

INDIAN HILL PARK SITE IMPROVEMENTS PHASE II

CITY OF WORCESTER, MASSACHUSETTS

APRIL, 2022

DESIGN AND CONSTRUCTION DOCUMENTS



The City of
WORCESTER

INDEX OF DRAWINGS

EXISTING CONDITIONS PLAN	L-101
GENERAL NOTES SHEET	L-102
DEMOLITION PLAN	L-103
SITE LAYOUT PLAN	L-104
GRADING AND DRAINAGE PLAN	L-105
LANDSCAPE PLAN	L-106
LANDSCAPE NOTES AND DETAILS	L-107
LANDSCAPE DETAILS	L-108-L-114
IRRIGATION PLANS AND DETAILS	IR-1.0-IR-2.1
ELECTRICAL PLANS AND DETAILS	E-101-E-405



LOCUS MAP - 1:200

Map Source - MSN Maps Microsoft Corporation 2011

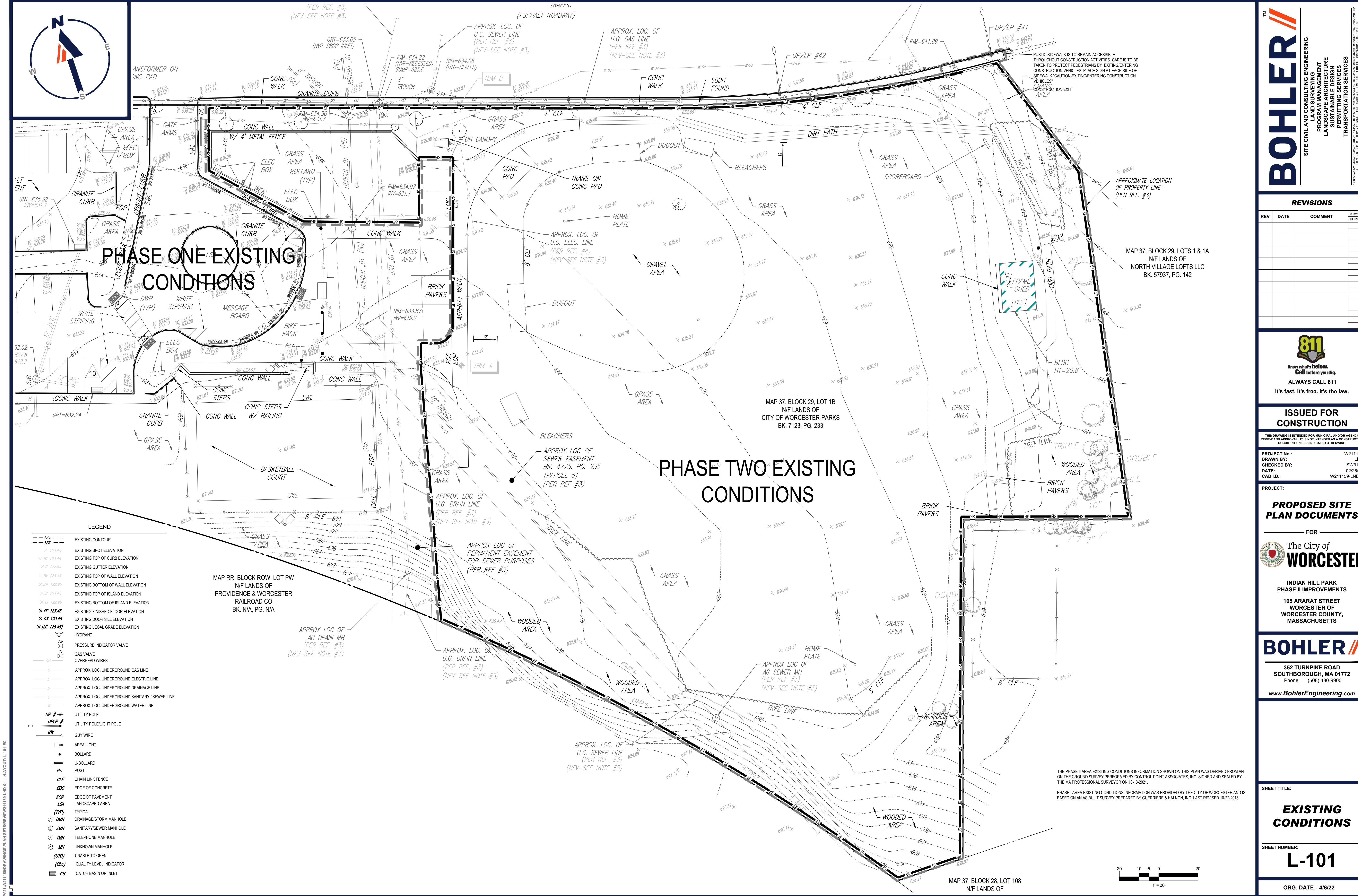
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BOHLER

SITE CIVIL AND CONSULTING ENGINEERING

PROGRAM MANAGEMENT

LANDSCAPE ARCHITECTURE

SUSTAINABLE DESIGN

PERMITTING SERVICES

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REVISIONS				
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PROJECT No.: W211159
DRAWN BY: LEC
CHECKED BY: SW/LDF
DATE: 02/25/22
CAD ID: W211159-LND-0

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR



INDIAN HILL PARK
PHASE II IMPROVEMENTS
165 ARARAT STREET
WORCESTER OF
WORCESTER COUNTY,
MASSACHUSETTS

BOHLER

352 TURNPIKE ROAD
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SHEET TITLE:

EXISTING CONDITIONS

SHEET NUMBER:

L-101

ORG. DATE - 4/6/22

THE PHASE I AREA EXISTING CONDITIONS INFORMATION SHOWN ON THIS PLAN WAS DERIVED FROM AN ON THE GROUND SURVEY PERFORMED BY CONTROL POINT ASSOCIATES, INC. SIGNED AND SEALED BY THE MA PROFESSIONAL SURVEYOR ON 10-13-2021.

PHASE I AREA EXISTING CONDITIONS INFORMATION WAS PROVIDED BY THE CITY OF WORCESTER AND IS BASED ON AN AS BUILT SURVEY PREPARED BY GUERRIERE & HALNON, INC. LAST REVISED 10-22-2019

GENERAL NOTES

CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.

1. THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:
 - TOPOGRAPHIC AND UTILITY SURVEY PREPARED FOR CITY OF WORCESTER-PARKS BY CONTROL POINT ASSOCIATES INC., ISSUED ON 09-16-2021.

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HE/SHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS CONTRACTORS RESPONSIBILITY.

2. ALL ACCESSIBLE (AKA ADA) PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12101 et seq. AND 42 U.S.C. § 4151 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.

3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.

4. THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.

5. ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.

6. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY BETWEEN THE GEOTECHNICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

7. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL, SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

8. ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.

9. CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.

10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE ENTIRE SITE PLAN AND THE LATEST ARCHITECTURAL PLANS (USE, STRUCTURE, ELEVATION, FINISHING AND FINISHES) AND THE LATEST UTILITY PLANS (USE, STRUCTURE, ELEVATION, FINISHING AND FINISHES, IF APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST.

11. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.
12. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH STANDARD PRACTICES) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSESS THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.

13. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. WHICH ARE TO REMAIN EITHER FOR AN INITIAL PHASE OF THE PROJECT OR AS PART OF THE FINAL CONDITION. CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.

14. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL INTERSECTIONS, TRAFFIC CONTROL EQUIPMENT, DAMAGED DRAINAGE AND UTILITIES, AND ANY OTHER DAMAGE TO ANY ADJACENT PAVEMENT, STRUCTURES, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

15. ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

16. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICTED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

17. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER'S DUTIES AND RESPONSIBILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES AT ANY TIME.

18. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKERS' COMPENSATION INSURANCE, EMPLOYERS' LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING, AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH EVIDENCE OF INSURANCE AS EVIDENCE OF COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LATEST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.

19. BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION SHOWN IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS, WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE DRAWING, WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION, IN WRITING, BY THE CONTRACTOR. BOHLER ENGINEERING WILL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

20. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND COMPLIANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE IN NOTE 19 FOR JOB SITE SAFETY.

21. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEYS' FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SUCH DEVIATIONS.

22. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTORS PRICE.

23. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.

24. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTORS FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.

25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, IN STRICT ACCORDANCE WITH THE APPROVED PLANS) AND DESIGN AND FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND/OR PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDINGS, UNLESS NOTED OTHERWISE.

27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.

28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURERS STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

29. CONTRACTOR IS RESPONSIBLE TO MAINTAIN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH EPA REQUIREMENTS FOR SITES WHERE ONE (1) ACRE OR MORE (UNLESS THE LOCAL JURISDICTION REQUIRES FEWER) IS DISTURBED. CONSTRUCTION ACTIVITIES THAT CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE.

30. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF "PROFESSIONAL OPINION" REGARDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERGOING PROFESSIONAL'S KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROFESSIONAL PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

GENERAL GRADING & UTILITY PLAN NOTES

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. EXISTING UTILITIES AND ALL OTHER UTILITY SERVICE CONNECTIONS ON POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED, IN WRITING, TO THE ENGINEER. CONSTRUCTION MUST COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTORS FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITIES TO DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.

4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.

5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR MUST PROVIDE THE OWNER WITH WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

6. THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.

7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/INSTALLATIONS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION OF UTILITIES/SEWERAGE WITH THE ARCHITECT, IN WRITING, IMMEDIATELY. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-IN CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY SERVICE, WHERE A CONFLICTS EXISTS BETWEEN THESE SITE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.

8. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE FULL AND COMPLETE WORKING SERVICE. CONTRACTOR MUST CONTACT THE APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VALVE, PRIOR TO COMMENCING CONSTRUCTION.

9. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE, TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.

10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING AND REPLACING UNSUITABLE MATERIALS WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBBASE MATERIAL FOR SIDEWALKS, CURBS, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/ENGINEER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILL, AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.

11. ALL FILL, COMPACTATION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS. WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS, FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTATION AND BACKFILL. FURTHER, CONTRACTOR IS FULLY RESPONSIBLE FOR EARTHWORK BALANCE.

12. THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS, AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION, AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA AS WELL AS ANY OTHER AGENCIES WITH JURISDICTION OVER THIS PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FOR EXCAVATION AND AS RELATED FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.

13. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUITS JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.

14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY TRENCH/ADJUST TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REGULATIONS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

15. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEViate FROM THE INFORMATION CONTAINED IN THE UTILITY PLAN. THIS RECORD MUST BE KEPT ON A CLEAN COPY OF THE DRAINAGE OR UTILITY PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER AT THE COMPLETION OF WORK.

16. WHEN THE SITE IMPROVEMENT PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM SEWER, SANITARY SEWER, UTILITIES, AND IRRIGATION LINE, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST MAINTAIN RECORDS OF ALL UTILITIES AND TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.

17. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. CONTRACTOR MUST CONFIRM AND ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS, 1.0% ON ALL CONCRETE SURFACES, AND 1.5% MINIMUM ON ASPHALT (EXCEPT WHERE ADA REQUIREMENTS OR EXISTING TOPOGRAPHY LIMIT GRADES), TO PREVENT ponding. CONTRACTOR MUST IMMEDIATELY NOTIFY, IN WRITING, TO THE ENGINEER, ANY DISCREPANCIES THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER NOTIFICATION, MUST BE AT THE CONTRACTORS OWN RISK AND, FURTHER, CONTRACTOR SHALL INDEMNIFY, DEFEND AND HOLD HARMLESS THE DESIGN ENGINEER FOR ANY DAMAGES, COSTS, INJURIES, ATTORNEYS' FEES AND THE LIKE WHICH RESULT FROM SAME.

18. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 1' ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD ADJUST TO CREATE A MINIMUM OF 0.75% GUTTER GRADE ALONG CURB FACE. IT IS CONTRACTOR'S OBLIGATION TO ENSURE THAT DESIGN ENGINEER APPROVES FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION OF SAME.

19. IN THE EVENT OF DISCREPANCIES AND/OR CONFLICTS BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE AND CONTROL. CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER, IN WRITING, OF ANY DISCREPANCIES AND/OR CONFLICTS.

20. CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING ANY WORK.

21. WHERE RETAINING WALLS (WHETHER OR NOT THEY MEET THE JURISDICTIONAL DEFINITION) ARE IDENTIFIED ON PLANS, ELEVATIONS IDENTIFIED ARE FOR THE EXPOSED PORTION OF THE WALL. WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PREPARED BY THE APPROPRIATE PROFESSIONAL LICENSED IN THE STATE WHERE THE CONSTRUCTION OCCURS.

22. STORM DRAINAGE PIPE UNLESS INDICATED OTHERWISE, ALL STORM SEWER PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILT TIGHT JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHITO M24 AND TYPE 5 (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SILT TIGHT JOINT. PVC PIPE FOR FLOOR DRAIN CONNECTION MUST BE SDR 26 OR SCHEDULE 40 UNLESS INDICATED OTHERWISE.

23. IF APPLICABLE UNLESS INDICATED OTHERWISE ON THE DRAWINGS, SANITARY SEWER PIPE SHALL BE AS FOLLOWS:
 - FOR PIPES LESS THAN 12 FT. DEEP: POLYVINYL CHLORIDE (PVC) SDR 35 PER ASTM D3034
 - FOR PIPES MORE THAN 12 FT. DEEP: POLYVINYL CHLORIDE (PVC) SDR 26 PER ASTM D2404
 - FOR PIPE WITH 10 FT. OF BUILDING, PRE-APPROVAL SHALL COMPLY WITH APPLICABLE BUILDING AND PLUMBING CODES. CONTRACTOR TO VERIFY WITH LOCAL OFFICIALS.

24. STORM AND SANITARY SEWER PIPE LENGTHS INDICATED ARE NOMINAL AND MEASURED CENTER OF INLET AND/OR MANHOLES STRUCTURE TO CENTER OF STRUCTURE.

25. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON PRELIMINARY ARCHITECTURAL PLANS. CONTRACTOR IS RESPONSIBLE TO AND FOR VERIFYING LOCATIONS OF SAME BASED ON FINAL ARCHITECTURAL PLANS.

26. SEWERS CROSSING STREAMS AND/OR LOCATION WITHIN 10 FEET OF THE STREAM EMBANKMENT, OR WHERE SITE CONDITIONS SO INDICATE, MUST BE CONSTRUCTED OF STEEL, REINFORCED CONCRETE, DUCTILE IRON OR OTHER SUITABLE MATERIAL. SEWERS CONVEYING SANITARY FLOW COMBINED SANITARY AND STORMWATER FLOW OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THE GOVERNMENT AGENCY WITH JURISDICTION OVER SAME.

27. WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER MUST BE PROVIDED.

28. WATER MAIN PIPING MUST BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER PURVEYOR. IN THE ABSENCE OF SUCH REQUIREMENTS, WATER MAIN PIPING MUST BE CEMENT-UNED DUCTILE IRON (DIP) MINIMUM CLASS 52 THICKNESS, ALL PIPE AND APPURTENANCES MUST COMPLY WITH THE APPLICABLE AWWA STANDARDS IN EFFECT AT THE TIME OF APPLICATION.

29. CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SEWER, WATER AND STORM SYSTEMS, MUST BE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL, COUNTY AND/OR DOT DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME.

30. LOCATION OF PROPOSED UTILITY POLE RELIEF IS AT THE SOLE DISCRETION OF UTILITY COMPANY.

31. CONSULTANT IS NEITHER LIABLE NOR RESPONSIBLE FOR ANY SUBSURFACE CONDITIONS AND THEREFORE, SHALL HAVE NO LIABILITY FOR ANY HAZARDOUS MATERIALS, HAZARDOUS SUBSTANCES, OR POLLUTANTS ON, ABOUT OR UNDER THE PROPERTY.

GENERAL DEMOLITION NOTES

1. THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY:

- TOPOGRAPHIC AND UTILITY SURVEY PREPARED FOR CITY OF WORCESTER-PARKS BY CONTROL POINT ASSOCIATES INC., ISSUED ON 09-16-2021.

2. CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 et seq.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.

3. BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.

4. THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION, ONLY, REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.

5. CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE FEDERAL, STATE AND LOCAL SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REGULATIONS, STATUTES, ORDINANCES AND CODES.

6. PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR/TO:

- A OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES WITH JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK, AND DEMOLITION WORK.

- B NOTIFYING, AT A MINIMUM, THE MUNICIPAL ENGINEER, DESIGN ENGINEER, AND LOCAL SOIL CONSERVATION DISTRICT, 72 HOURS PRIOR TO THE START OF WORK.

- C INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO SITE DISTURBANCE.

- D IN ACCORDANCE WITH STATE LAW, THE CONTRACTOR MUST CALL THE STATE ONE-CALL DAMAGE PROTECTION SYSTEM FOR UTILITY MARKOUT, IN ADVANCE OF ANY EXCAVATION.

- E LOCATING AND PROTECTING ALL UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN AND ADJACENT TO THE LIMITS OF PROJECT ACTIVITIES. THE CONTRACTOR MUST USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.

- F PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE UTILITIES AND SYSTEMS THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.

- G ARRANGING FOR AND COORDINATING WITH THE APPLICABLE UTILITY SERVICE PROVIDER(S) FOR THE TEMPORARY OR PERMANENT TERMINATION OF SERVICE REQUIRED BY THE PROJECT PLANS AND SPECIFICATIONS. THE CONTRACTOR MUST PROVIDE THE UTILITY ENGINEER AND OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTIONAL AND UTILITY COMPANY REQUIREMENTS.

- H COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES. WORK REQUIRED TO BE DONE "OFF-PEAK" IS TO BE DONE AT NO ADDITIONAL COST TO THE OWNER.

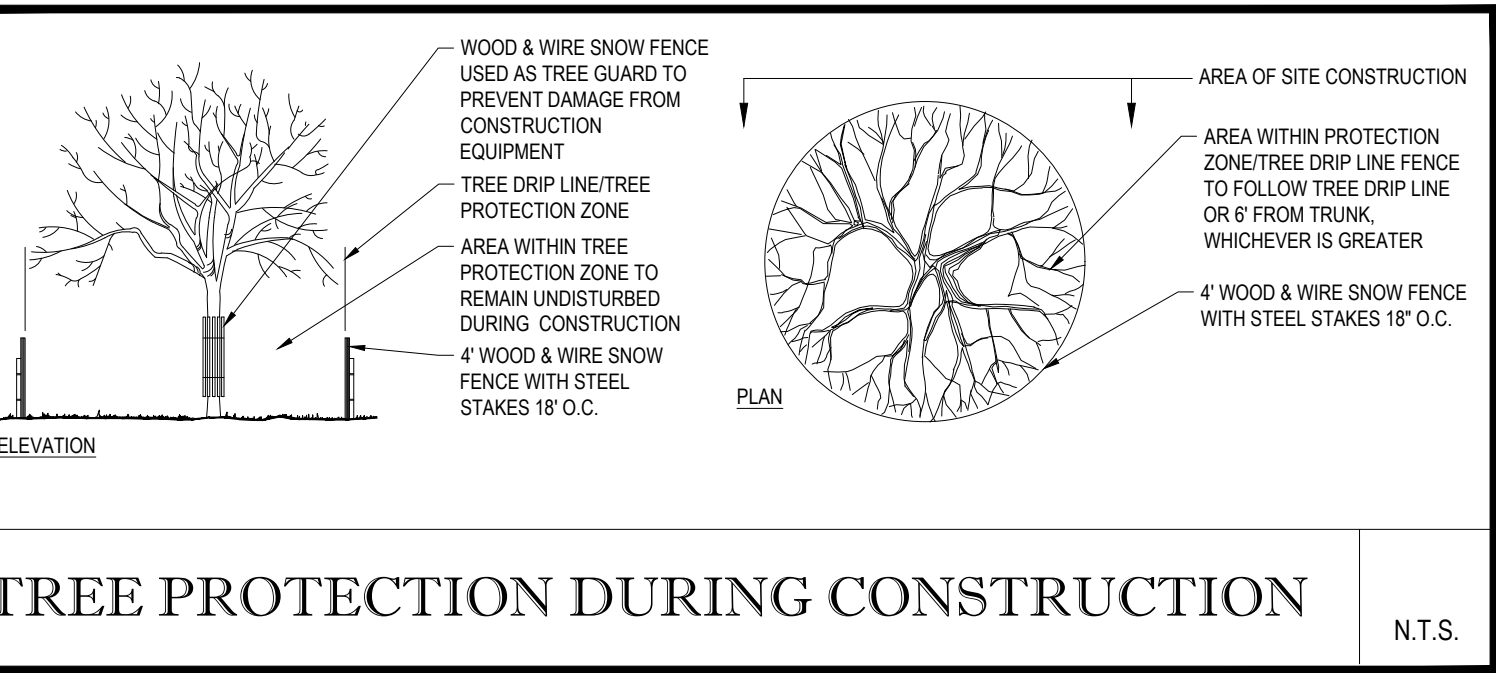
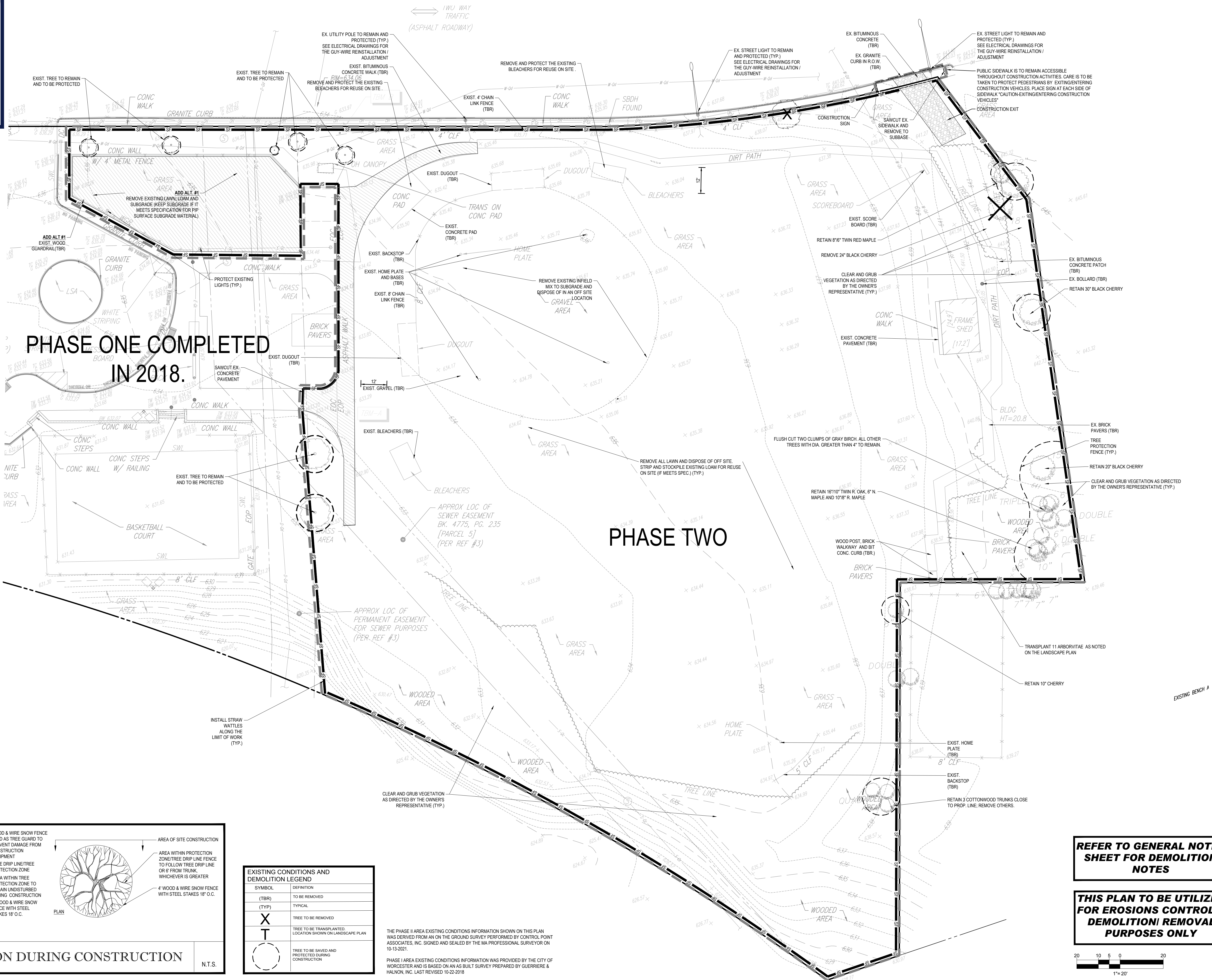
- I IN THE EVENT THE CONTRACTOR DISCOVERS ANY HAZARDOUS MATERIAL, THE REMOVAL OF WHICH IS NOT ADDRESSED IN THE PROJECT PLANS AND SPECIFICATIONS, THE CONTRACTOR MUST IMMEDIATELY CEASE ALL WORK AND IMMEDIATELY NOTIFY THE OWNER AND ENGINEER OF THE DISCOVERY OF SUCH MATERIALS.

7. THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR MUST PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.

8. THE CONTRACTOR MUST PROVIDE ALL "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN. CONTRACTOR MUST USE NEW MATERIAL FOR ALL REPAIRS. CONTRACTOR'S REPAIR MUST INCLUDE THE RESTORATION OF ANY ITEMS REPAIRED TO THE PRE-DEMOLITION CONDITION, OR BETTER. CONTRACTOR SHALL PERFORM ALL REPAIRS AT THE CONTRACTOR'S SOLE EXPENSE.



NOTE:
CONTRACTOR SHALL
NOT ACCESS THE
PHASE II SITE VIA THE
PHASE I AREA.



EXISTING CONDITIONS AND DEMOLITION LEGEND	
SYMBOL	DEFINITION
(TBR)	TO BE REMOVED
(TYP)	TYPICAL
X	TREE TO BE REMOVED
T	TREE TO BE TRANSPORTED
	LOCATION SHOWN ON LANDSCAPE PLAN
	TREE TO BE SAVED AND PROTECTED DURING CONSTRUCTION

THE PHASE II AREA EXISTING CONDITIONS INFORMATION SHOWN ON THIS PLAN WAS DERIVED FROM AN ON THE GROUND SURVEY PERFORMED BY CONTROL POINT ASSOCIATES, INC. SIGNED AND SEALED BY THE MA PROFESSIONAL SURVEYOR ON 10-13-2021.

PHASE I AREA EXISTING CONDITIONS INFORMATION WAS PROVIDED BY THE CITY OF WORCESTER AND IS BASED ON AN AS BUILT SURVEY PREPARED BY GUERRIERE & HALNON, INC. LAST REVISED 10-22-2018

REFER TO GENERAL NOTES
SHEET FOR DEMOLITION
NOTES

THIS PLAN TO BE UTILIZED
FOR EROSION CONTROL &
DEMOLITION/ REMOVAL
PURPOSES ONLY



BOHLER

SITE CIVIL AND CONSULTING ENGINEERING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
PERMITTING SERVICES
TRANSPORTATION SERVICES

REVISIONS			
REV	DATE	COMMENT	DRAWN BY

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PROJECT No.: W211159
DRAWN BY: LEC
CHECKED BY: SWLDF
DATE: 02/29/22
CAD ID: W211159-LND-0

PROPOSED SITE PLAN DOCUMENTS

FOR

The City of
WORCESTER

INDIAN HILL PARK
PHASE II IMPROVEMENTS

165 ARARAT STREET
WORCESTER OF
WORCESTER COUNTY,
MASSACHUSETTS

BOHLER

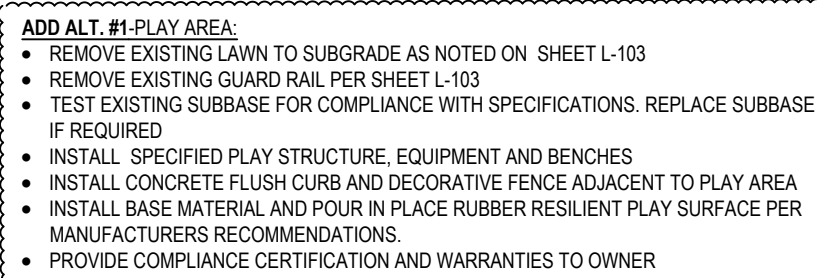
352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900
www.BohlerEngineering.com

SHEET TITLE:
EROSION CONTROL & DEMOLITION PLAN

SHEET NUMBER:
L-103

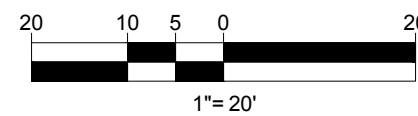
ORG. DATE - 4/6/22

P:\211159\DRAWINGS\PLAN SETS\REV\W211159-LND-0-3-LAYOUT-L-103-DEM.DWG



ADD ALICE #1 PLAY AREA:

- REMOVE EXISTING LAWN TO SUBGRADE AS NOTED ON SHEET L-103
- REMOVE EXISTING GUARD RAIL PER SHEET L-103
- TEST EXISTING SUBBASE FOR COMPLIANCE WITH SPECIFICATIONS; REPLACE SUBBASE IF REQUIRED
- INSTALL SPECIFIED PLAY STRUCTURE, EQUIPMENT AND BENCHES
- INSTALL CONCRETE FLUSH CURB AND DECORATIVE FENCE ADJACENT TO PLAY AREA
- INSTALL BASE MATERIAL AND POUR IN PLACE RUBBER RESILIENT PLAY SURFACE PER MANUFACTURERS RECOMMENDATIONS.
- PROVIDE COMPLIANCE CERTIFICATION AND WARRANTIES TO OWNER



SPORTS NETTING NOTES:
REFER TO SPECIFICATIONS FOR NETTING COMPONENTS.

POLES:

- QUANTITY TO BE (11) 50' LONG POLES INSTALLED 7' IN GROUND WITH 43" ABOVE GRADE
- QUANTITY TO BE TWO (2) 30' LONG POLES (STUBS) INSTALLED 5' IN GROUND WITH 25' ABOVE GRADE
- HELIX GROUND ANCHORS INSTALLED 5' TO 6' IN GROUND

#250 NETTING IS TO BE HAND TIED TO AND SECURED TO $\frac{3}{8}$ " GUY WIRE, AND TO VERTICAL AND BOTTOM WIRE PLUS TO CHAIN LINK FENCING. THE NETTING AT THE TOP CAN BE EITHER WEAVED OR CLIPPED TO TOP $\frac{3}{8}$ " GUY WIRE.

NOTE:
FIELD TO BE COMPLETED AND AVAILABLE
FOR PLAY ON OR BEFORE APRIL 1, 2023

**GENERAL CONTRACTOR TO PROVIDE A
SITE SPECIFIC WALL DESIGN AND
CALCULATIONS THROUGH THE
GENERAL CONTRACTOR'S SELECTED
WALL MANUFACTURER'S LICENSED
PROFESSIONAL STRUCTURAL
ENGINEER.**

**MAINTENANCE OF A CLEAR SIGHT LINE
IS THE RESPONSIBILITY OF THE
PROPERTY OWNER**

**THIS PLAN TO BE UTILIZED FOR SITE
LAYOUT PURPOSES ONLY. REFER TO
GENERAL NOTES
SHEET FOR ADDITIONAL NOTES**

BOHLER 

SITE CIVIL AND CONSULTING ENGINEERING

LAND SURVEYING

PROGRAM MANAGEMENT

LANDSCAPE ARCHITECTURE

SUSTAINABLE DESIGN

PERMITTING SERVICES

TRANSPORTATION SERVICES

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PROJECT No.:	W2111
DRAWN BY:	LI
CHECKED BY:	SW/LI
DATE:	02/25/
CAD I.D.:	W211159-LND

PROJECT:

**PROPOSED SITE
PLAN DOCUMENTS**

— FQ



INDIAN HILL PARK PHASE II IMPROVEMENTS

165 ARARAT STREET
WORCESTER OF
WORCESTER COUNTY,
MASSACHUSETTS

BOHLER //

**352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772**
Phone: (508) 480-9900

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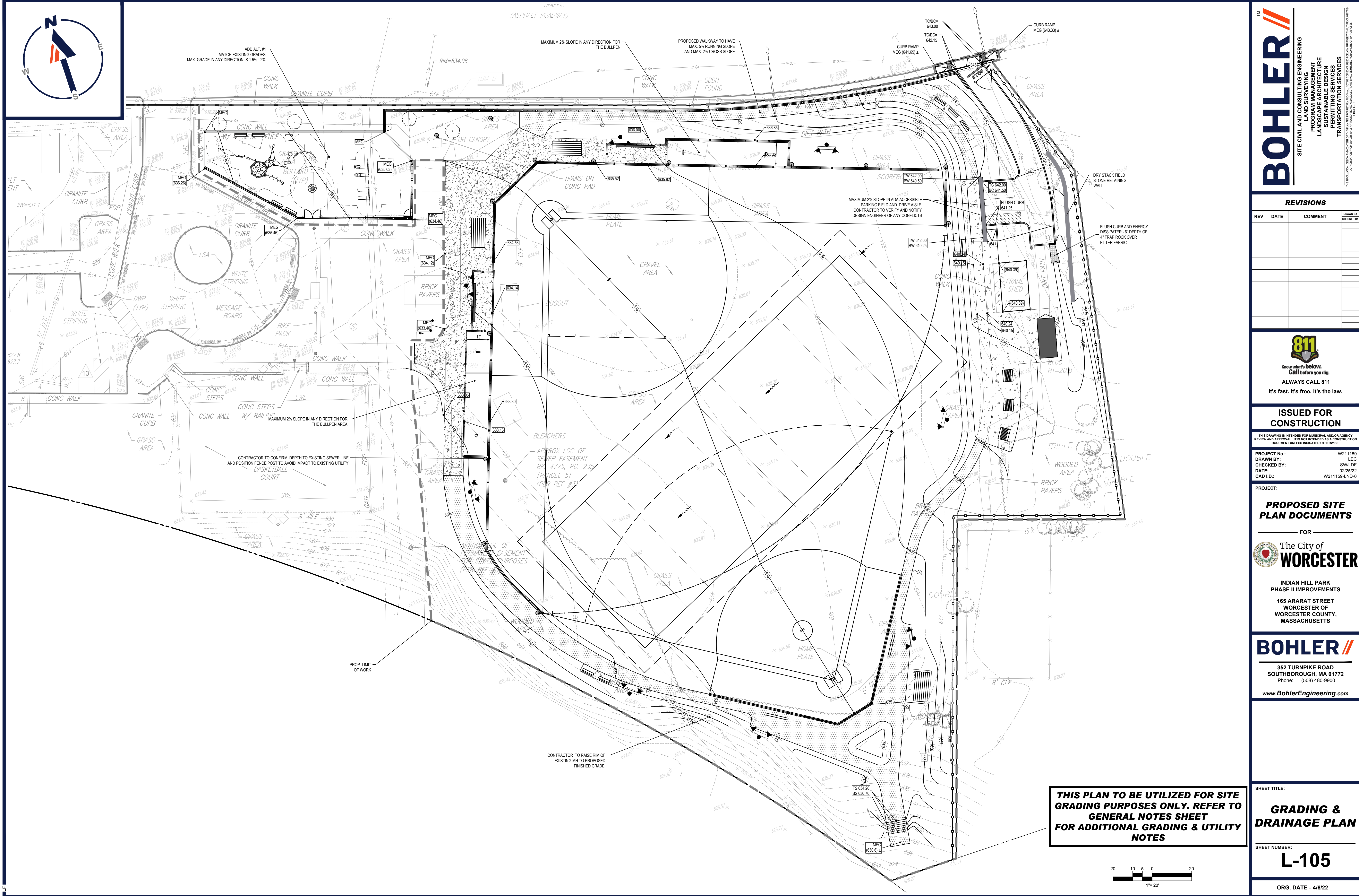
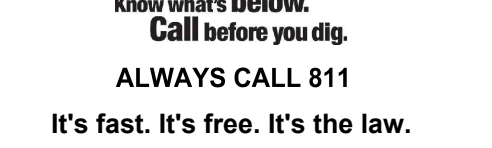
SHEET TITLE:

SITE LAYOUT PLAN

SHEET NUMBER

L-104

ORG. DATE - 4/6/22

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PROJECT:

_____ FOR _____



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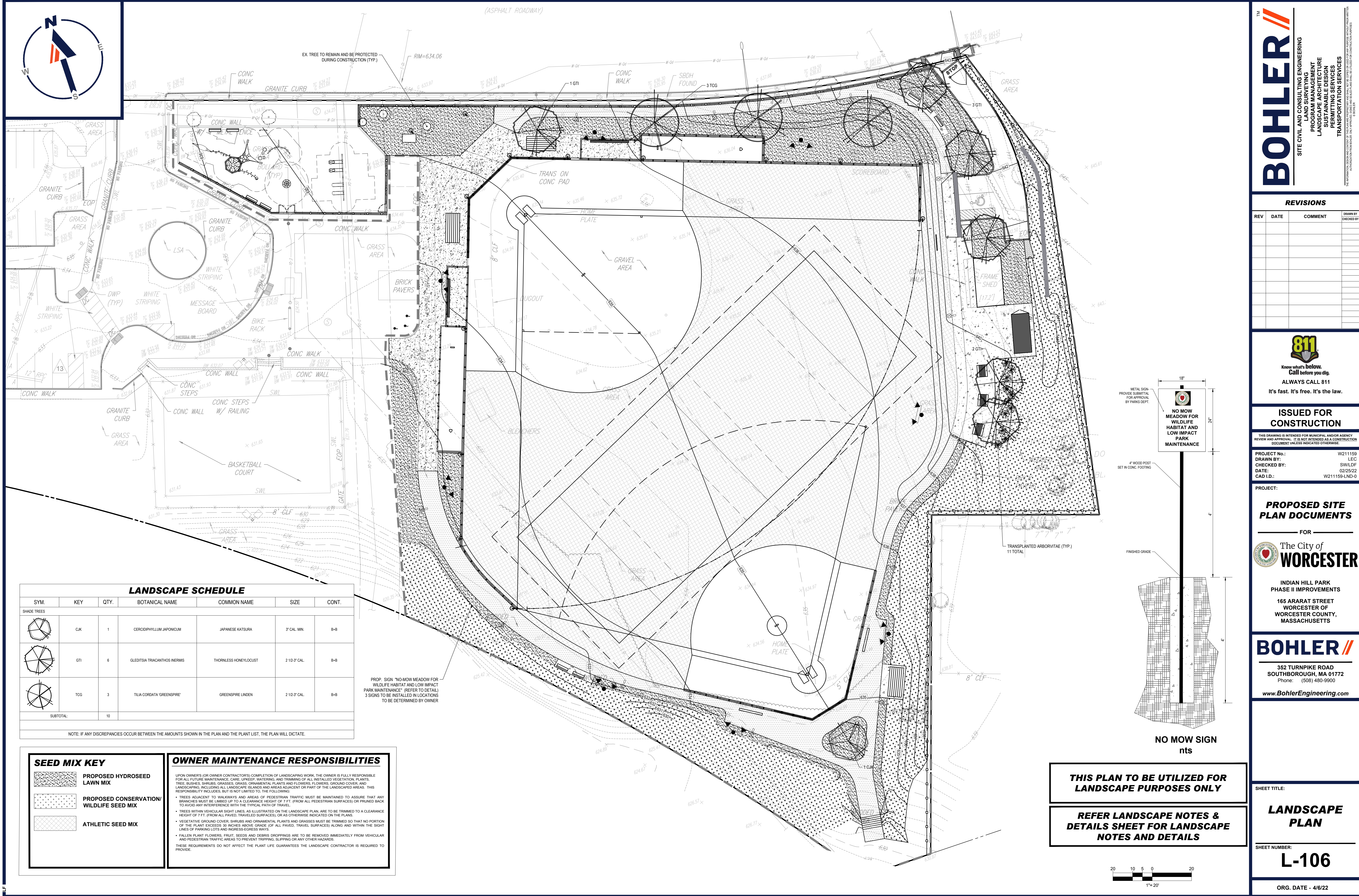
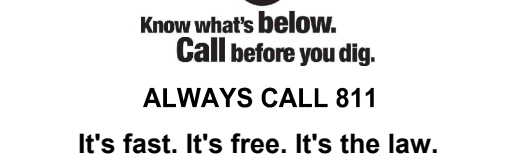
SHEET TITLE:

SHEET NUMBER:

L-105

ORG. DATE - 4/6/22

P:\21\W211159\DRAWINGS\PLAN SETS\REV0\W211159-LND-0.....>LAYOUT: L-401-GRAD_DRAIN

[illegible]

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REVIEW AND APPROVAL. IT IS NOT INTENDED AS A CONSTRUCTION
DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT:

_____ FOR _____



BOHLER//

www.BohlerEngineering.com

SHEET TITLE:

SHEET NUMBER:

L-106

ORG. DATE - 4/6/22

LANDSCAPE SPECIFICATIONS

- CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.
 - 8.2. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.
 - 8.3. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL, TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.
 - 8.4. ALL LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE FILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA - FOR BIDS PURPOSES ONLY (SEE SPECIFICATION 8.4.1)).
 - 8.4.1. 20 POUNDS "GRO-FORM" OR APPROVED SOIL CONDITIONER/FERTILIZER
 - 8.4.2. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP/ OR APPROVED NITROGEN FERTILIZER
 - 8.5. THE SPREADING OF TOPSOIL SHALL BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.
- 9. PLANTING**
- 9.1. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN 14 DAYS AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.
 - 9.2. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

- | | | |
|----------|---|-----------------------|
| | ACER RUBRUM | PLATANUS X ACERIFOLIA |
| | BETULA VARIETIES | POPULUS VARIETIES |
| | CARPINUS VARIETIES | PRUNUS VARIETIES |
| | CRATAEGUS VARIETIES | PYRUS VARIETIES |
| | KOELREUTERIA | QUERCUS VARIETIES |
| | LIQUIDAMBAR STYRACIFLUA | TILIA TOMENTOSA |
| | LIRIODENDRON TULIPIFERA | ZELKOVA VARIETIES |
| 9.8. | PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY: | |
| 9.8.1. | 1 PART PEAT MOSS | |
| 9.8.2. | 1 PART COMPOSTED COW MANURE BY VOLUME | |
| 9.8.3. | 3 PARTS TOPSOIL BY VOLUME | |
| 9.8.4. | 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS: | |
| 9.8.4.1. | 2 TABLETS PER 1 GALLON PLANT | |
| 9.8.4.2. | 3 TABLETS PER 5 GALLON PLANT | |
| 9.8.4.3. | 4 TABLETS PER 15 GALLON PLANT | |
| 9.8.4.4. | LARGER PLANTS: 2 TABLETS PER 1/2" CALIPER OF TRUNK | |

13. CLEANUP
- 13.1. UPON THE COMPLETION OF ALL LANDSCAPE INSTALLATION AND BEFORE THE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL UNUSED MATERIALS, EQUIPMENT AND DEBRIS FROM THE SITE. ALL PAVED AREAS ARE TO BE CLEANED.
- 13.2. THE SITE SHALL BE CLEANED AND LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

Diagram illustrating the construction of a tree pit for a tree, showing the following components and instructions:

- REINFORCED RUBBER HOSE (1/2" DIA. BLACK)
- FOLD BURLAP AWAY FROM TOP OF ROOT BALL
- 12 GAUGE GALVANIZED WIRE GUYS TWISTED
- 2" DIA. HARDWOOD STAKES 2/3 TREE HF, 3 PER TREE
- TWICE THE WIDTH OF ROOTBALL FOR PREPARED SOIL FOR TREES.
- PREPARED SOIL FOR TREES
 - 1 PART PEAT MOSS
 - 1 PART COW MANURE
 - 3 PARTS TOPSOIL
 - (RECOMMENDATION ONLY. SEE SOIL MOD. CHART)
- UNDISTURBED SUBGRADE
- DIG WIDE, SHALLOW HOLE WITH TAMPED SIDES
- TAMP SOIL SOLIDLY AROUND BASE OF ROOT BALL

TREE PLANTING DETAIL		N.T.S.
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<p align="center">TREE PROTECTION DURING SITE CONSTRUCTION</p>	<p align="center">N.T.S.</p>
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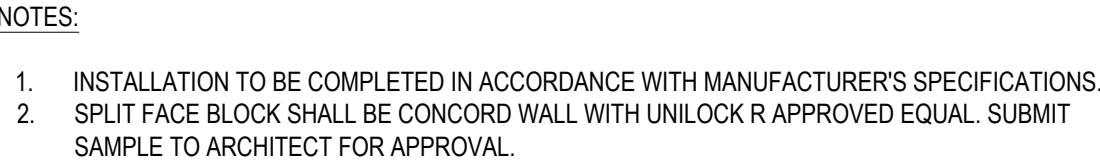
- NOTES:
1. ANY TREE INSTALLED WITHIN 10 FT. OF NEW CONCRETE SIDEWALKS SHOULD BE INSTALLED WITH BIOBARRIER ROOT BARRIER FABRIC AS SHOWN
 2. TREES SHALL BE INSTALLED ACCORDING TO THE APPROPRIATE PLANTING DETAIL.
-
- CONC. SIDEWALK
- 10' MAX.
- BIOBARRIER ROOT BARRIER FABRIC OR APPROVED EQUAL
- BIOBARRIER ROOT BARRIER FABRIC TO BE INSTALLED TO THE DEPTH OF THE BOTTOM OF STONE BASE COURSE OR 10' WHICHEVER IS GREATER
- TREE
- SEE DECIDUOUS OR EVERGREEN TREE DETAIL FOR PLANTING PURPOSES
- UNDISTURBED SUBGRADE
- PREPARED SOIL FOR TREES (SEE PLANTING DETAIL)

ROOT BARRIER DETAIL AT PLAY AREA		N.T.S.
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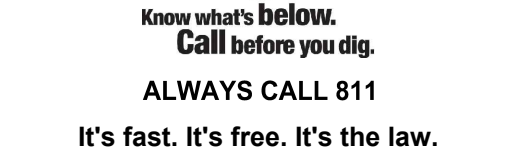
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ARBORTIE STAKING DETAIL

377



N.T.S.

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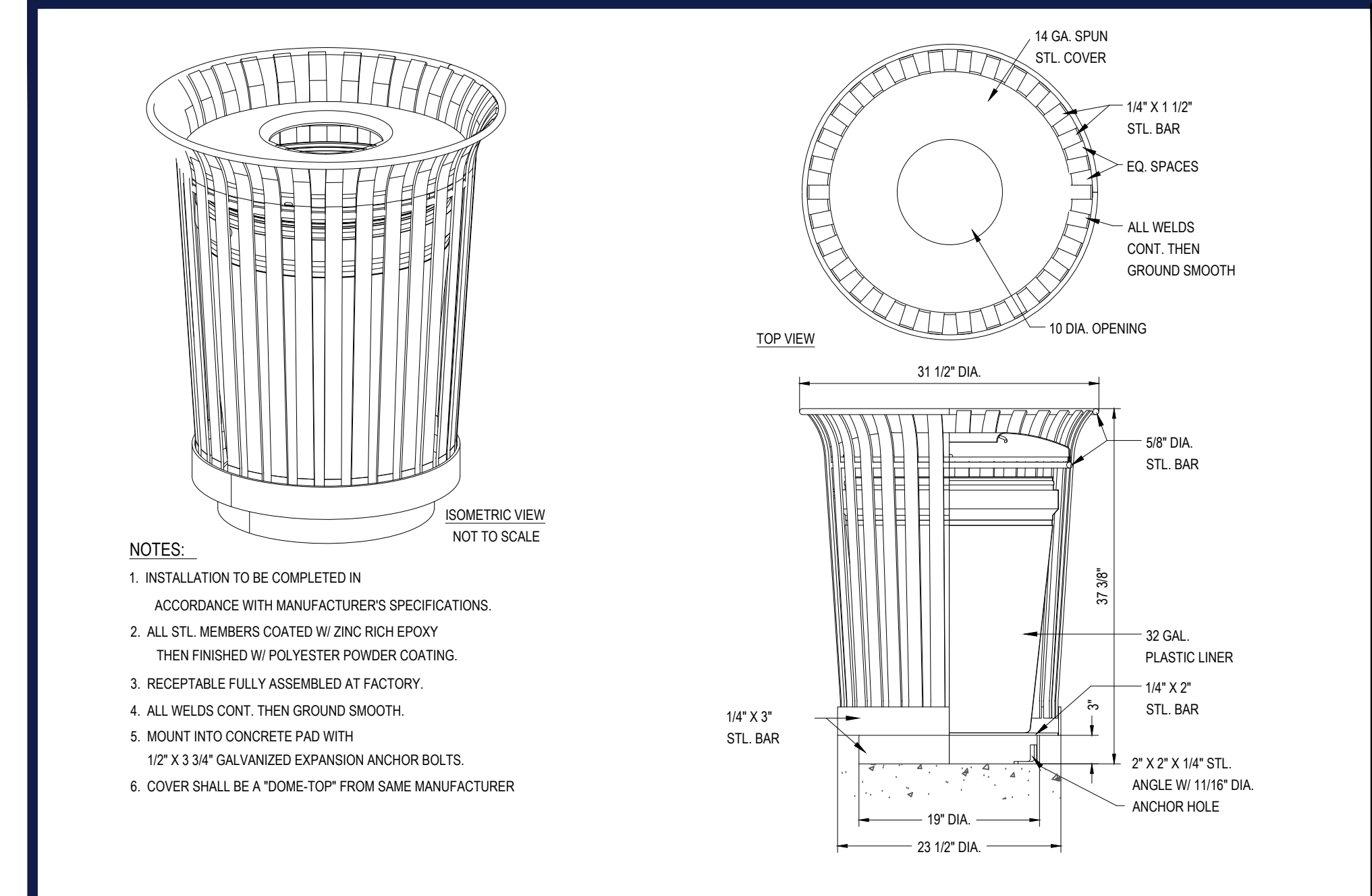
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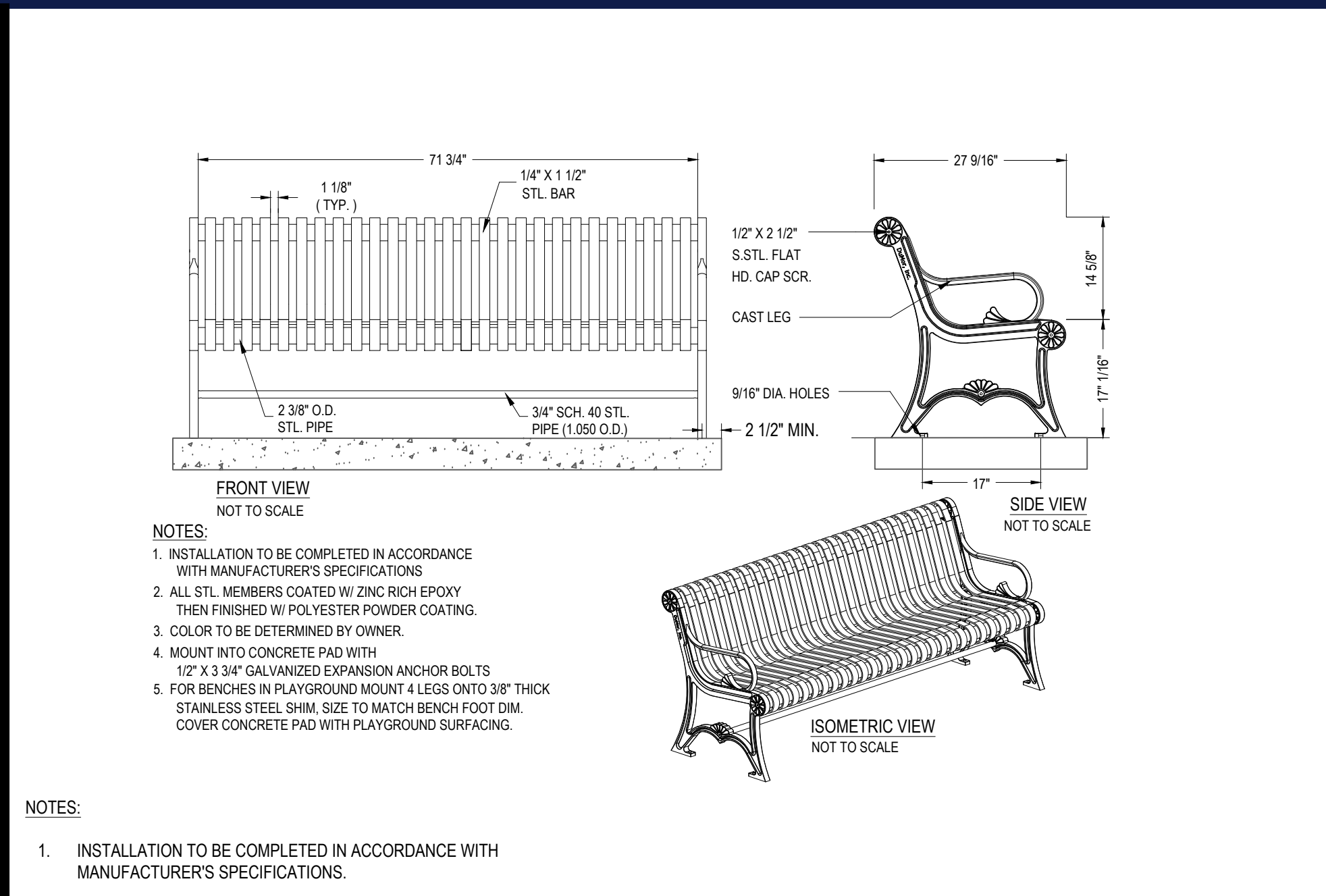


