIDUE, MACHINERY, TOOLS AND OTHER MISCELLANEOUS ITEMS WHICH WERE NOT PRESENT PRIOR TO PROJECT COMMENCEMENT AT NO ADDITIONAL EXPENSE TO THE CHSD 230. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ANY AND ALL PERMITS NECESSARY FOR THE HAULING AND DISPOSAL REQUIRED FOR CLEAN-UP AS DIRECTED BY THE ENGINEER OF CHSD 230.

GENERAL EXCAVATION/UTILITY NOTES

- 5.1 COST FOR SHORING AND BRACING, SHEET PILING, UPRIGHT, STRINGERS, CROSS BRACES, ETC. SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE WORK. NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

- 5.2 THE CONTRACTOR SHALL: PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS; REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS; AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADE; ETC. COMPACTION SHALL BE PROVIDED FOR TEMPORARY PUMPS, SUMPS, SUCTION AND DISCHARGE LINES AND OTHER DEWATERING SYSTEM COMPONENTS NECESSARY TO CONVEY WATER AWAY FROM EXCAVATIONS; CONVEY WATER REMOVED FROM EXCAVATIONS AND RAINWATER TO COLLECTING OR RUN-OFF AREAS ACCEPTABLE TO AUTHORITIES THE VILLAGE OF TINLEY PARK; PROVIDE AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. THE CONTRACTOR SHALL NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.

- 5.3 UNDERGROUND WORK SHALL INCLUDE TRENCHING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS. FITTINGS AND ACCESSORIES NECESSARY TO COMPLETE THE WORK MAY NOT BE SPECIFIED, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE IMPROVEMENTS.

- 5.4 TRENCH BACKFILL WILL BE REQUIRED FOR THE FULL TRENCH DEPTH WITHIN TWO (2) FEET OF PROPOSED OR EXISTING PAVEMENTS, UTILITIES, DRIVEWAYS, AND SIDEWALKS. THE TRENCH BACKFILL SHALL CONSIST OF GRANULAR MATERIAL MEETING SSRBC CA-6 GRADATION, UNLESS NOTED OTHERWISE. THE TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH SSRBC SPECIFICATIONS. JETTING WITH WATER SHALL NOT BE PERMITTED.

EARTHWORK NOTES

GENERAL

- 6.1 THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE UNLESS NOTED OTHERWISE.

- 6.2 THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION, AND PREVENT STORMWATER FROM RUNNING INTO OR STANDING IN EXCAVATED AREAS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR WORK RESULTING FROM CONTRACTOR'S FAILURE TO PROVIDE PROPER DRAINAGE. GRADED AREAS SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION AND TRAFFIC.

- 6.3 THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE "SOIL EROSION AND SEDIMENTATION CONTROL MEASURES". THE INITIAL ESTABLISHMENT OF EROSION CONTROL AND THE PLACEMENT OF SILT AND FILTER FENCING, ETC. TO PROTECT ADJACENT PROPERTIES, WETLANDS, ETC. SHALL OCCUR BEFORE ANY WORK BEGINS.

- 6.4 EXCESS MATERIALS SHALL BE COMPLETELY REMOVED FROM THE CONSTRUCTION SITE AND LEGALLY DISPOSED OF OFF-SITE BY THE CONTRACTOR.

TOP SOIL

- 7.1 TOPSOIL SHALL BE REMOVED WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR STRUCTURAL FILL MATERIAL. EXISTING VEGETATION SHALL BE REMOVED PRIOR TO STRIPPING TOPSOIL OR FILLING AREAS.

- 7.2 TOPSOIL SHALL BE PLACED IN DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED, AND THOSE AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL. PROVIDE NECESSARY EROSION CONTROL MEASURES FOR STOCKPILE.

- 7.3 TOPSOIL STOCKPILE FOR RESPAED SHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TOP SOIL AND CLAY. THE TRANSITIONAL MATERIAL SHALL BE USED IN NON-STRUCTURAL FILL AREAS OR DISPOSED OF OFF-SITE.

- 7.4 TOPSOIL RESPAED SHALL INCLUDE HAULING AND SPREADING 6"OF TOPSOIL OVER AREAS TO BE LANDSCAPED WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER.

- 7.5 MODERATE COMPACTION IS REQUIRED IN NON-STRUCTURAL FILL AREAS.

EXCAVATION/EMBANKMENT

- 8.1 SUB-GRADE SHALL BE GRADED TO WITHIN A TOLERANCE OF 0.1 FEET + OF THE PLAN SUBGRADE ELEVATIONS WHILE MAINTAINING PROPER DRAINAGE. THE + TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIALS SHALL "BALANCE" DURING THE FINE GRADING OPERATION.

- 8.2 FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS THAT SHALL NOT EXCEED EIGHT (8) INCHES IN THICKNESS, AND THE WATER CONTENT SHALL BE ADJUSTED IN ORDER TO ACHIEVE REQUIRED COMPACTION. STRUCTURAL FILL MATERIAL MAY BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL, HOWEVER, THIS (6) INCHES OF THE PLAN FINISHED GRADE ELEVATION. IN AREAS REQUIRING STRUCTURAL FILL, HOWEVER, THIS MATERIAL SHALL NOT BE PLACED OVER TOPSOIL OR OTHER UNSUITABLE MATERIALS UNLESS SPECIFICALLY DIRECTED BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.

- 8.3 COMPACTION OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE TO AT LEAST 98% OF THE MODIFIED PROCTOR DRY DENSITY WITHIN PROPOSED PAVEMENT AREAS, SIDEWALK, ETC. COMPACTION SHALL BE AT LEAST 95% OF THE MODIFIED PROCTOR WITHIN PROPOSED BUILDING PAD AREAS.

- 8.4 UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TOPSOIL DEPTHS AND THE PROPOSED SUBGRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.

PAVING NOTES

GENERAL

- 9.1 PAVING WORK INCLUDES FINAL SUBGRADE SHAPING, PREPARATION AND COMPACTION; PLACEMENT OF SUB-BASE OR BASE COURSE MATERIALS; AND FINAL CLEAN-UP AND ALL RELATED WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR BITUMINOUS BINDER AND/OR SURFACE COURSES; FORMING, FINISHING AND CURING CONCRETE PAVEMENT, CURBS AND WALKS