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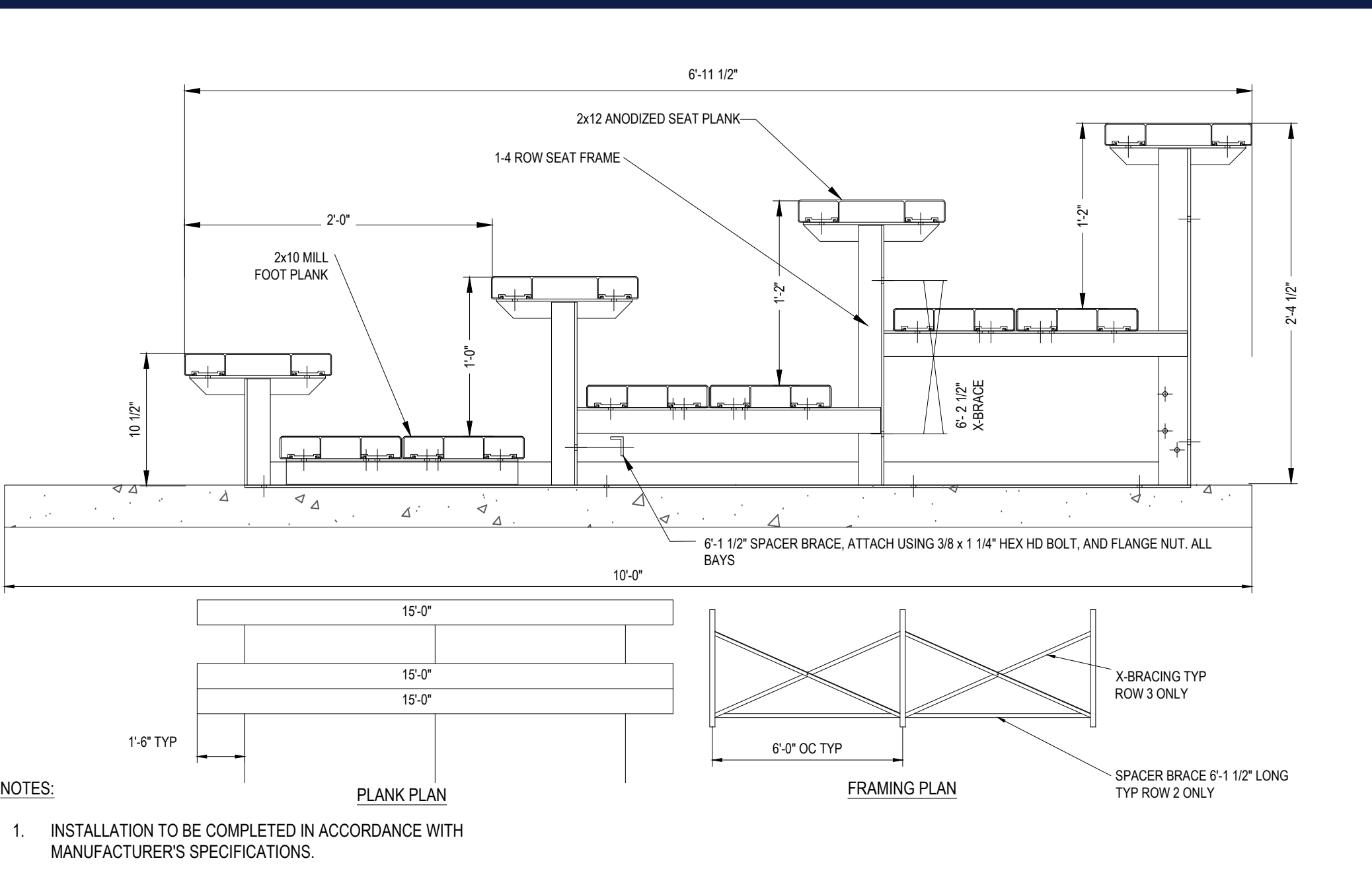
TRASH RECEPCTACLE

N.T.S.



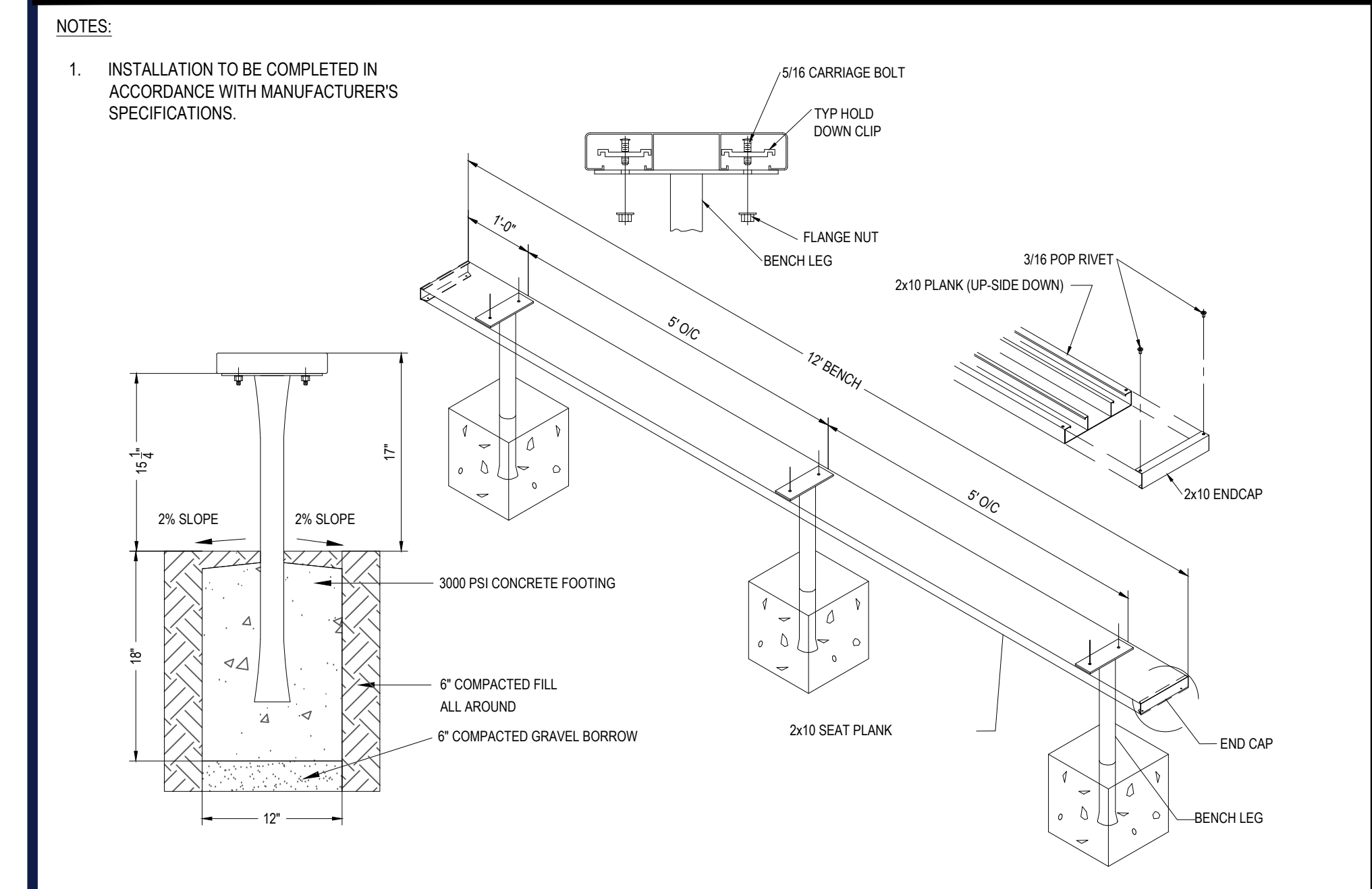
BENCH WITH BACK 'B'

N.T.S.



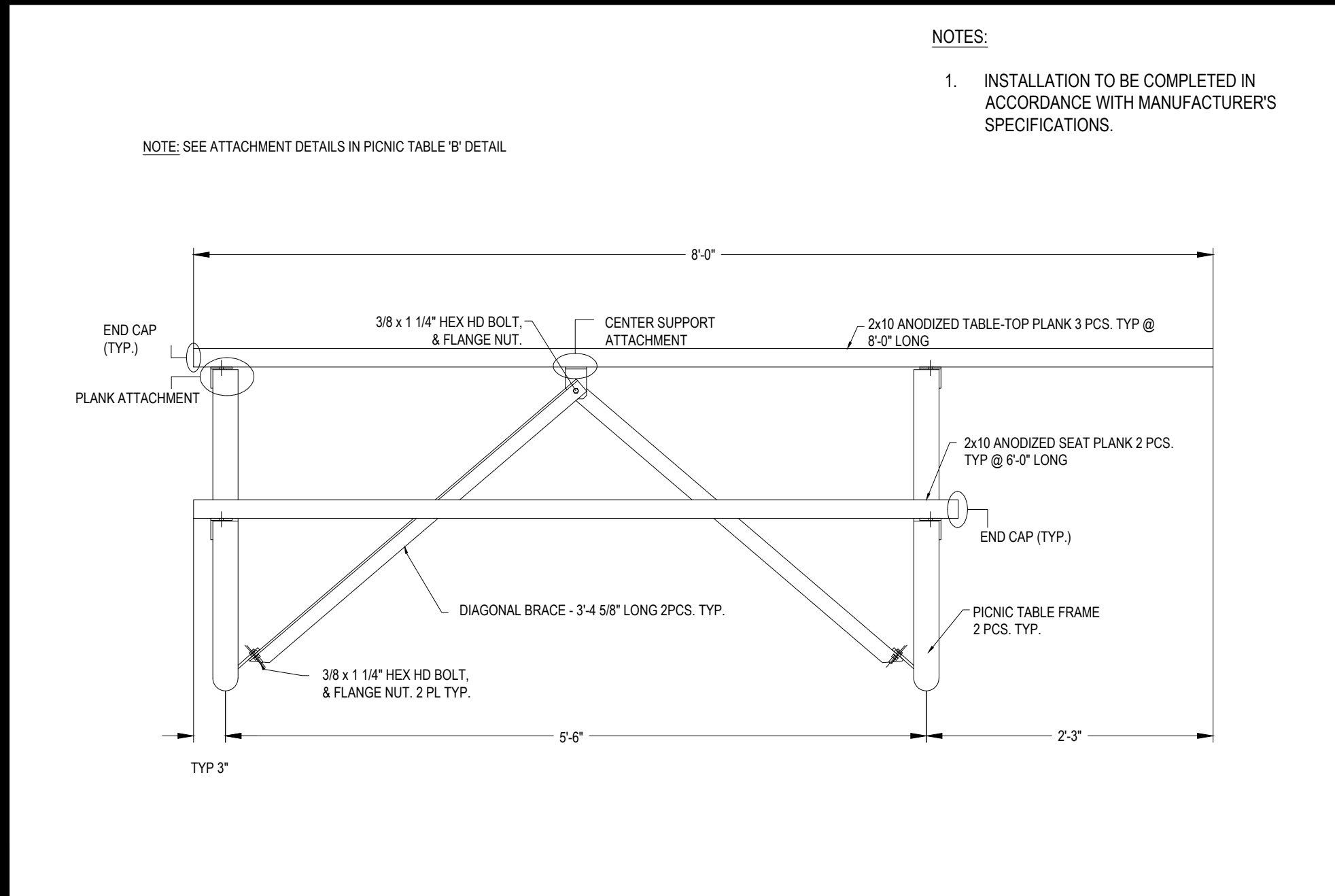
BLEACHERS - LOW RISE

N.T.S.



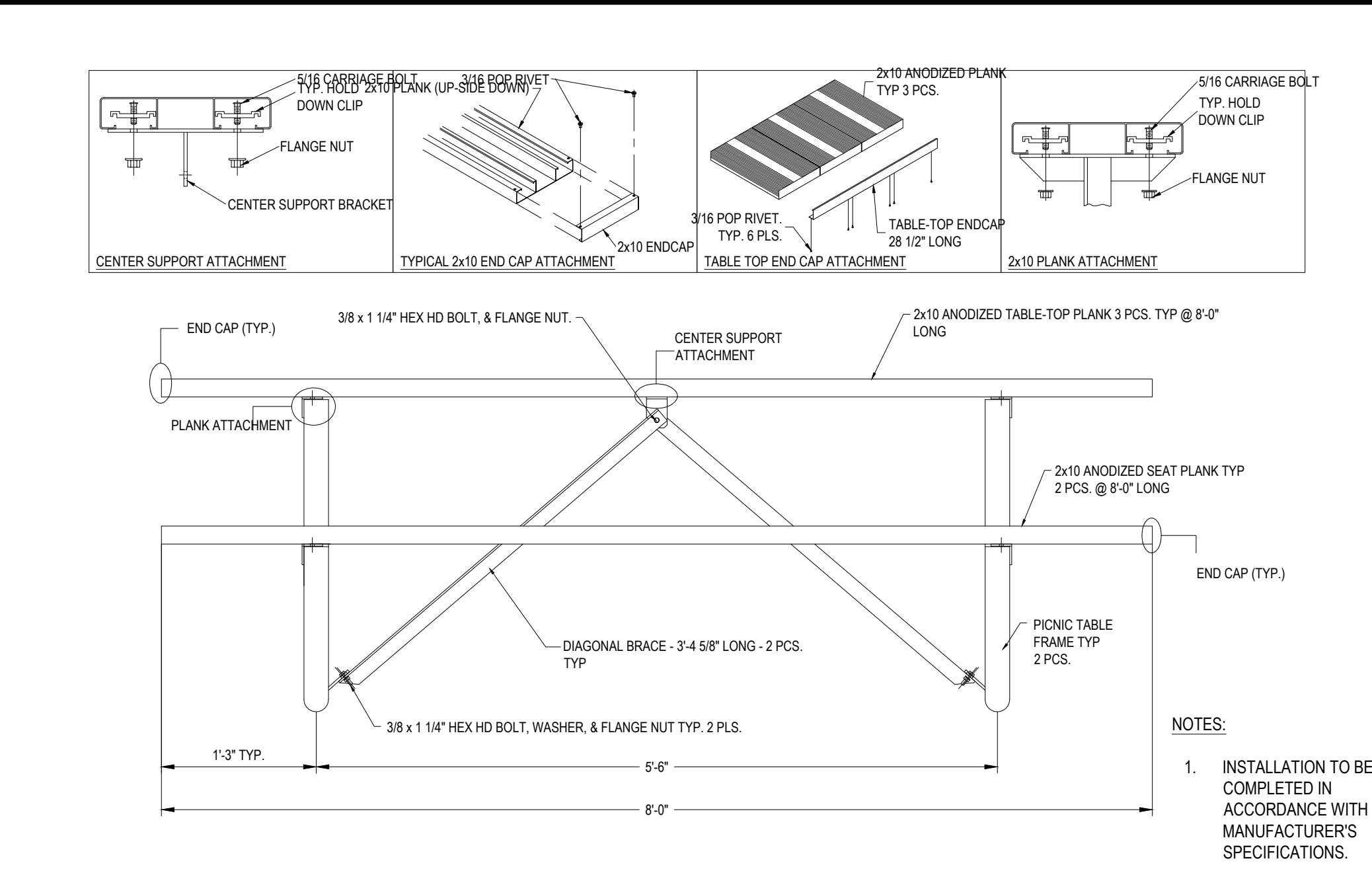
PLAYER'S BENCH

N.T.S.



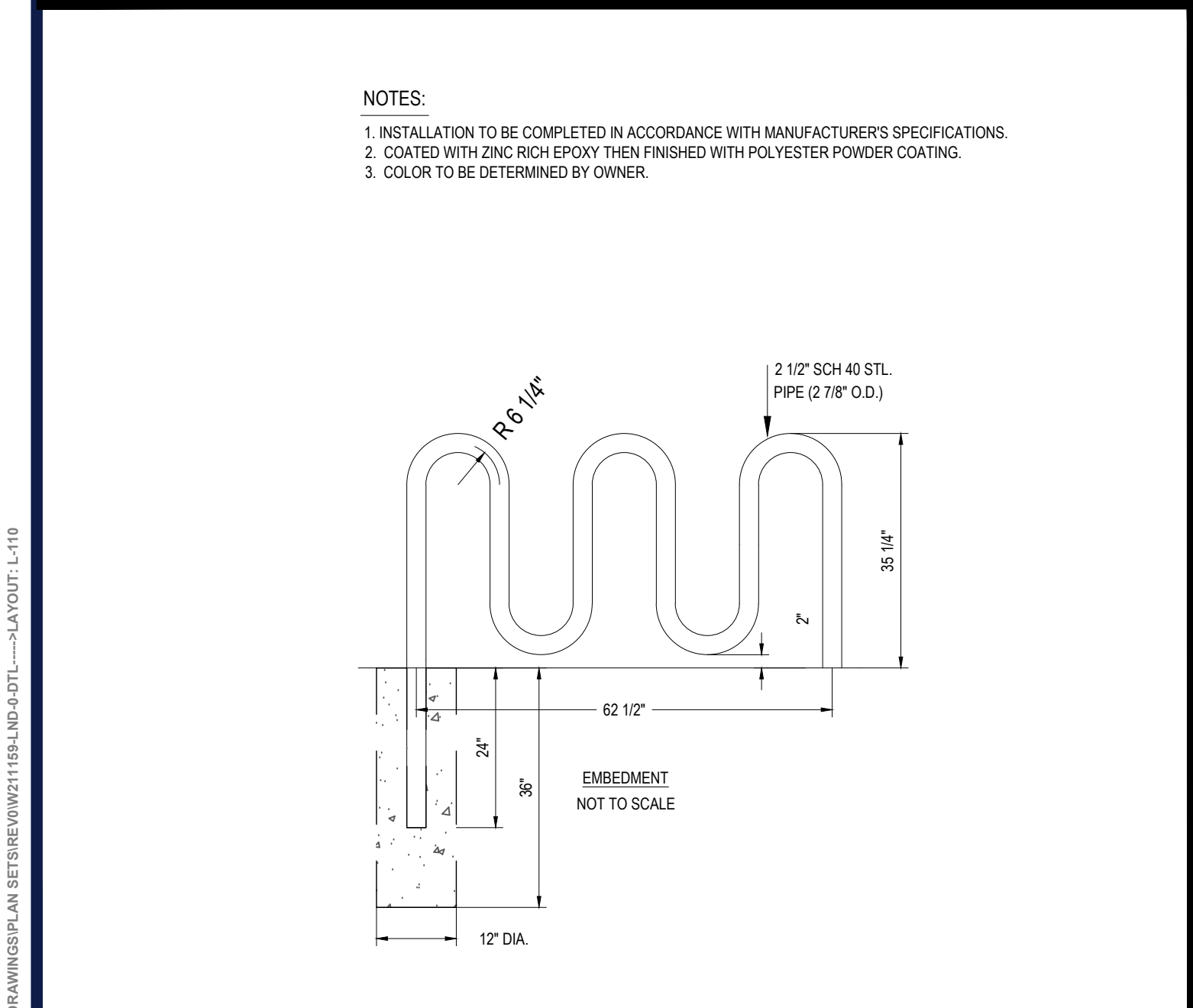
PICNIC TABLE 'B' - ACCESSIBLE

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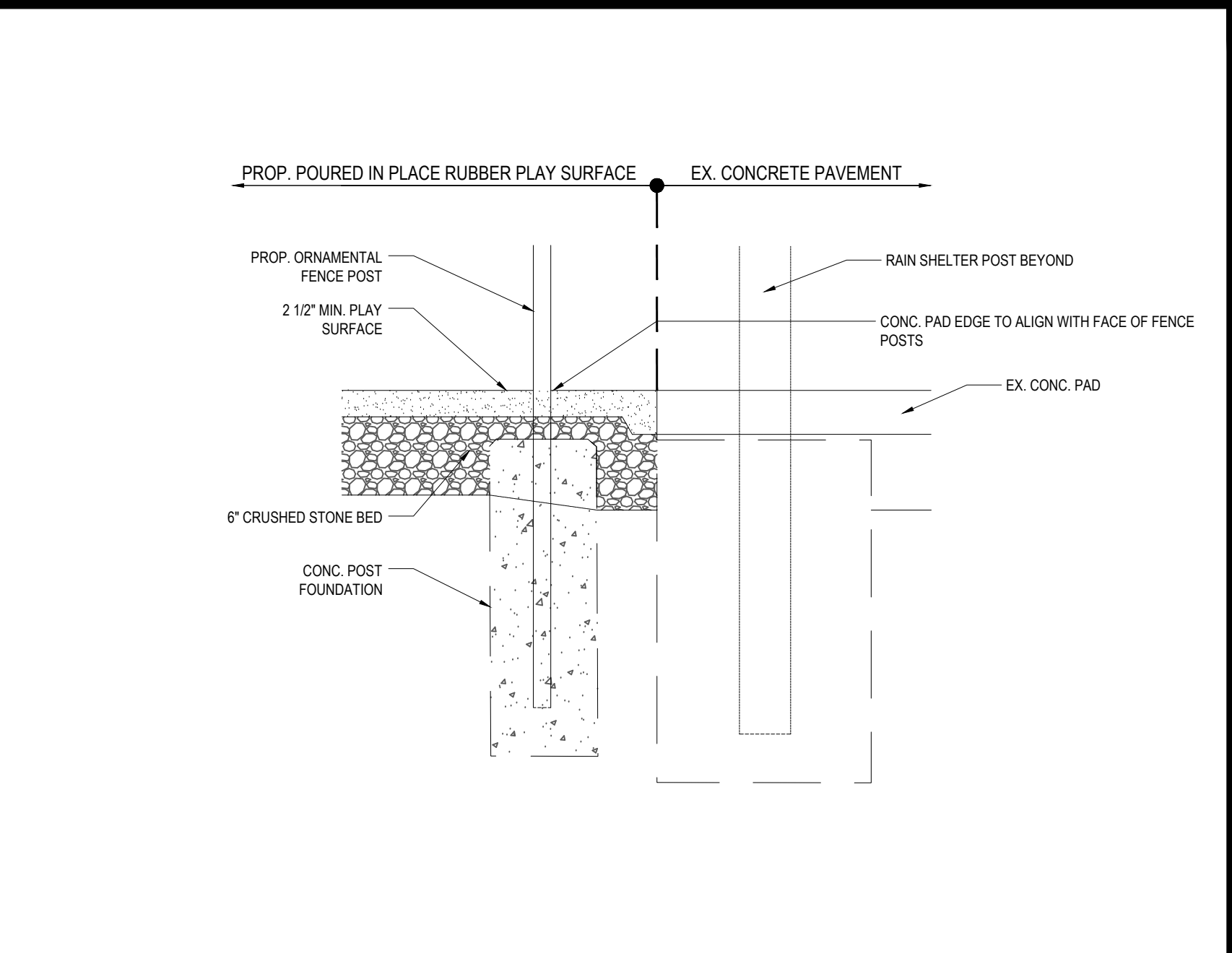
PICNIC TABLE 'B'

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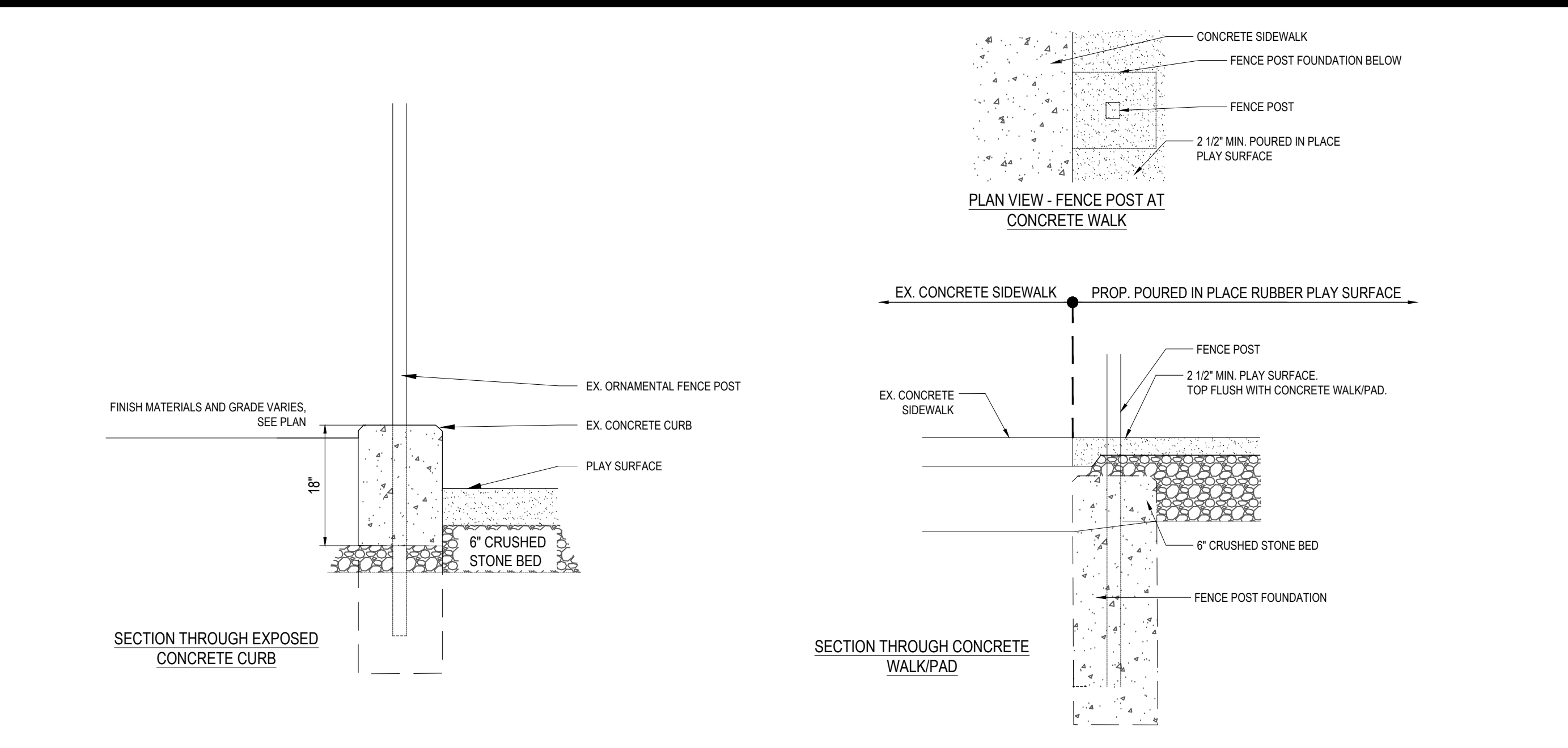
BIKE RACK

N.T.S.



PLAYGROUND EDGE AT PLAZA SHELTER

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CONCRETE SIDEWALK PLAYGROUND EDGE

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PROPOSED SITE PLAN DOCUMENTS

FOR

The City of **WORCESTER**

INDIAN HILL PARK
PHASE II IMPROVEMENTS

165 ARARAT STREET
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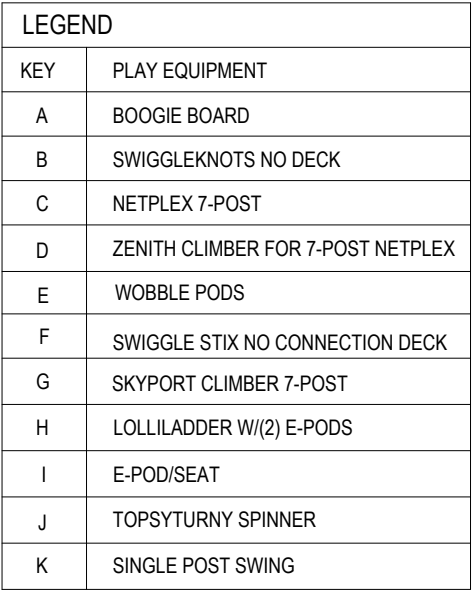
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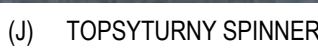
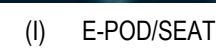
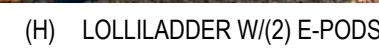
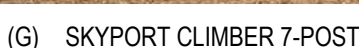
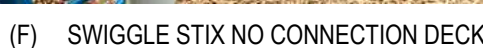
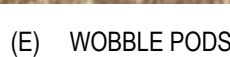
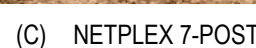
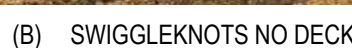
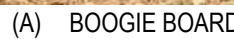
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PLAY EQUIPMENT CONFIGURATION - 3D RENDERING



PLAY EQUIPMENT REPRESENTATIVE IMAGES

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The City of
WORCESTER

INDIAN HILL PARK PHASE II IMPROVEMENTS

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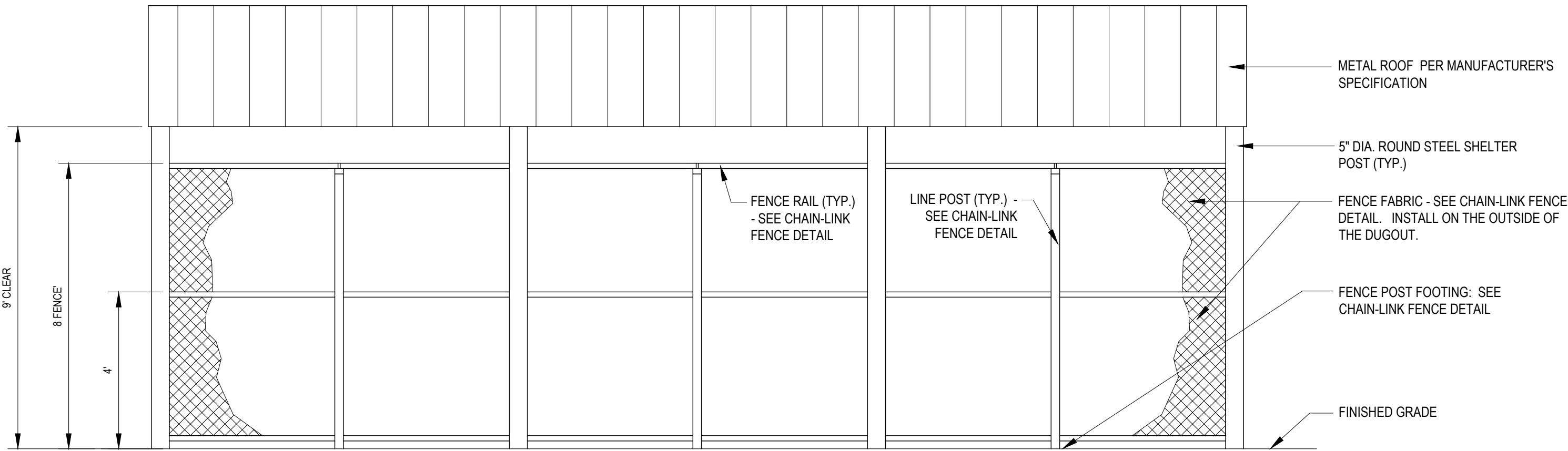
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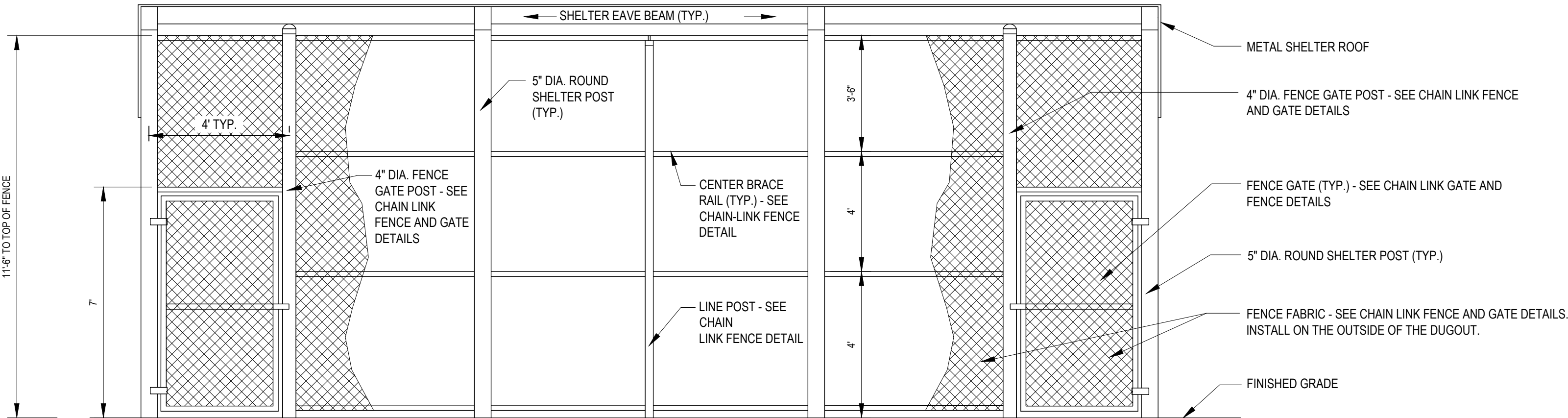
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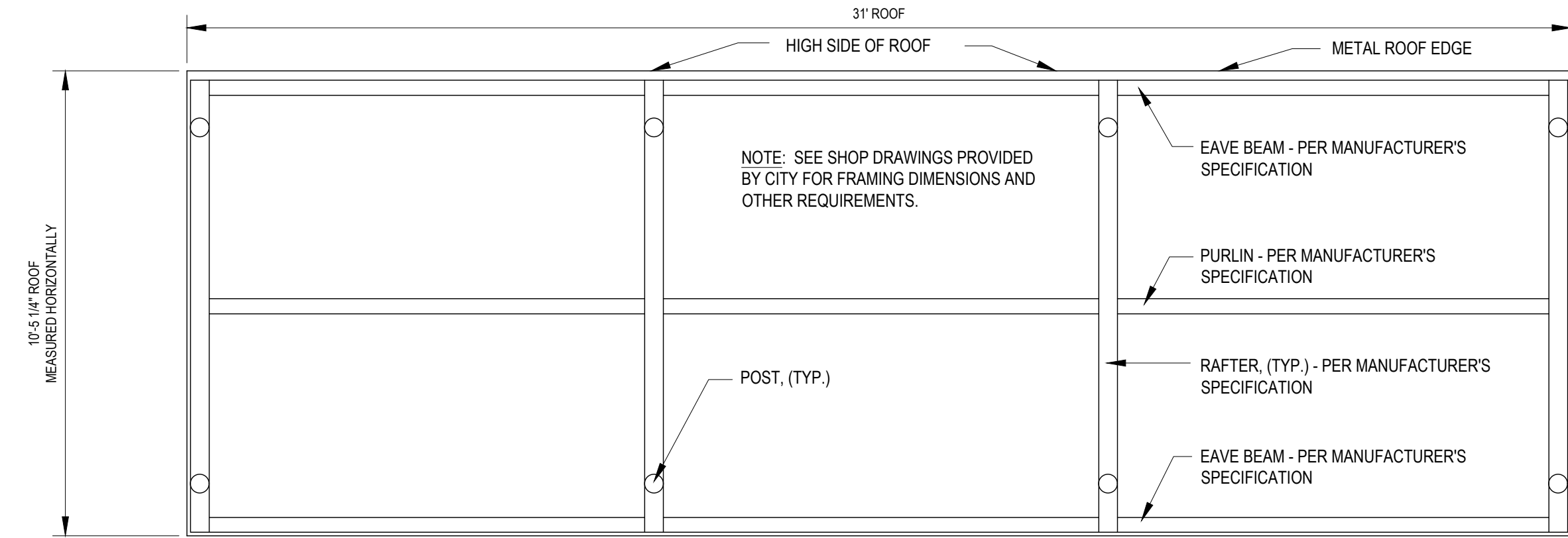
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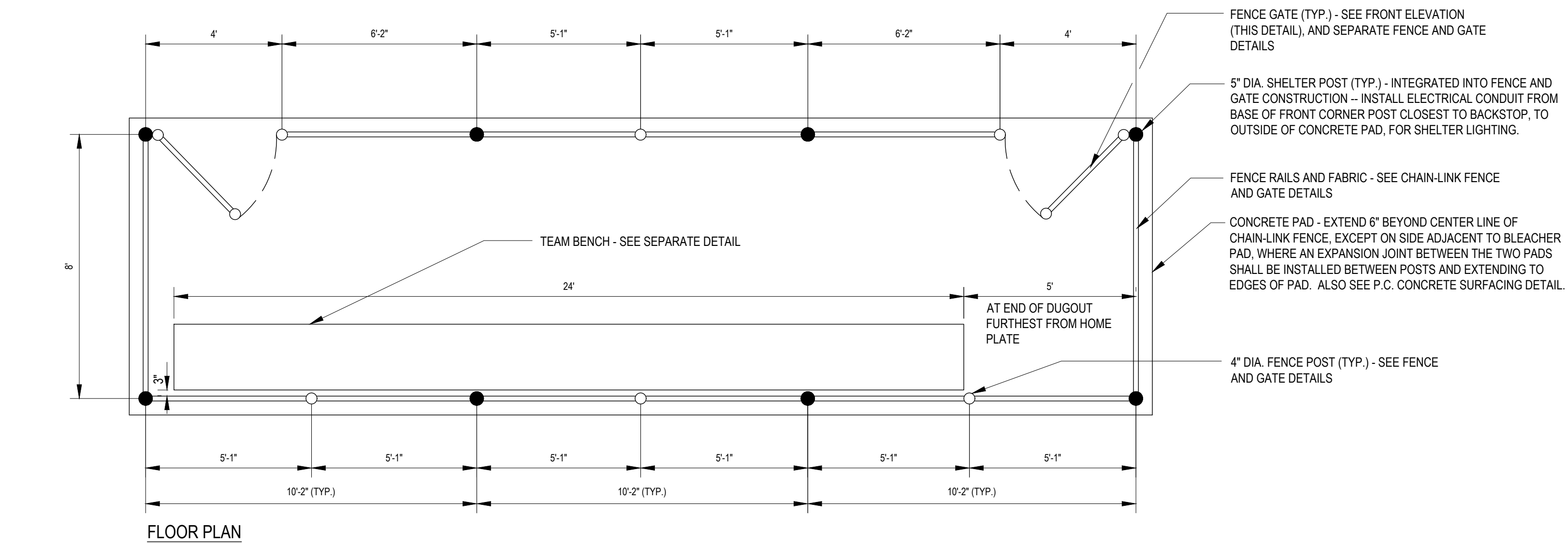
REAR ELEVATION (FACING AWAY FROM FIELD)



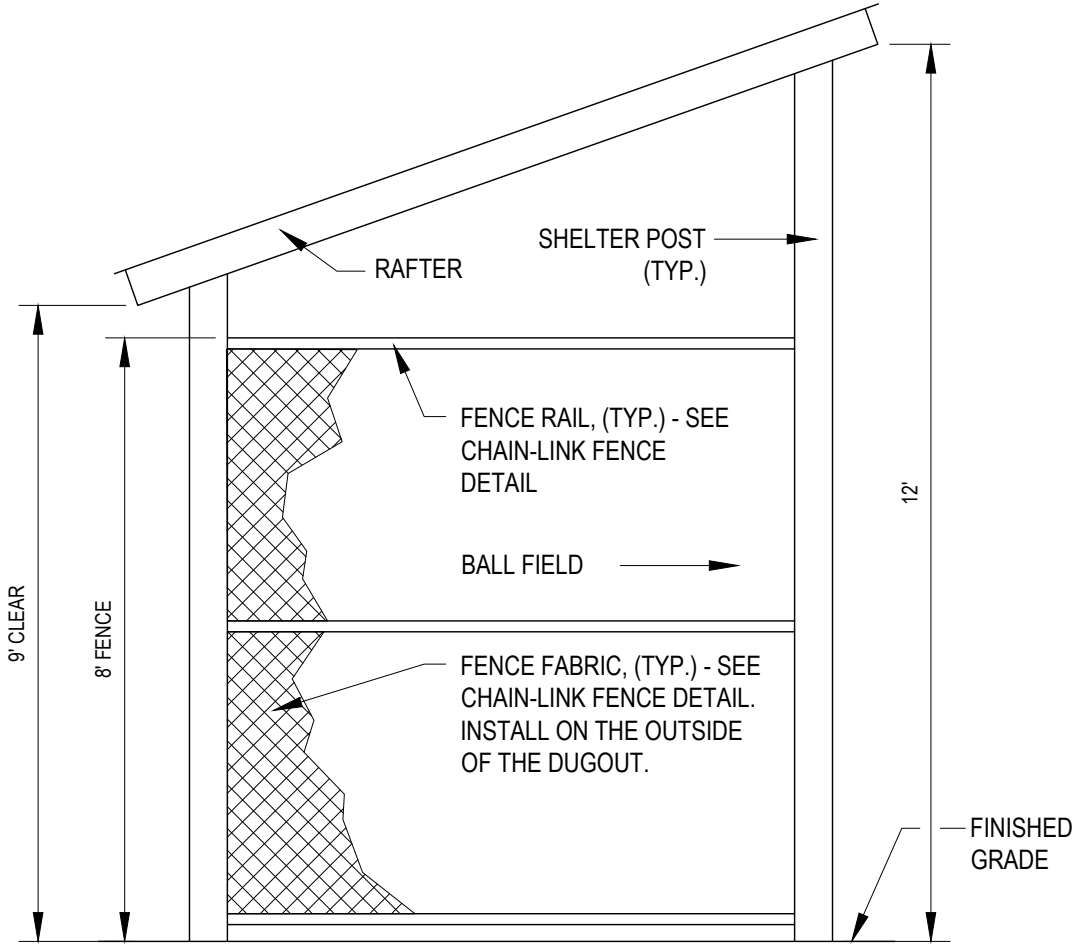
FRONT ELEVATION (FACING FIELD)



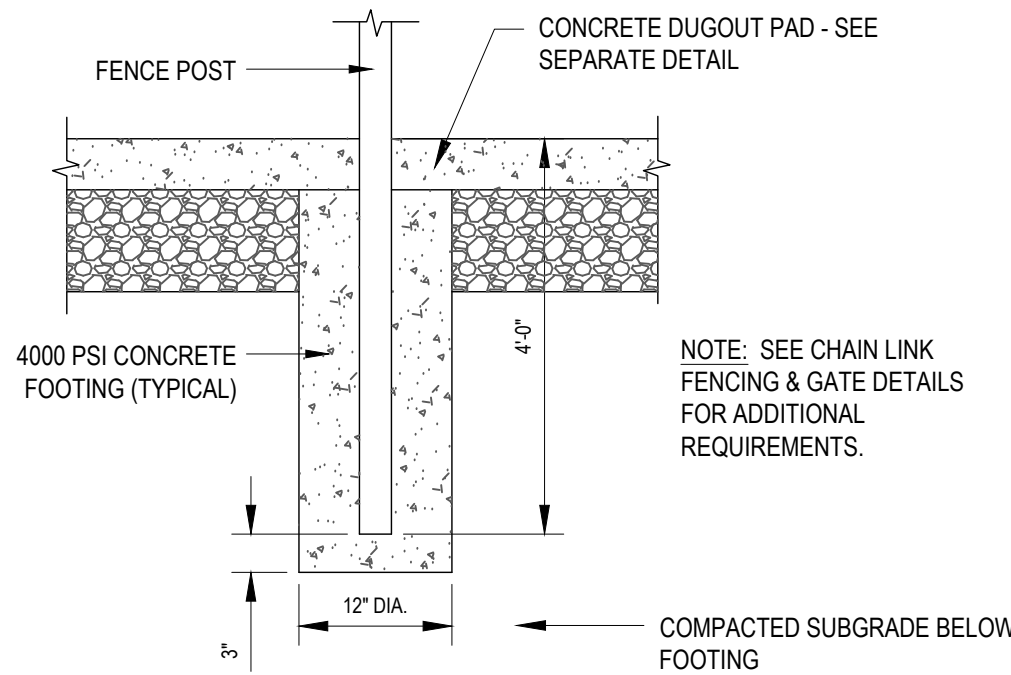
ROOF FRAMING PLAN



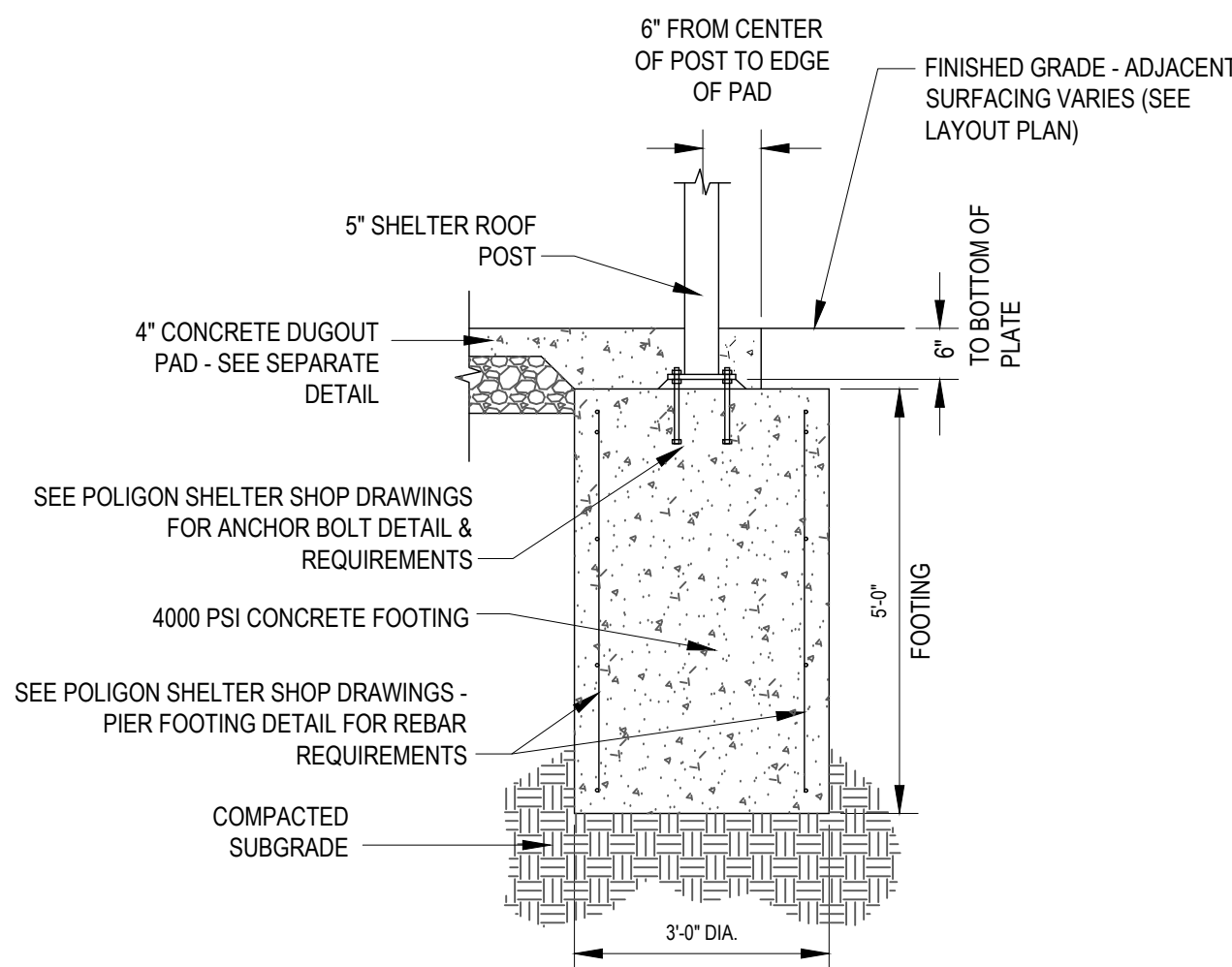
FLOOR PLAN



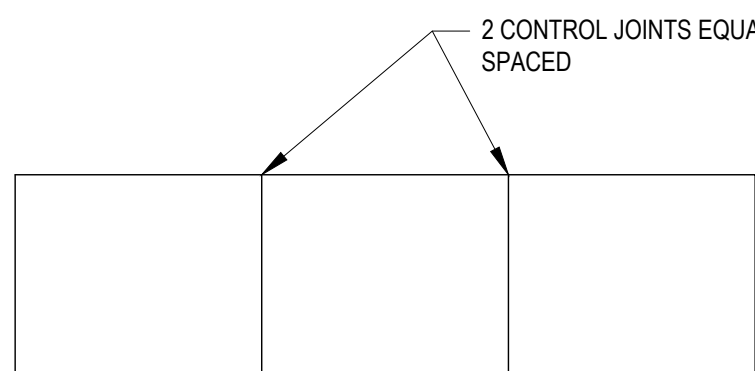
SIDE ELEVATION



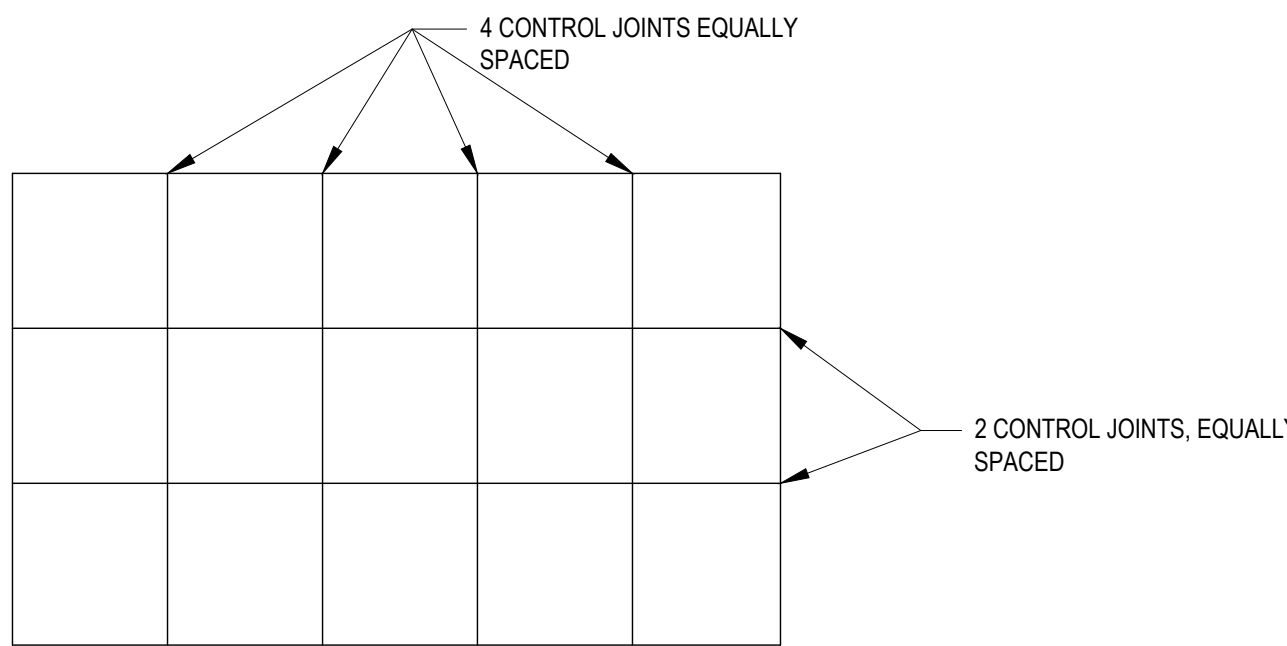
DUGOUT SHELTER FENCE POST FOOTING SECTION



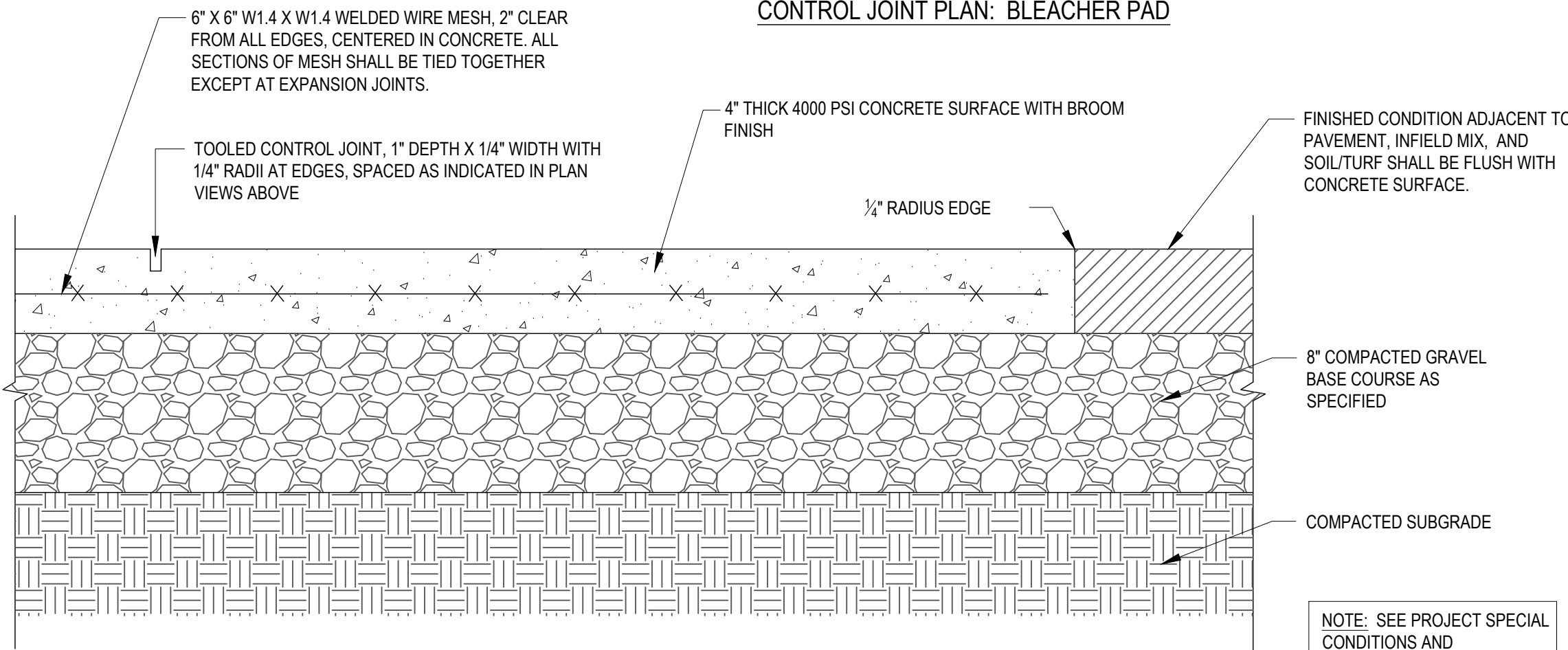
DUGOUT SHELTER COLUMN FOOTING SECTION



CONTROL JOINT PLAN: DUGOUT PAD



CONTROL JOINT PLAN: BLEACHER PAD



SECTION

PORTLAND CEMENT CONCRETE PAVEMENT

- NOTES:
- DUGOUT DETAILS PROVIDED BY THE CITY OF WORCESTER PARKS DEPARTMENT TO BE INCLUDED AS STANDARDS FOR DUGOUT MATERIALS, LAYOUT AND INSTALLATION.
 - INSTALL CHAIN LINK FENCE FABRIC ON OUTSIDE OF DUGOUT STRUCTURE (INCLUDING ALL POSTS AND RAILS) ON ALL SIDES OF THE DUGOUTS.

REVISIONS

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FOR



INDIAN HILL PARK
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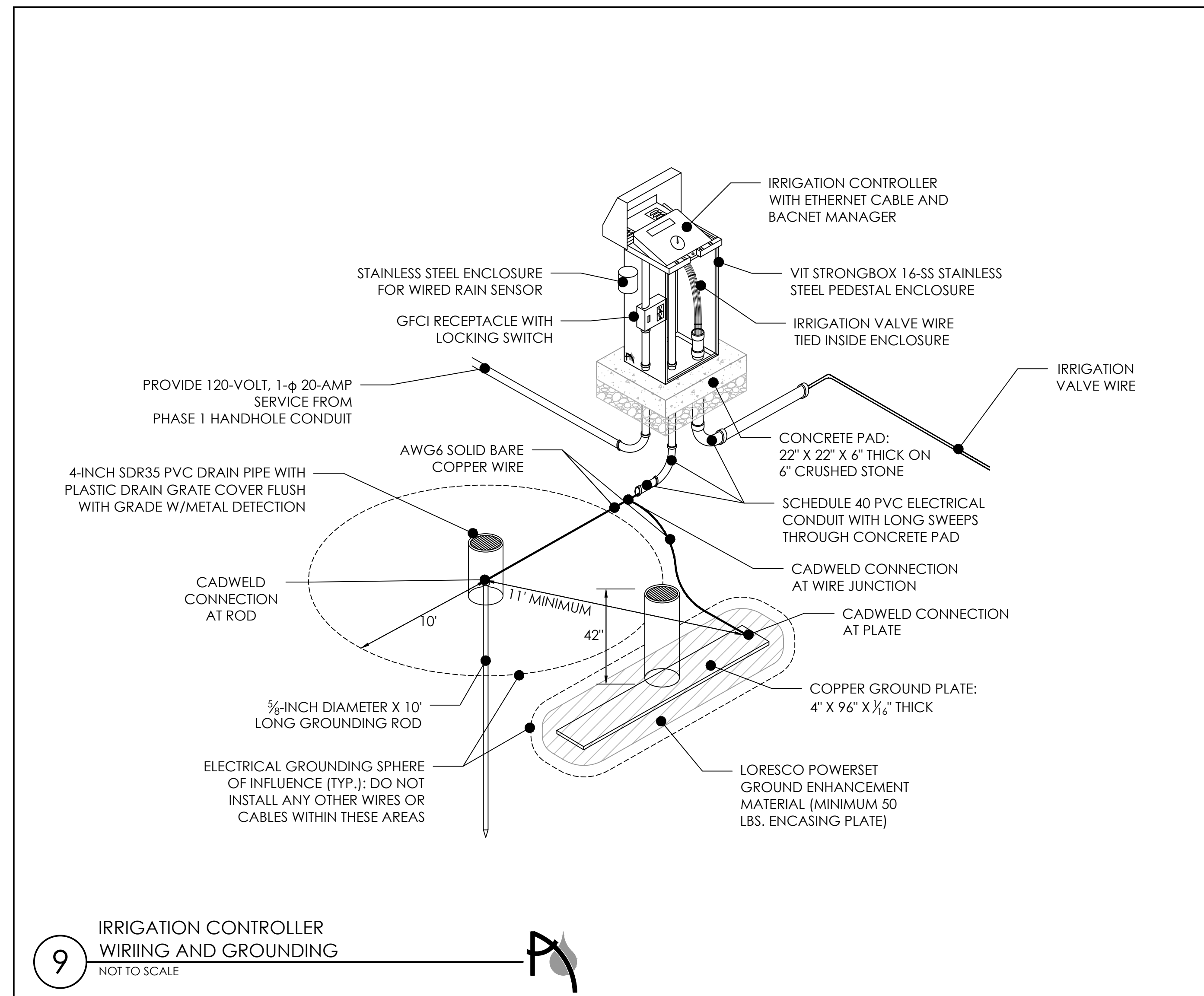
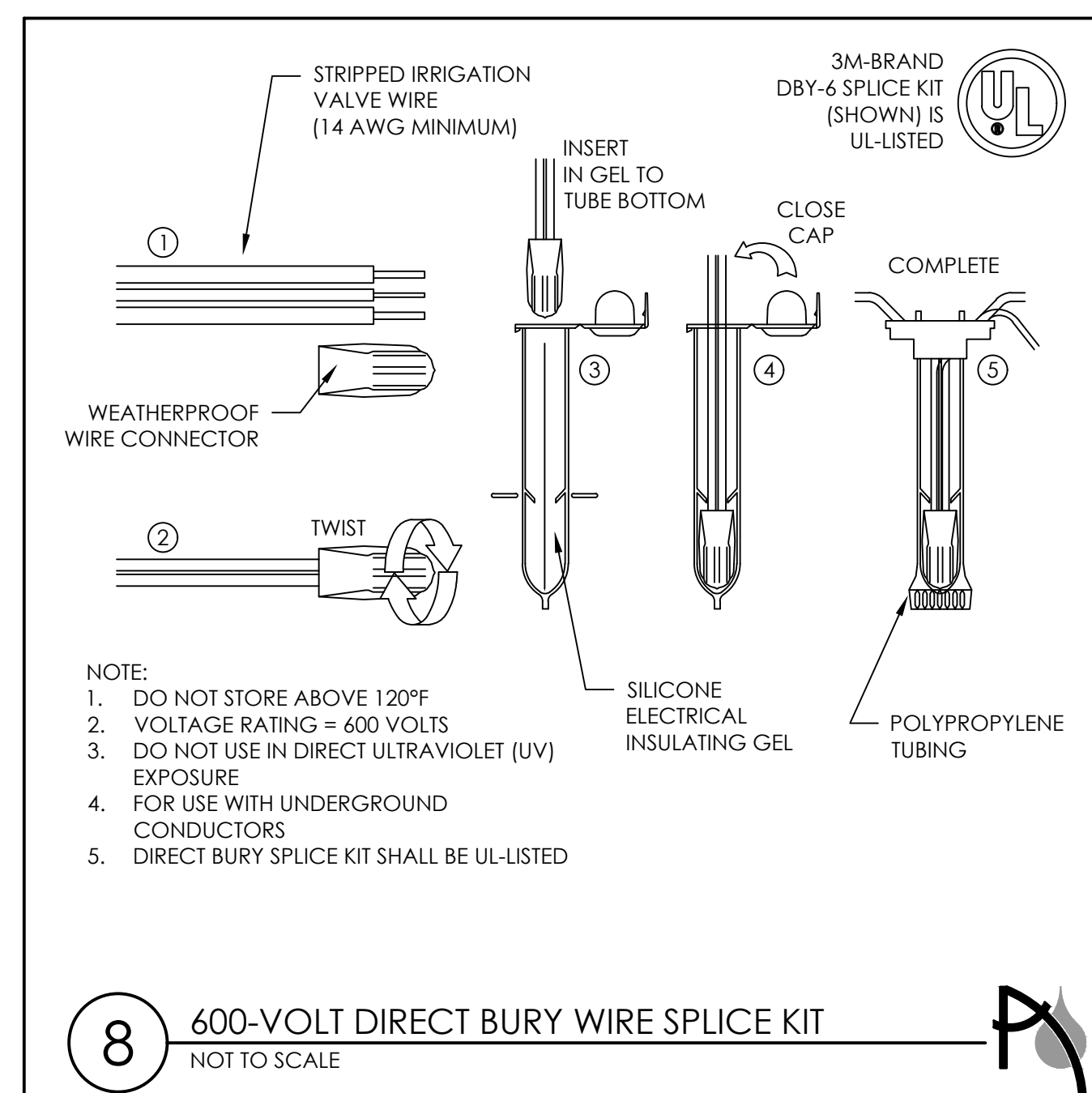
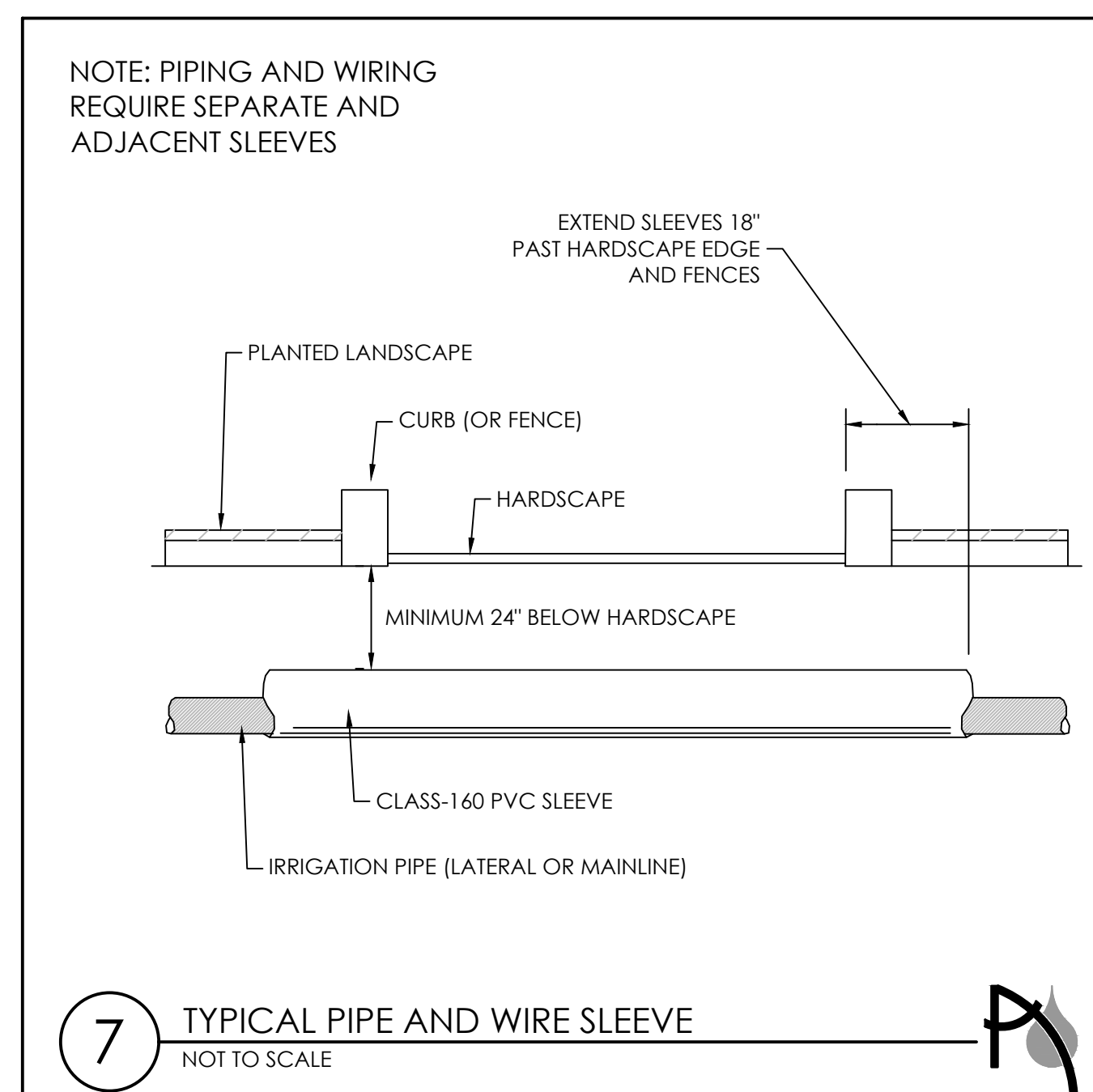
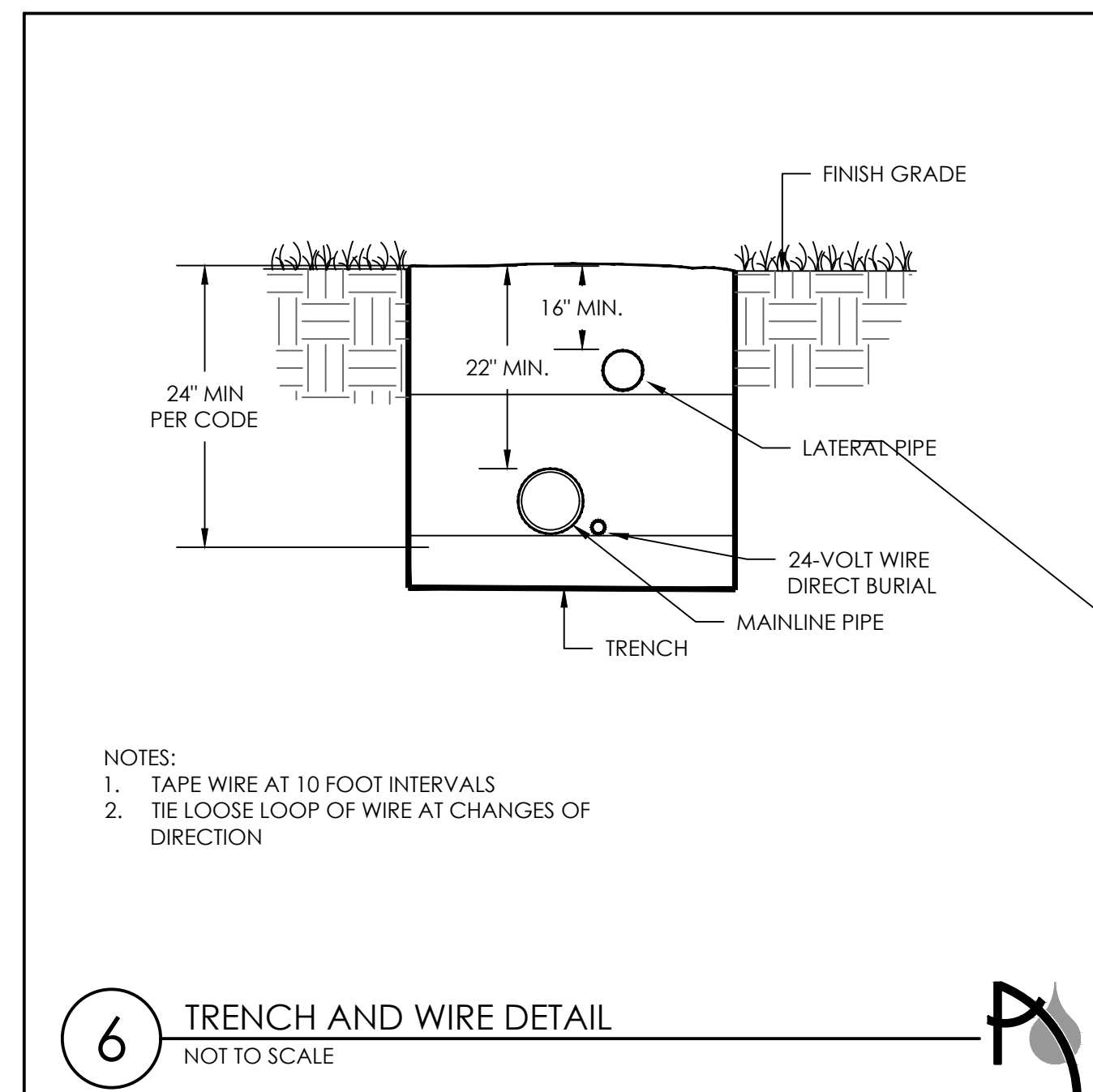
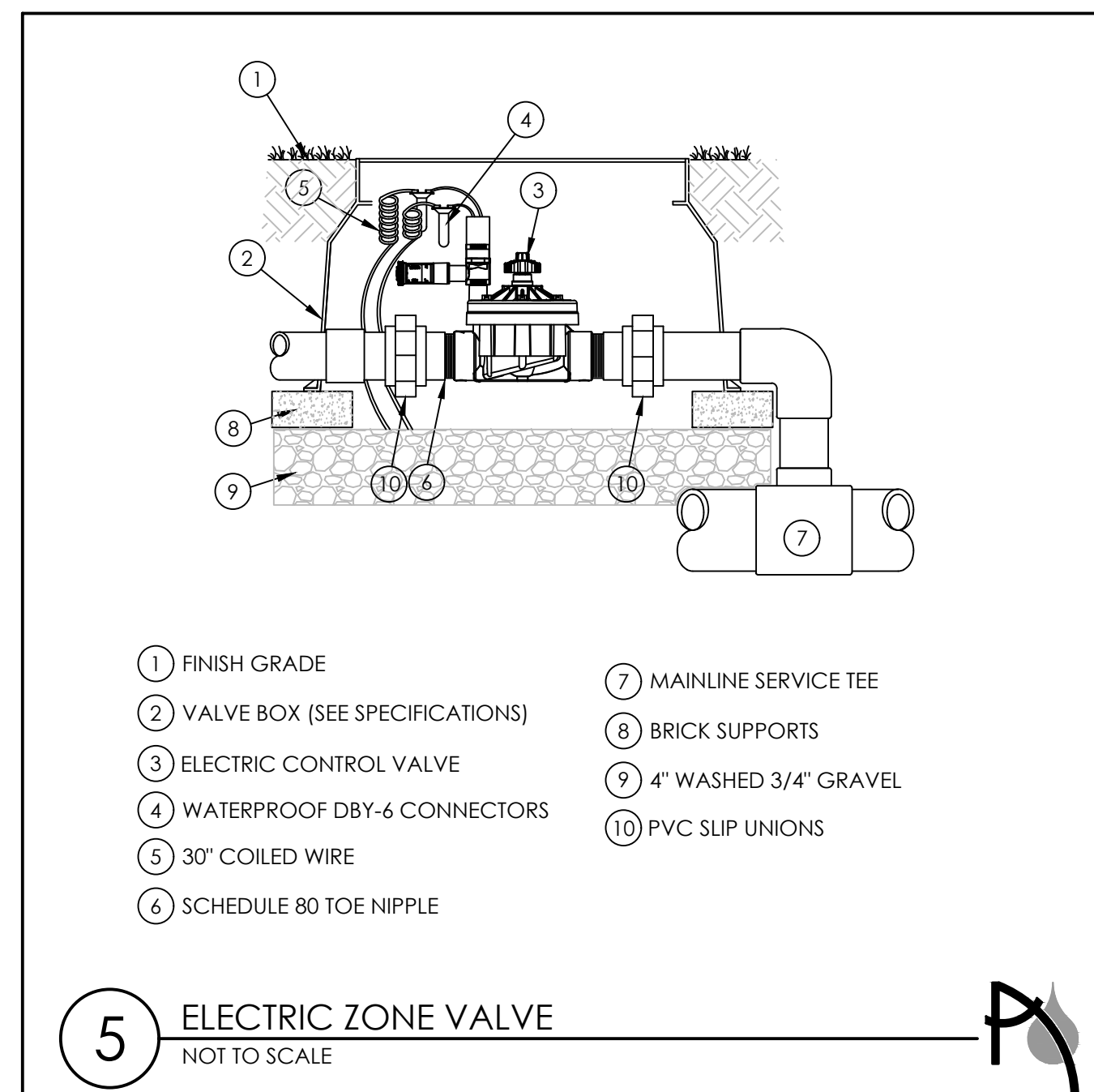
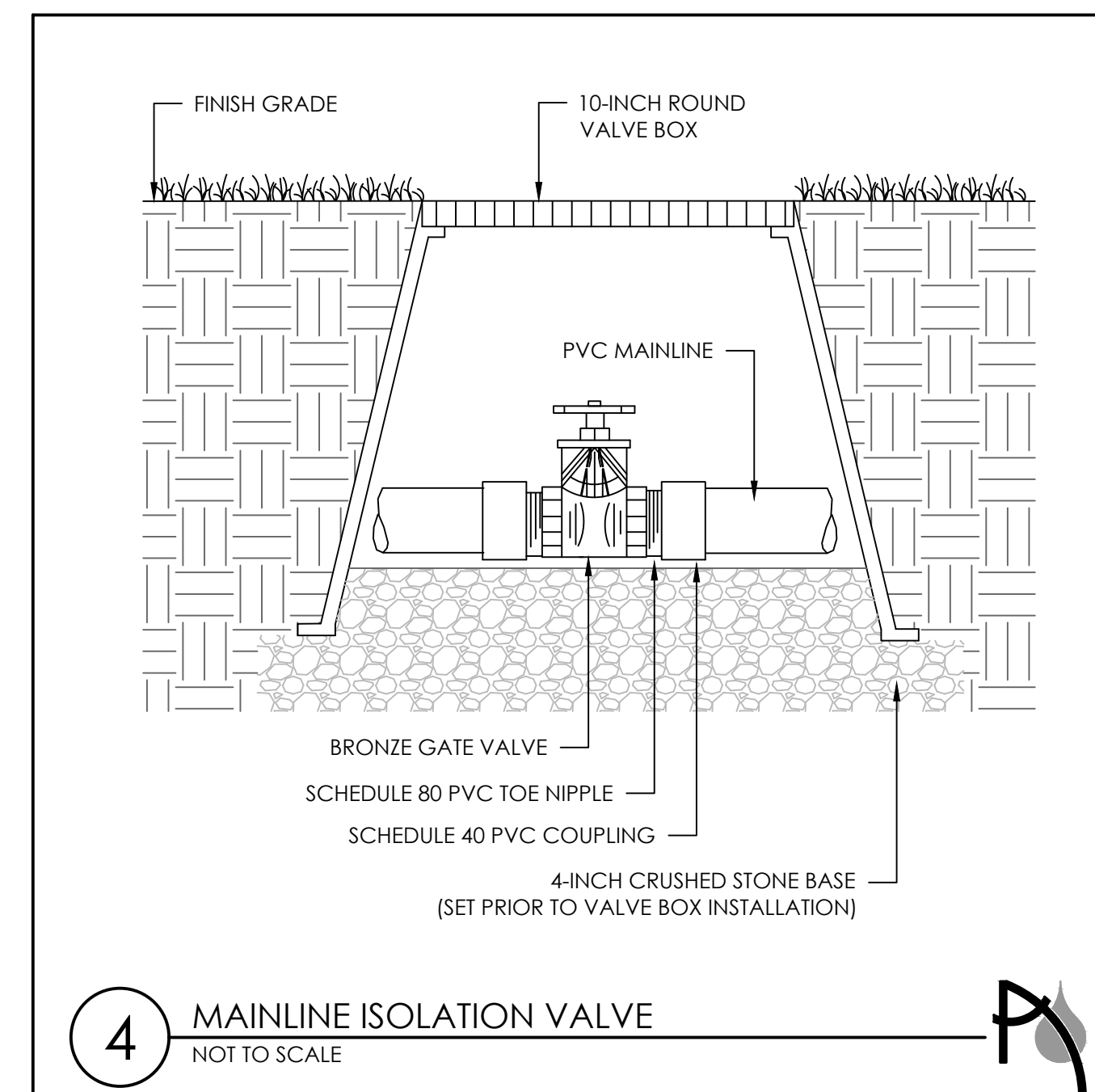
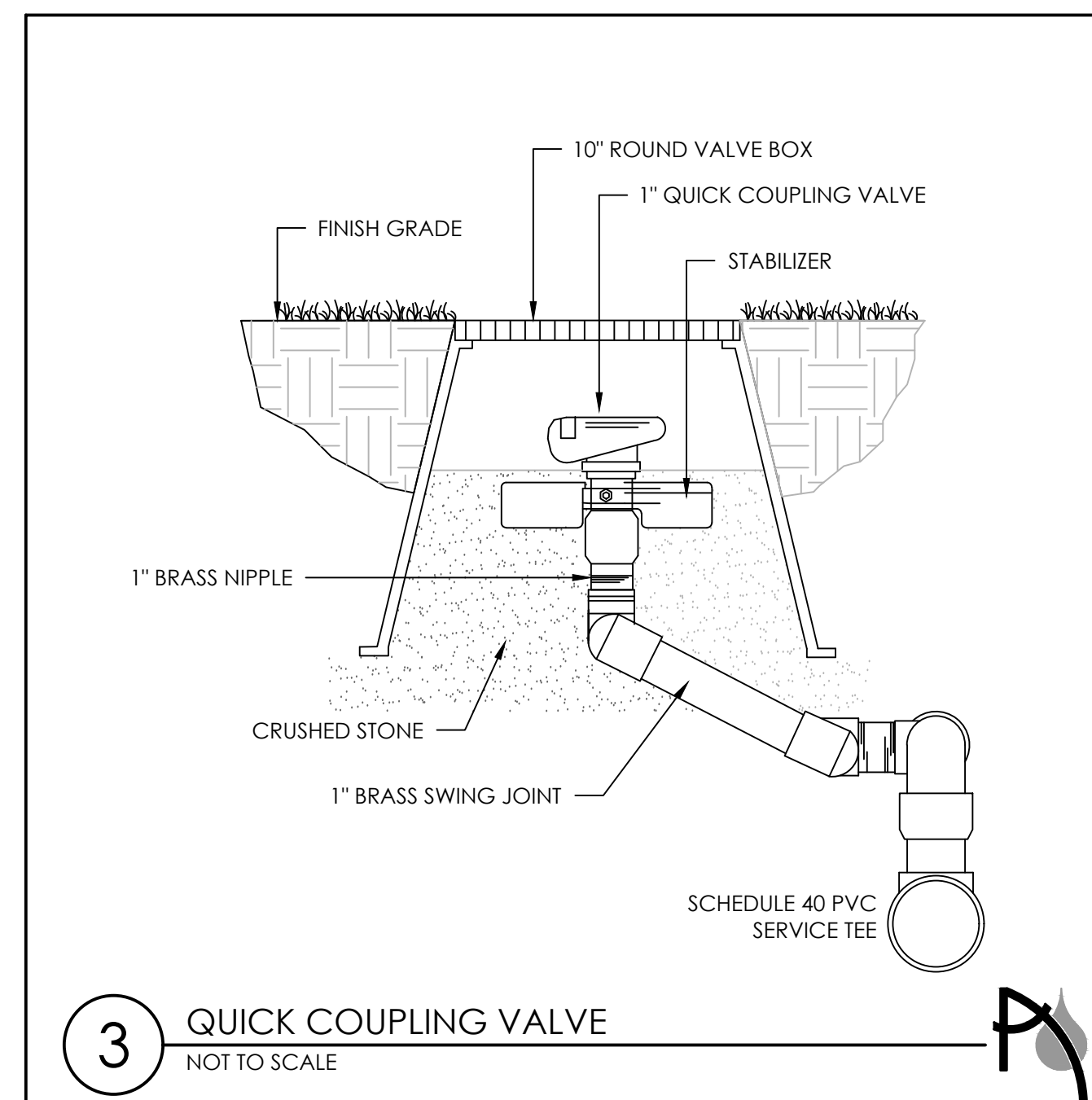
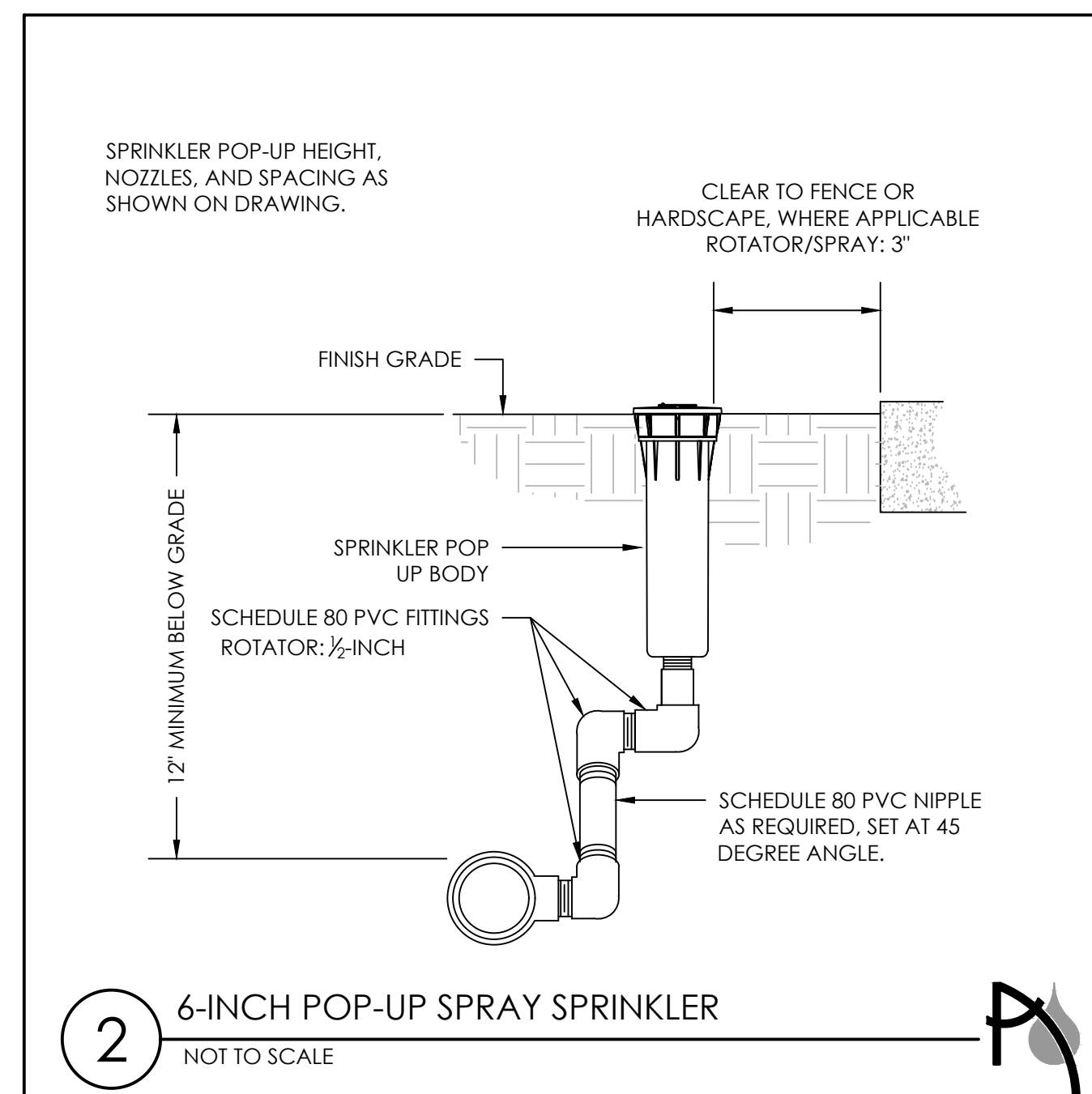
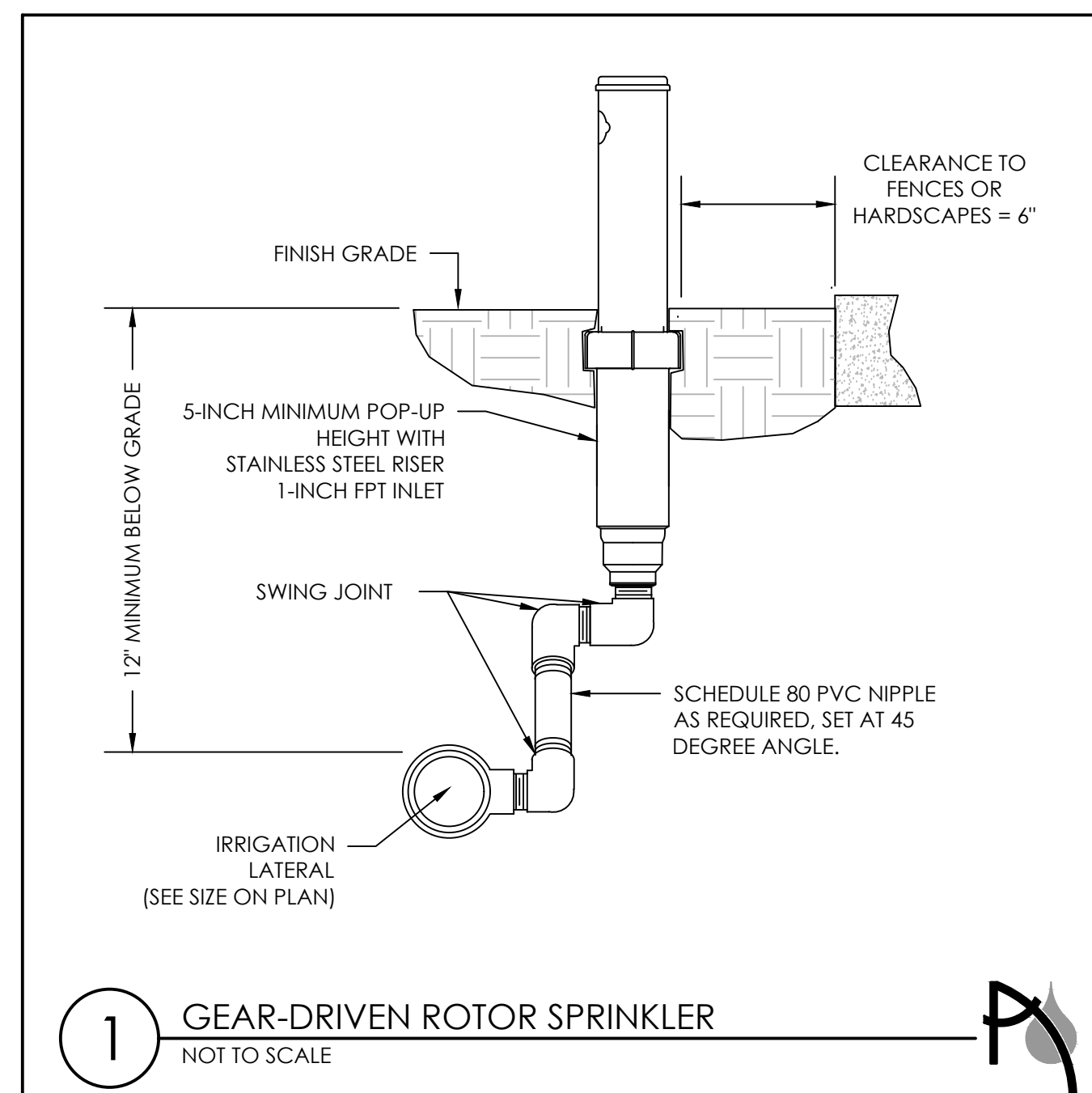
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ORG. DATE - 09/23/2021

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RHODE ISLAND No. 419
NEW YORK No. 002359
NEW HAMPSHIRE No. 109
CONNECTICUT No. 1359
MAINE No. 4248
OHIO No. 250438

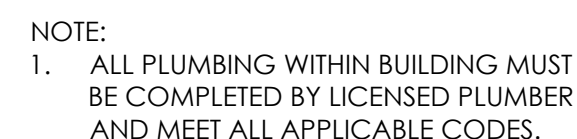
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IRRIGATION DETAILS

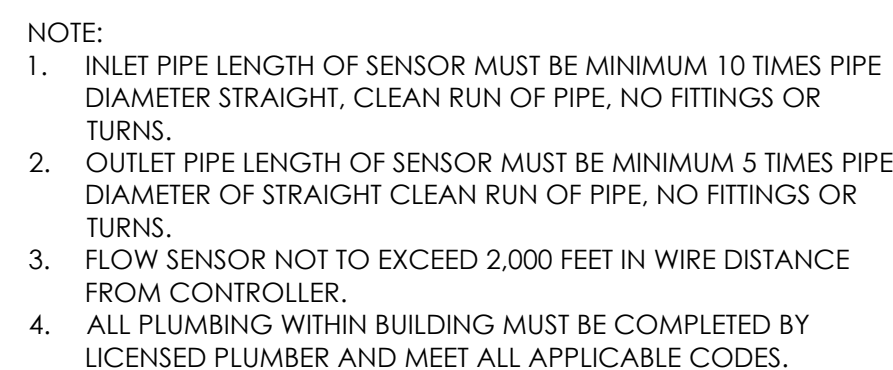
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ORG. DATE - 09/23/2021



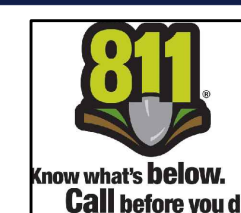
10 MASTER VALVE IN VALVE BOX
NOT TO SCALE



11 FLOW SENSOR IN VALVE BOX
NOT TO SCALE



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CONNECTICUT No. 1359
MAINE No. 4248
@HQ No. 250438

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SHEET NUMBER:

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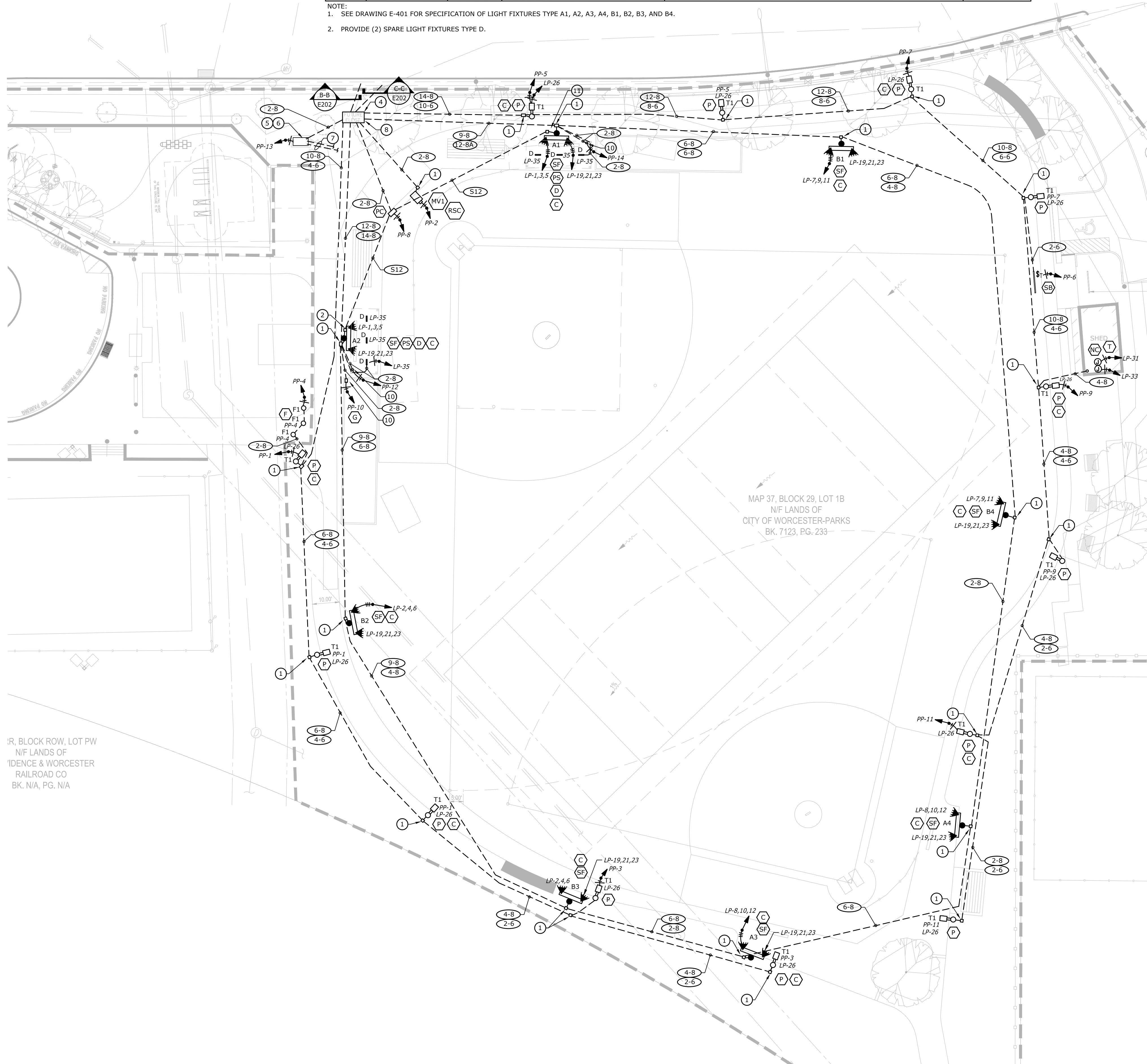
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LIGHTING FIXTURE SCHEDULE

CALLOUT	SYMBOL	LAMP	DESCRIPTION	MODEL	VOLTS
D	I	(1)	VANDAL RESISTANT FIXTURE	LUMINAIRE LVP524-2FT-NO DIM-15W-40K-MVOLT-CLP-WHT-K02-WL-WET LISTED PROVIDE CUSTOM WIREGUARD	277V 1P 2W
F1	O	LED	POLE MOUNTED LED LIGHT	FIXTURE PROVIDED WITH FLAG POLE	120V 1P 2W
T1		LED	DECORATIVE OUTDOOR ACORN LIGHTING FIXTURE WITH POLE	HOLOGRAPHIC GPD3 P30 40K MVOLT MS GL5 BK ST TBK NYA 14 SL5 17D C03 BK ABG RP156A FGJUL BK BA 100P 24IN 1A BO SL5 AC BK BA 100P 24IN 1A BO SL5 AC BK ASSY12387-GFCI RECEPTACLE-PROVIDE WITH POLE AND (2) BANNER PIPES. FOR EACH POLE, PROVIDE THE FOLLOWING POLE SHAFT MOUNTING ACCESSORIES FOR CAMERAS AND BOXES (FOR EACH POLE): (2) TNUT3/8-125SM and (2) SLAUXWIRELSBK. NOTE: BANNER ARMS TO FACE IN THE SAME DIRECTION (OVER PAVEMENT).	277V 1P 2W

- NOTE:
- SEE DRAWING E-401 FOR SPECIFICATION OF LIGHT FIXTURES TYPE A1, A2, A3, A4, B1, B2, B3, AND B4.
 - PROVIDE (2) SPARE LIGHT FIXTURES TYPE D.



IR, BLOCK ROW, LOT PW
N/F LANDS OF
IDENCE & WORCESTER
RAILROAD CO
BK. N/A, PG. N/A

KEYED NOTES

- HANDHOLE FOR POWER. 10"WX18"x15"D.
- HANDHOLE FOR SPEAKER WIRING. 10"WX18"x15"D.
- HANDHOLE FOR COMMUNICATIONS. 24"W X 36"L X 22"D.
- ELECTRIC CABINET, NEMA 3R STAINLESS STEEL, CONTRACTOR TO SIZE CABINET. COORDINATE WITH SIZES OF PANELBOARD, TRANSFORMER, SECURITY CONTROLS AND EQUIPMENT TO BE INSTALLED WITHIN CABINETS AND SPACE FOR FUTURE EQUIPMENT. DIMENSIONS SHOWN ARE TYPICAL AND ARE FOR REFERENCE ONLY.
- IRRIGATION CONTROLLER.
- PROVIDE GFCI RECEPTACLE WITH LOCKING SWITCH FOR IRRIGATION SYSTEM. GROUND IRRIGATION SYSTEM PER THIS DETAIL. FIELD COORDINATE EXACT LOCATION OF IRRIGATION CONTROLLER PRIOR TO INSTALLATION. SEE DETAIL #9 ON DRAWING IR-2.0 FOR DETAIL.
- FURNISH AND INSTALL TWO CONDUITS FROM IRRIGATION CONTROLLER PER DETAIL ON DRAWING. FIELD COORDINATE TERMINATION OF CONDUITS.
- MUSCO LIGHTING CONTROL CABINETS, LOCATED IN ELECTRICAL CABINET.
- EXISTING HANDHOLE.
- PROVIDE GFCI RECEPTACLES WITH A 2-GANG BOX IN AN ENCLOSED WEATHER TIGHT LOCKABLE ENCLOSURE IN THE DUGOUT AND BATTING CAGE/BULPEN.

GENERAL NOTES

- CARRY IN BID 175' OF CONDUIT, FEEDER AND TRENCHING FOR ELECTRICAL SECONDARY SERVICE FROM THE ELECTRICAL CABINET TO THE UTILITY POLE.
- CARRY IN BID 175' OF CONDUIT, CABLING AND TRENCHING FOR COMMUNICATIONS (INTERNET SERVICE) FROM THE ELECTRICAL CABINET TO THE UTILITY POLE.
- ELECTRICAL SUBCONTRACTOR TO INSTALL AND TERMINATE FIBER CABLING FOR CAMERAS.
- FURNISH AND INSTALL ALL CAMERAS AND ASSOCIATED ACCESSORIES (FIBER TRANSCEIVERS, MEDIA CONVERTERS, THERMOSTATS, NEMA 3R ENCLOSURE) AND POWER OUTLET, TRANSFORMERS AND NEMA 4X ENCLOSURE. SEE DETAIL.
- ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL FIBER TRANSCEIVER AND MEDIA CONVERTERS IN THE ELECTRICAL CABINET AND THE SHED (FOR NETWORK CABINET).
- ALL LIGHT FIXTURES ARE TO BE WIRED VIA RELAYS IN THE LIGHTING CONTROL SYSTEM CABINET.
- RECEPTACLES IN THE DUGOUT, BATTING CAGE, AND POWER FOR MUSCOVISION CAMERA AND NETWORK CABINET TO BE WIRED VIA RELAYS IN THE MUSCO PANEL.
- MUSCO TO PROVIDE (2) BANNER ARMS PER SPORTS FIELD LIGHTING POLES.
- LIGHT FIXTURE TYPE D TO BE SURFACE MOUNTED TOGETHER WITH THE ASSOCIATED CONDUIT. CONDUIT SHALL ENTER AND EXIT FROM THE SIDE OF THE FIXTURE HOUSING.
- SEE DRAWING E-102 FOR CAMERA POWER CIRCUITS.

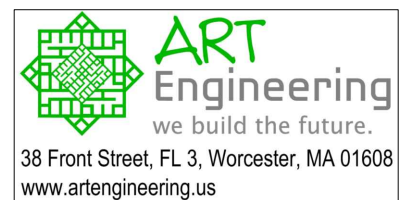
KEYED NOTES

TAG	DESCRIPTION	FED FROM	VOLTAGE	FEEDER / CABLE
C	SECURITY CAMERA PROVIDED BY ELECTRICAL CONTRACTOR, TO BE MOUNTED ON LIGHT POLE. A. FURNISH, INSTALL AND TERMINATE FIBER CABLING FOR EACH CAMERA. TERMINATE ALL STRANDS AT BOTH ENDS. FURNISH AND INSTALL (1) HEATER AND THERMOSTAT, (1) FIBER TRANSCEIVER, (1) POE INJECTOR, (1) LIGHTNING PROTECTION, NEMA 4X ENCLOSURE AT EACH POLE WITH CAMERA. B. FURNISH AND INSTALL 1.5kVA 277V TO 120V STEPDOWN TRANSFORMER AND DOUBLE DUPLEX RECEPTACLE IN NEMA 4X ENCLOSURES AT EACH POLE WITH CAMERA CAMERA. THE ENCLOSURE SHALL BE BY STAHLIN PART# RJ1614HW-P, TYPE# 1,3R,4X,6P,12 PAINTED BLACK, OR APPROVED EQUAL. C. FURNISH AND INSTALL FIBER TRANSCEIVERS, AND MEDIA CONVERTERS FOR EACH CAMERA IN THE ELECTRICAL CABINET. PROVIDE POWER OUTLETS IN THE ELECTRICAL CABINETS.	ELECTRICAL PANEL TRANSFORMER 277 TO 120V ELECTRICAL CABINET TO EACH CAMERA	277V TO 120V	2#8 AWG & 1#10 AWG GND FIBER CABLING TO EACH CAMERA SHALL BE 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
D	DUGOUT LIGHTS	MUSCO PANEL	277V	2#8 AWG & 1#10 AWG GND
F	FLAG POLE LIGHT	MUSCO PANEL	120V	2#8 AWG & 1#10 AWG GND
G	GFCI RECEPTACLES (2-GANG BOX) WITH LOCKABLE ENCLOSURE IN DUGOUTS AND BATTING CAGE	MUSCO PANEL	120V	2#8 AWG & 1#10 AWG GND
MV1	MUSCOVISION CAMERA. BACKSTOP MOUNTED. PROVIDE OUTDOOR RATED ETHERNET CABLING. RECOMMENDED MOUNTING HEIGHT BETWEEN 12'-15'	NETWORK CABINET		OUTDOOR RATED ETHERNET CABLING
MV2	MUSCOVISION CAMERA. POLE MOUNTED. PROVIDE 12FT FIBERGLASS POLE. PROVIDE POWER. PROVIDE DUPLEX RECEPTACLE IN NEMA 4X ENCLOSURE. INSTALL (2) OUTDOOR RATED ETHERNET CABLING FROM REMOTE SWITCH CABINET LOCATED ON THE POLE TO CAMERA.	MUSCO PANEL AND REMOTE SWITCH CABINET ON POLE	120V	2#8 AWG & 1#10 AWG GND (2) OUTDOOR RATED ETHERNET CABLING
NC	NETWORK CABINET. PROVIDE POWER AND INTERNET CABLING. PROVIDE 5KVA 277V TO 120V TRANSFORMER IN NEMA 4R ENCLOSURE AND DOUBLE DUPLEX RECEPTACLE FOR FIBER TRANSCEIVER.	MUSCO PANEL TRANSFORMER 277 TO 120V	277V TO 120V	2#8 AWG & 1#10 AWG GND
P	PEDESTRIAN POLE MOUNTED LIGHT WITH POLE MOUNTED GFCI RECEPTACLE (INTEGRAL)	MUSCO PANEL ELECTRICAL PANEL	277V 120V	2#8 AWG & 1#10 AWG GND 2#6 AWG & 1#8 AWG GND
PC	PA SYSTEM CABINET. PROVIDE GFCI RECEPTACLE IN THE CABINET	ELECTRICAL CABINET	120V	2#8 AWG & 1#10 AWG GND
PS	PA SYSTEM SPEAKER. 12 GAUGE MINIMUM WATERPROOF CABLE.	PA SYSTEM CABINET		MINIMUM #12
RSC	REMOTE SWITCH CABINET FOR CAMERA.	ELECTRICAL CABINET	120V	2#8 AWG & 1#10 AWG GND
SB	SCOREBOARD. PROVIDE NEMA 3R DISCONNECT SWITCH.	ELECTRICAL CABINET	120V	2#6 AWG & 1#8 AWG GND
SF	SPORTS FIELD LIGHTS	MUSCO PANEL	480V	3#8 AWG & 1#10 AWG GND
T	FURNISH AND INSTALL FIBER TRANSCEIVER, MEDIA CONVERTER, 1.5KVA 277V TO 120V STEPDOWN TRANSFORMER AND DOUBLE DUPLEX RECEPTACLE IN NEMA 4X ENCLOSURE IN THE SHED FOR INTERNET SERVICE. FURNISH AND INSTALL FIBER TRANSCEIVER, MEDIA CONVERTER AND DUPLEX RECEPTACLE IN THE ELECTRICAL CABINET.	ELECTRICAL PANEL TRANSFORMER	277V TO 120V	2#8 AWG & 1#10 AWG GND (1) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER IN 2"C

WIRE SCHEDULE

2-8	2#8 AWG & 1#10 AWG GND IN 2"C.	2-6	2#6 AWG & 1#8 AWG GND IN 2"C.	4A	2" HDPE CONDUIT FOR CAMERA CABLING. (4) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
3-8	3#8 AWG & 1#10 AWG GND IN 2"C.	4-6	4#6 AWG & 1#8 AWG GND IN 2"C.	5A	2" HDPE CONDUIT FOR CAMERA CABLING. (5) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
4-8	2#8 AWG & 1#10 AWG GND IN 2"C.	6-6	6#6 AWG & 1#8 AWG GND IN 2"C.	6A	2" HDPE CONDUIT FOR CAMERA CABLING. (6) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
6-8	2#8 AWG & 1#10 AWG GND IN 2"C.	8-6	8#6 AWG & 2#8 AWG GND IN 2"C.	7A	2" HDPE CONDUIT FOR CAMERA CABLING. (7) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
8-8	8#8 AWG & 2#10 AWG GND IN 2"C.	10-6	10#6 AWG & 2#8 AWG GND IN 2"C.	1B	2" HDPE CONDUIT TO EXISTING HANDHOLE.
9-8	9#8 AWG & 1#10 AWG GND IN 2"C.	12-6	12#6 AWG & 2#8 AWG GND IN 2"C.	ETH	OUTDOOR RATED ETHERNET CABLE
10-8	10#8 AWG & 2#10 AWG GND IN 2"C.	S12	MINIMUM 2#12G WATERPROOF CABLE FOR PA SPEAKER IN 1"C. INSTALL CABLING PER MANUFACTURER RECOMMENDATIONS		
12-8	12#8 AWG & 2#10 AWG GND IN 2"C.	1A	2" HDPE CONDUIT FOR CAMERA CABLING. (1) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER		
12-8A	12#8 AWG & 3#10 AWG GND IN 2"C.	2A	2" HDPE CONDUIT FOR CAMERA CABLING. (2) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER		
14-8	14#8 AWG & 3#10 AWG GND IN 2"C.	3A	2" HDPE CONDUIT FOR CAMERA CABLING. (3) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER		

1"= 20'



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REVISIONS

REV	DATE	COMMENT	DRAWN BY	CHECKED BY



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PROJECT No.: W2111559
DRAWN BY: CV
CHECKED BY: ~AR/RB~
DATE: 03/16/2022
CAD ID: W2111559-X-TTB

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR



PROPOSED DEVELOPMENT

165 ARARAT STREET
WORCESTER OF
WORCESTER COUNTY,
MASSACHUSETTS

BOHLER

352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900

www.BohlerEngineering.com

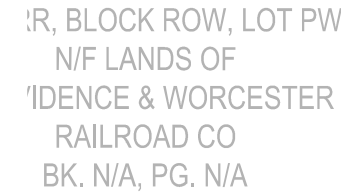
SHEET TITLE:

**ELECTRICAL
SITE
PLAN**

SHEET NUMBER:

E-101

ORG. DATE - 04/06/2022



KEYED NOTES

- ① HANDHOLE FOR POWER. 10"X18"X15"D.
- ② HANDHOLE FOR SPEAKER WIRING. 10"X18"X15"D.
- ③ HANDHOLE FOR COMMUNICATIONS. 24"X 36"L X 3" D.
- ④ ELECTRIC CABINET, NEMA 3R STAINLESS STEEL, CONTRACTOR TO SIZE CABINET. COORDINATE WITH SIZES OF PANELBOARD, TRANSFORMER, SECURITY CONTROLS AND EQUIPMENT TO BE INSTALLED WITHIN CABINETS AND SPACE FOR FUTURE EQUIPMENT. DIMENSIONS SHOWN ARE TYPICAL AND ARE FOR REFERENCE ONLY.
- ⑤ IRRIGATION CONTROLLER.
- ⑥ PROVIDE GFCI RECEPTACLE WITH LOCKING SWITCH FOR IRRIGATION SYSTEM. GROUND IRRIGATION SYSTEM PER THIS DETAIL. FIELD COORDINATE EXACT LOCATION OF IRRIGATION CONTROLLER PRIOR TO INSTALLATION. SEE DETAIL #9 ON DRAWING IR-2.0 FOR DETAIL.
- ⑦ FURNISH AND INSTALL TWO CONDUITS FROM IRRIGATION CONTROLLER PER DETAIL ON DRAWING. FIELD COORDINATE TERMINATION OF CONDUITS.
- ⑧ MUSCO LIGHTING CONTROL CABINETS, LOCATED IN ELECTRICAL CABINET.
- ⑨ EXISTING HANDHOLE.
- ⑩ PROVIDE GFCI RECEPTACLES WITH A 2-GANG BOX IN AN ENCLOSED WEATHER TIGHT LOCKABLE ENCLOSURE IN THE DUGOUT AND BATTING CAGE/BULPEN.

GENERAL NOTES

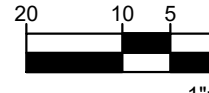
1. CARRY IN BID 175' OF CONDUIT, FEEDER AND TRENCHING FOR ELECTRICAL SECONDARY SERVICE FROM THE ELECTRICAL CABINET TO THE UTILITY POLE.
2. CARRY IN BID 175' OF CONDUIT, CABLEING AND TRENCHING FOR COMMUNICATIONS (INTERNET SERVICE) FROM THE ELECTRICAL CABINET TO THE UTILITY POLE.
3. ELECTRICAL SUBCONTRACTOR TO INSTALL AND TERMINATE FIBER CABLEING FOR CAMERAS.
4. FURNISH AND INSTALL ALL CAMERAS AND ASSOCIATED ACCESSORIES (FIBER TRANSCEIVERS, MEDIA CONVERTERS, THUNDERBOLT, NEMA 3R ENCLOSURE) AND POWER OUTLET, TRANSFORMERS AND NEMA 4X ENCLOSURE. SEE DETAIL.
5. ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL FIBER TRANSCEIVER AND MEDIA CONVERTERS IN THE ELECTRICAL CABINET AND THE SHED (FOR NETWORK CABINET).
6. ALL LIGHT FIXTURES ARE TO BE WIRED VIA RELAYS IN THE LIGHTING CONTROL SYSTEM PANEL.
7. RECEPTACLES IN THE DUGOUT, BATTING CAGE, AND POWER FOR MUSCOVISION CAMERA AND NETWORK CABINET TO BE WIRED VIA RELAYS IN THE MUSCO PANEL.
8. MUSCO TO PROVIDE (2) BANNER ARMS PER SPORTS FIELD LIGHTING POLES.
9. LIGHT FIXTURE TYPE D TO BE SURFACE MOUNTED TOGETHER WITH THE ASSOCIATED CONTROL. CONDUIT SHALL ENTER AND EXIT FROM THE SIDE OF THE FIXTURE HOUSING.
10. SEE DRAWING E-102 FOR CAMERA POWER CIRCUITS.


KEYED NOTES

TAG	DESCRIPTION	FED FROM	VOLTAGE	FEEDER / CABLE
C	SECURITY CAMERA PROVIDED BY ELECTRICAL CONTRACTOR, TO BE MOUNTED ON LIGHT POLE. A. FURNISH, INSTALL AND TERMINATE FIBER CABLEING FOR EACH CAMERA. TERMINATE ALL STRANDS AT BOTH ENDS. FURNISH AND INSTALL (1) HEATER AND THERMOSTAT, (1) FIBER TRANSCEIVER, (1) POE INJECTOR, (1) LIGHTNING PROTECTION, NEMA 4X ENCLOSURE AT EACH POLE WITH CAMERA B. FURNISH AND INSTALL 1.5kVA 277V TO 120V STEPDOWN TRANSFORMER AND DOUBLE DUPLEX RECEPTACLE IN NEMA 4X ENCLOSURES AT EACH POLE WITH CAMERA. CAMERA, THE ENCLOSURE SHALL BE BY STAHLIN PART# RJ1614HW-P, TYPE# 1,3R,4X,6P,12 PAINTED BLACK, OR APPROVED EQUAL. C. FURNISH AND INSTALL FIBER TRANSCEIVERS, AND MEDIA CONVERTERS FOR EACH CAMERA IN THE ELECTRICAL CABINET. PROVIDE POWER OUTLETS IN THE ELECTRICAL CABINETS.	ELECTRICAL PANEL TRANSFORMER 277 TO 120V ELECTRICAL CABINET TO EACH CAMERA	277V TO 120V	2#8 AWG & 1#10 AWG GND FIBER CABLEING TO EACH CAMERA SHALL BE 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
D	DUGOUT LIGHTS	MUSCO PANEL	277V	2#8 AWG & 1#10 AWG GND
F	FLAG POLE LIGHT	MUSCO PANEL	120V	2#8 AWG & 1#10 AWG GND
G	GFCI RECEPTABLES (2-GANG BOX) WITH LOCKABLE ENCLOSURE IN DUGOUTS AND BATTING CAGE	MUSCO PANEL	120V	2#8 AWG & 1#10 AWG GND
MV1	MUSCOVISION CAMERA. BACKSTOP MOUNTED. PROVIDE OUTDOOR RATED ETHERNET CABLING. RECOMMENDED MOUNTING HEIGHT BETWEEN 12'-15'	NETWORK CABINET		OUTDOOR RATED ETHERNET CABLING
MV2	MUSCOVISION CAMERA. POLE MOUNTED. PROVIDE 12FT FIBERGLASS POLE. PROVIDE POWER. PROVIDE DUPLEX RECEPTACLE IN NEMA 4X ENCLOSURE. INSTALL (2) OUTDOOR RATED ETHERNET CABLING FROM REMOTE SWITCH CABINET LOCATED ON THE POLE TO CAMERA.	MUSCO PANEL AND REMOTE SWITCH CABINET ON POLE	120V	2#8 AWG & 1#10 AWG GND (2) OUTDOOR RATED ETHERNET CABLING
NC	NETWORK CABINET. PROVIDE POWER AND INTERNET CABLING. PROVIDE 5KVA 277V TO 120V TRANSFORMER IN NEMA 4R ENCLOSURE AND DOUBLE DUPLEX RECEPTACLE FOR FIBER TRANSCEIVER.	MUSCO PANEL TRANSFORMER 277 TO 120V	277V TO 120V	2#8 AWG & 1#10 AWG GND
P	PEDESTRIAN POLE MOUNTED LIGHT WITH POLE MOUNTED GFCI RECEPTACLE (INTEGRAL)	MUSCO PANEL ELECTRICAL PANEL	277V 120V	2#8 AWG & 1#10 AWG GND 2#6 AWG & 1#8 AWG GND
PC	PA SYSTEM CABINET. PROVIDE GFCI RECEPTACLE IN THE CABINET	ELECTRICAL CABINET	120V	2#8 AWG & 1#10 AWG GND
PS	PA SYSTEM SPEAKER. 12 GAUGE MINIMUM WATERPROOF CABLE.	PA SYSTEM CABINET		MINIMUM #12
RSC	REMOTE SWITCH CABINET FOR CAMERA.	ELECTRICAL CABINET	120V	2#8 AWG & 1#10 AWG GND
SB	SCOREBOARD. PROVIDE NEMA 3R DISCONNECT SWITCH.	ELECTRICAL CABINET	120V	2#6 AWG & 1#8 AWG GND
SF	SPORTS FIELD LIGHTS	MUSCO PANEL	480V	3#8 AWG & 1#10 AWG GND
T	FURNISH AND INSTALL FIBER TRANSCEIVER, MEDIA CONVERTER, 1.5KVA 277V TO 120V STEPDOWN TRANSFORMER AND DOUBLE DUPLEX RECEPTACLE IN NEMA 4X ENCLOSURE IN THE SHED FOR INTERNET SERVICE. FURNISH AND INSTALL FIBER TRANSCEIVER, MEDIA CONVERTER AND DOUBLE RECEPTACLE IN THE ELECTRICAL CABINET.	ELECTRICAL PANEL TRANSFORMER	277V TO 120V	2#8 AWG & 1#10 AWG GND (1) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER IN 2"

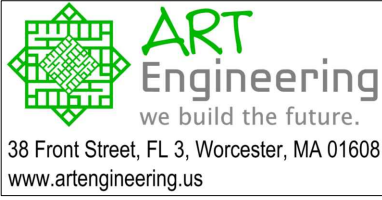
WIRE SCHEDULE

(2-8)	2#8 AWG & 1#10 AWG GND IN 2".	(2-6)	2#6 AWG & 1#8 AWG GND IN 2".	(4A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (4) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
(3-8)	3#8 AWG & 1#10 AWG GND IN 2".	(4-6)	4#6 AWG & 1#8 AWG GND IN 2"	(5A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (5) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
(4-8)	2#8 AWG & 1#10 AWG GND IN 2".	(6-6)	6#6 AWG & 1#8 AWG GND IN 2".	(6A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (6) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
(6-8)	2#8 AWG & 1#10 AWG GND IN 2".	(8-6)	8#6 AWG & 2#8 AWG GND IN 2".	(7A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (7) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER
(8-8)	8#8 AWG & 2#10 AWG GND IN 2".	(10-6)	10#6 AWG & 2#8 AWG GND IN 2".	(1B)	2" HDPE CONDUIT TO EXISTING HANDHOLE.
(9-8)	9#8 AWG & 1#10 AWG GND IN 2".	(12-6)	12#6 AWG & 2#8 AWG GND IN 2".	(ETH)	OUTDOOR RATED ETHERNET CABLE
(10-8)	10#8 AWG & 2#10 AWG GND IN 2".	(S12)	MINIMUM 2#12G WATERPROOF CABLE FOR PA SPEAKER IN 1". INSTALL CABLEING PER MANUFACTURER RECOMMENDATIONS		
(12-8)	12#8 AWG & 2#10 AWG GND IN 2".				
(12-8A)	12#8 AWG & 3#10 AWG GND IN 2".	(1A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (1) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER		
(14-8)	14#8 AWG & 3#10 AWG GND IN 2".	(2A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (2) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER		
		(3A)	2" HDPE CONDUIT FOR CAMERA CABLEING. (3) 12-STRAND SINGLE MODE OUTDOOR PLANT FIBER		





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PROJECT No.:	W211159
DRAWN BY:	CV
CHECKED BY:	~ AR/RB ~
DATE:	03/15/2022
CAD I.D.:	W211159-X-TTB

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

FOR



PROPOSED DEVELOPMENT

165 ARARAT STREET
WORCESTER OF
WORCESTER COUNTY
MASSACHUSETTS

BOHLER //

352 TURNPIKE ROAD
SOUTHBOROUGH, MA 01772
Phone: (508) 480-9900

www.BohlerEngineering.com

SHEET TITLE

ELECTRICAL SITE PLAN

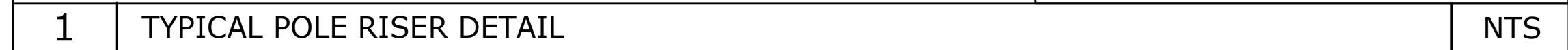
SHEET NUMBER

E-102

ORG. DATE - 04/06/2022

New Panel	MOUNTING SURFACE	VOLTS	208Y/120V 3P 4W
PP	FED FROM T-PP	BUS AMPS	100

CKT #	CKT BKR	CIRCUIT DESCRIPTION	CKT #	CKT BKR	CIRCUIT DESCRIPTION
1	20/1	RECEPTACLE AT LIGHT POLE	a	2 20/1	REMOTE CAMERA CABINET
3	20/1	RECEPTACLE AT LIGHT POLE	b	4 20/1	FLAG POLE LIGHTING
5	20/1	RECEPTACLE AT LIGHT POLE	c	6 20/1	SCOREBOARD
7	20/1	RECEPTACLE AT LIGHT POLE	d	8 20/1	PA SPEAKER CABINET — GFCI RECEPTACLE
9	20/1	RECEPTACLE AT LIGHT POLE	b	10 20/1	RECEPTACLE AT BATTING CAGE
11	20/1	RECEPTACLE AT LIGHT POLE	c	12 20/1	RECEPTACLE IN THE DUGOUT
13	20/1	GFCI RECEPTACLE WITH LOCKING SWITCH	d	14 20/1	RECEPTACLE IN THE DUGOUT
15	20/1	SPARE	b	16 20/1	SPARE
17	20/1	SPARE	c	18 20/1	SPARE
19	20/1	SPARE	d	20 20/1	SPARE
21	20/1	SPARE	b	22 20/1	SPARE
23	20/1	SPARE	c	24 20/1	SPARE
25	20/1	SPARE	d	26 20/1	SPARE
27	20/1	SPARE	b	28 20/1	SPARE
29	20/1	SPARE	c	30 20/1	SPARE
31	20/1	SPARE	d	32 20/1	SPARE
33	20/1	SPARE	b	34 20/1	SPARE
35	20/1	SPARE	c	36 20/1	SPARE
37	20/1	SPARE	d	38 20/1	SPARE
39	20/1	SPARE	b	40 20/1	SPARE
41	20/1	SPARE	c	42 20/1	SPARE



16. WHERE CONFLICTS ARE FOUND BETWEEN DRAWINGS, SPECIFICATIONS, LAWS & ORDINANCES, THE MOST STRINGENT SHALL APPLY.
17. SUBMIT FOR APPROVAL, COMPLETE SHOP DRAWINGS, LIST OF MATERIALS AND DETAILED DATA OF EQUIPMENT GIVING THE MANUFACTURERS NAME, CATALOG NUMBER, VOLTAGE, CAPACITY AND DIMENSIONS. SUBMIT SHOP DRAWINGS FOR APPROVAL ONLY AFTER VERIFYING ALL DIMENSIONS, CONFIRM THAT THE EQUIPMENT, DEVICES, FIXTURES, ETC. CAN BE INSTALLED WITHOUT MODIFICATIONS. NO EQUIPMENT SHALL BE INSTALLED OR FABRICATED WITHOUT OBTAINING APPROVAL. ANY MODIFICATIONS REQUIRED, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
18. SUBMIT FOR APPROVAL PRODUCTS THAT ARE APPROVED EQUAL ONLY. IT SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL SUBCONTRACTOR TO VERIFY THAT THE SUBSTITUTED SYSTEMS ARE APPROVED EQUAL. IN THE EVENT THAT UNAPPROVED SYSTEMS ARE SUBMITTED FOR APPROVAL, THE ELECTRICAL SUBCONTRACTOR SHALL RETURN THESE SYSTEMS TO THE VENDOR AND FURNISH AND INSTALL APPROVED SYSTEMS AT NO ADDITIONAL COST TO THE OWNER.
19. ELECTRICAL SUBCONTRACTOR SHALL FURNISH AND INSTALL MOTOR STARTERS FOR ALL MOTORS, UNLESS CLEARLY INDICATED OTHERWISE ON THE CONTRACT DOCUMENTS. PROVIDE WITH NEMA ENCLOSURE SUITABLE TO THE ENVIRONMENT. THREE PHASE MOTORS SHALL BE PROVIDED WITH A COMBINATION MAGNETIC MOTOR STARTER WITH AMBIENT COMPENSATED OVERLOAD HEATERS IN EACH UNGROUNDED LEG. SHORT CIRCUIT AND GROUND FAULT PROTECTION SHALL BE BY FUSED DISCONNECT SWITCH AS SHOWN OR SPECIFIED. PROVIDE (1) SET OF NO AND (1) SET OF NC AUXILIARY CONTACTS.
20. MANUALLY CONTROLLED SINGLE PHASE MOTORS SHALL HAVE FULLY RATED MANUAL MOTOR STARTER SWITCHES WITH O.L. HEATERS IN EACH UNGROUNDED LEG.
21. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED.
22. ALL PANELBOARDS SHALL BE MOUNTED SO THAT THE DISTANCE FROM THE TOP CIRCUIT BREAKER OPERATING HANDLE TO THE FLOOR SHALL NOT EXCEED 6'-6".
23. ALL NON-LOCKING RECEPTACLES IN DAMP AND WET LOCATIONS SHALL BE GFCI AND LISTED AS WEATHER RESISTANT TYPE PER NEC.
24. SWITCHGEAR & PANEL DESIGNATIONS ARE INTENDED TO BE INTERPRETTED AS INDICATED BELOW:
BLANK: CONTAINS NECESSARY BUS AND HARDWARE FOR FUTURE ADDITION OF BREAKERS OR STARTERS WITHIN SIZE RANGE SHOWN.
SPACE: CONTAINS NECESSARY BUS AND HARDWARE FOR FUTURE ADDITION OF BREAKERS OR STARTERS WITHIN SIZE RANGE SHOWN.
SPARE: CONTAINS A COMPLETE BREAKER OR STARTER INSTALLED, SIZE AS INDICATED AVAILABLE FOR FUTURE USE.
25. THE ELECTRICAL SUBCONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION OF EXISTING ELECTRICAL SERVICES AND CONNECTION REQUIREMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CONFLICTS OR DISCREPANCIES FOUND PRIOR TO BID.

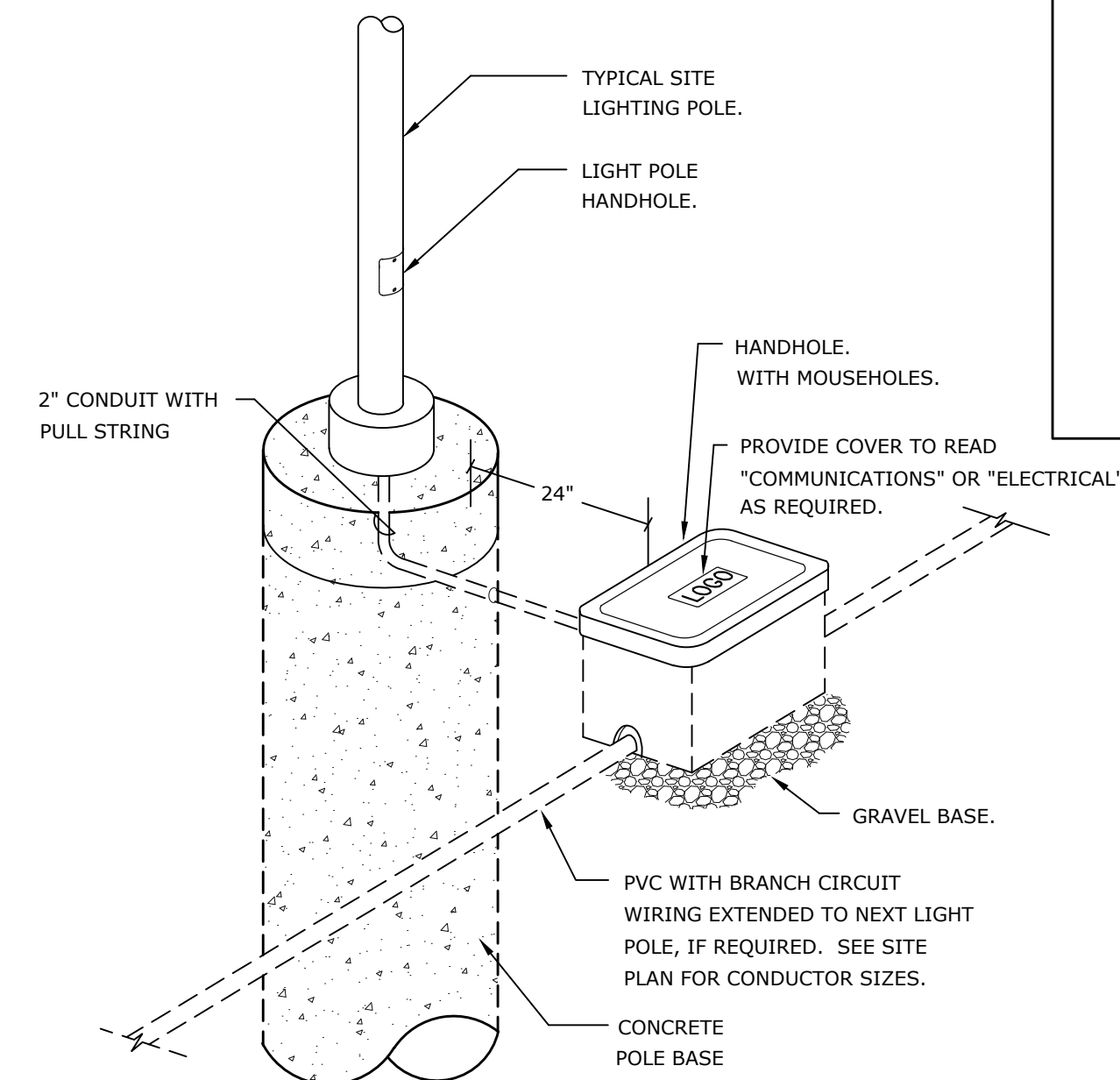
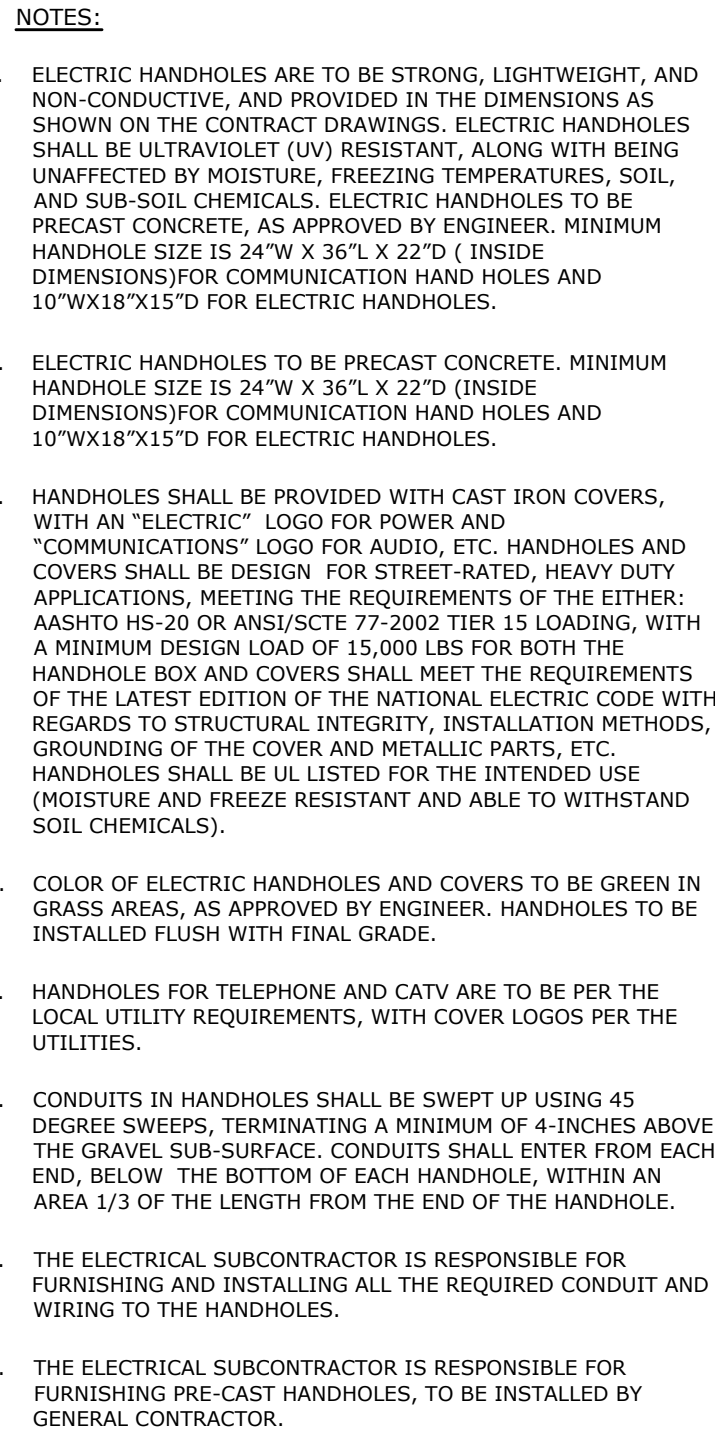
SHEET TITLE:	
<i>ELECTRICAL NOTES & DETAILS</i>	
SHEET NUMBER:	
E-201	
ORG. DATE - 04/06/2022	

Diagram of a rectangular table with dimensions and labels:

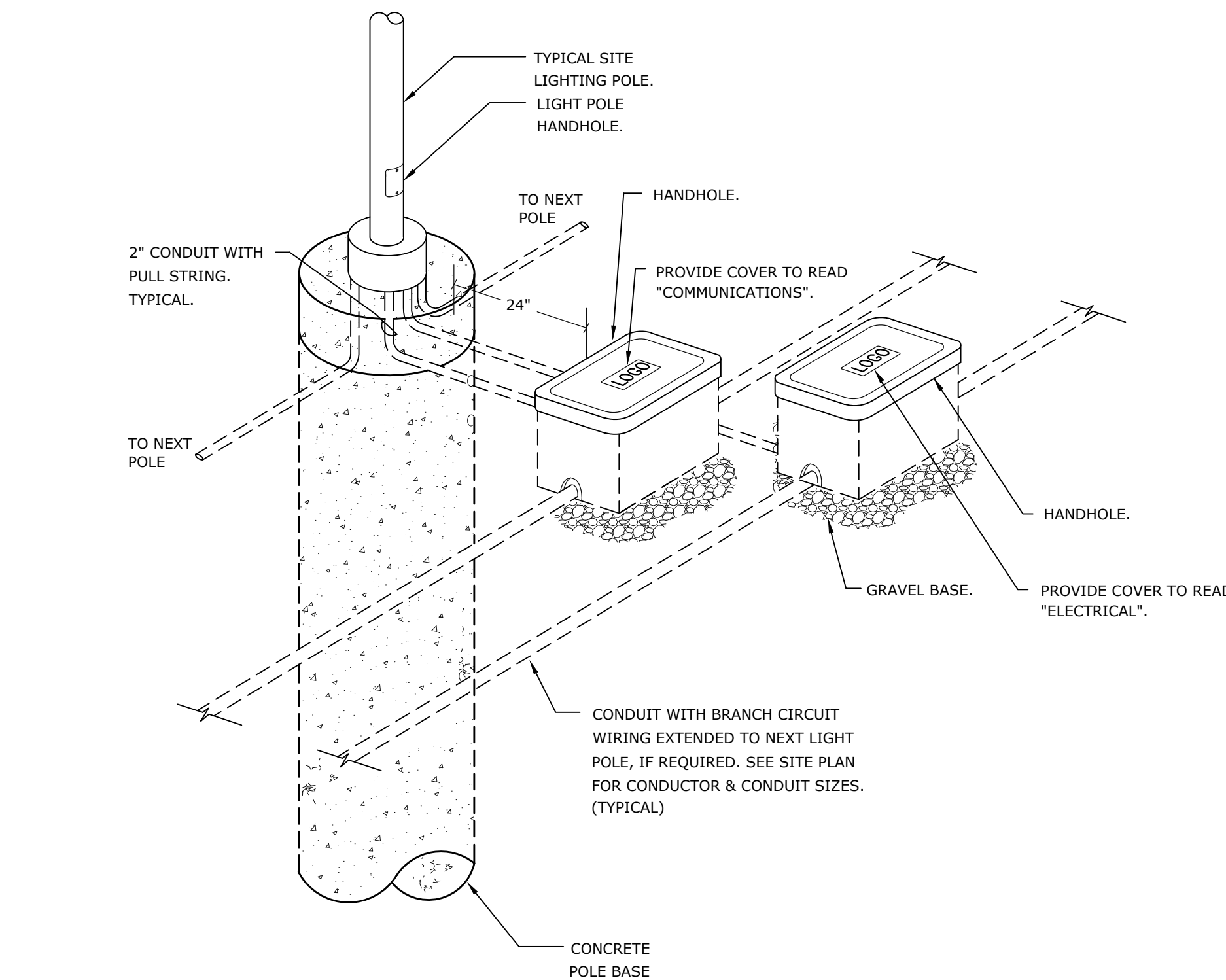
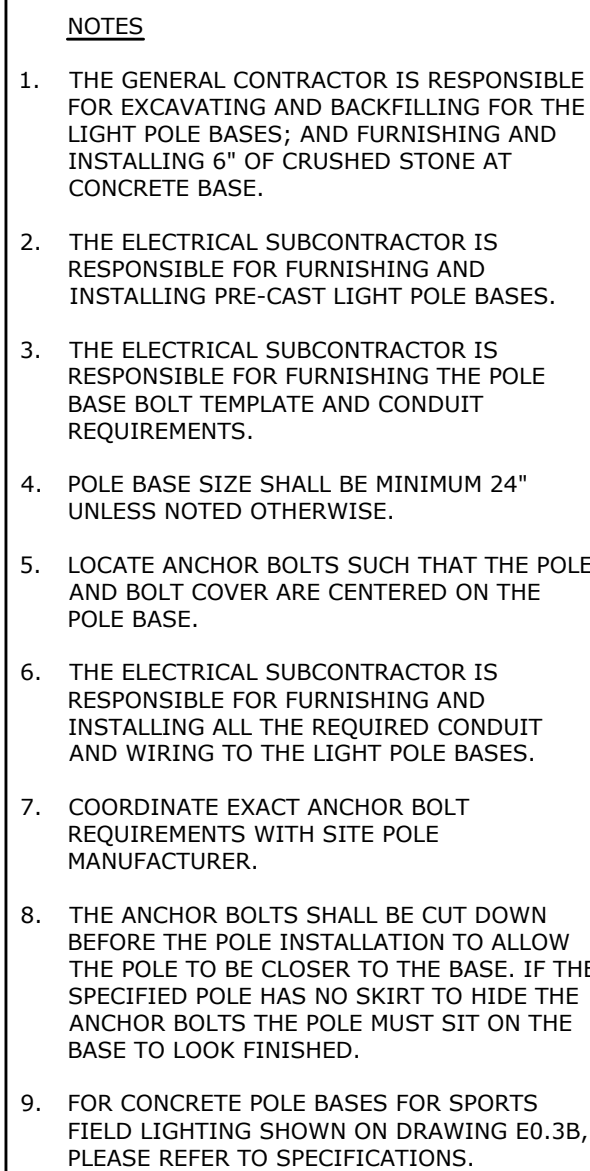
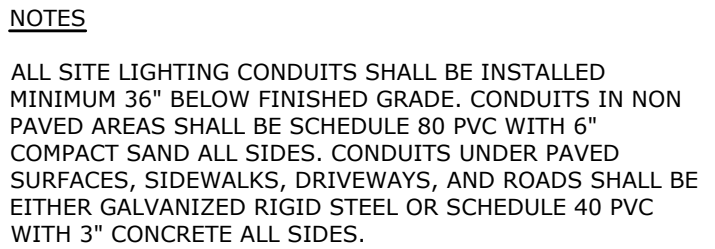
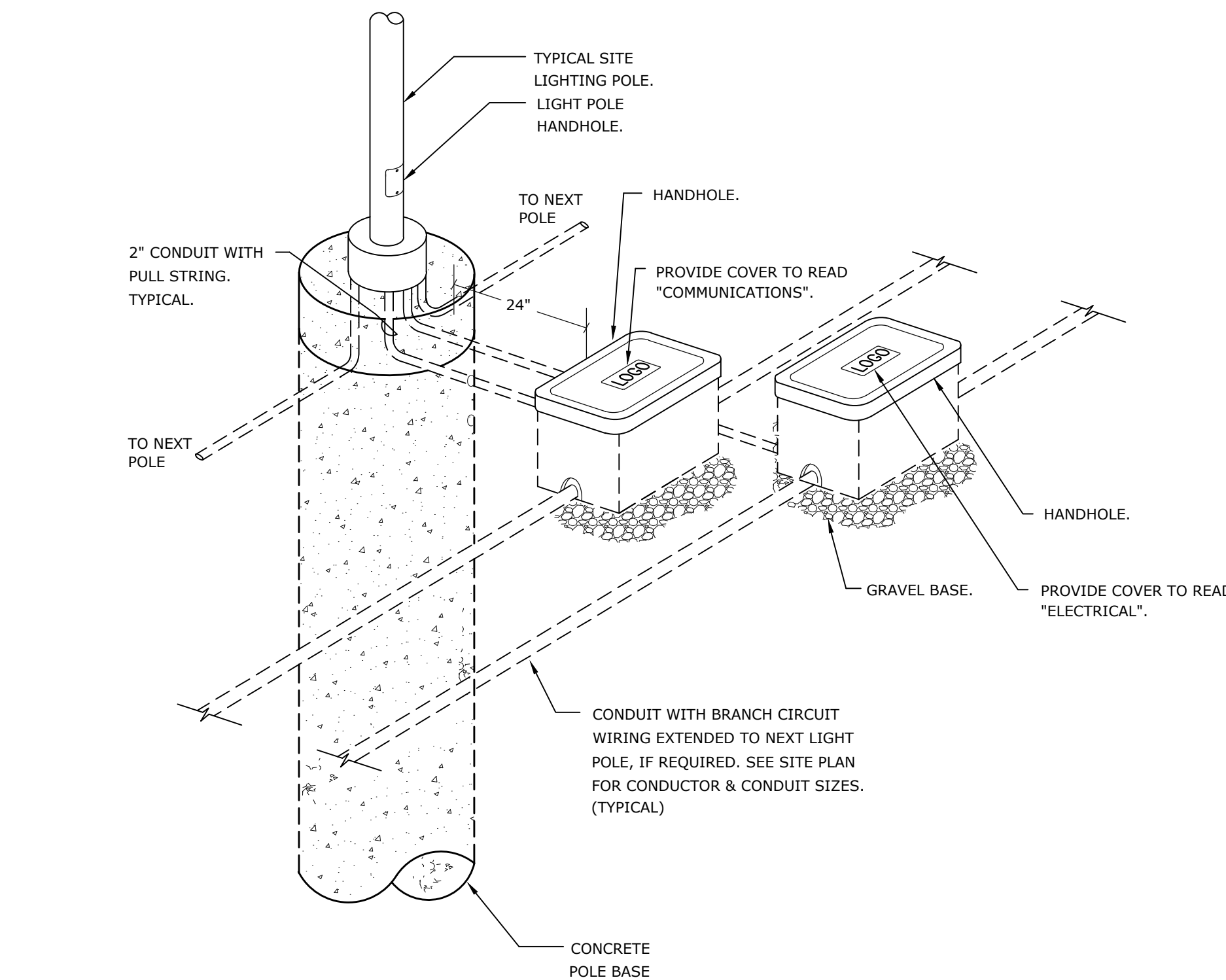
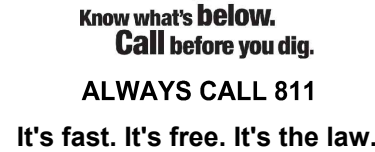
- TOP**: Label above the table.
- FRONT**: Label below the table.
- Size as required**: Label indicating the length of the table.
- 28"**: Label indicating the width of the table.
- 48"**: Label indicating the height of the table.
- BOLLARD**: Label pointing to a small circle representing a bollard.
- Size as required**: Label indicating the width of the table.



SCALE: N.T.S.	SCALE: N.T.S.
TRENCH DETAIL A-A	TRENCH DETAIL B-B
<p>NOTES:</p> <ol style="list-style-type: none"> THE ELECTRICAL SUBCONTRACTOR SHALL VERIFY THE CONDUIT LAYOUT WITH THE UTILITY COMPANIES PRIOR TO INSTALLATION. THE PRIMARY ELECTRICAL CONDUITS SHALL BE ENCASED IN MIN. 3" OF 3000 PSI CONCRETE, COMPLY WITH UTILITY COMPANY REQUIREMENTS FOR REBAR AND STIRRUP REQUIREMENTS. ALL OTHER CONDUITS SHALL BE ENCASED IN 3" OF 3000 PSI CONCRETE WHEN CROSSING ROADWAYS, DRIVEWAYS AND OTHER VEHICULAR TRAFFIC AREAS. EXCAVATION, CONCRETE AND BACKFILLING SHALL BE BY THE GENERAL CONTRACTOR. CONDUIT AND WIRING SHALL BE BY THE ELECTRICAL SUBCONTRACTOR. HANDHOLES SHALL BE ASHITO 20 RATED WITH BOLTED HEAVY DUTY COVERS. COVERS SHALL READ "ELECTRIC", "TELEPHONE" OR "CATV" DEPENDING ON THE APPLICATION. CONDUITS SHALL BE SCHEDULE 80 PVC, UNLESS NOTED OTHERWISE. ALL SWEEPS AT FOUNDATIONS AND RISERS SHALL HAVE A MINIMUM RADIUS OF 36". THE RISER SWEEP SHALL BE GALVANIZED STEEL. 	<p>PA SYSTEM</p> <ol style="list-style-type: none"> SPEAKER SYSTEM: THE CONTRACTOR SHALL PROVIDE OUTDOOR, WEATHER-RESISTANT AUDIO SPEAKERS (ONE PER POLE), ON 2" NEW SPORTS LIGHTING POLES (A1 AND A2 ON THE DRAWINGS), 1 PER POLE. SPEAKERS SHALL BE 120W, 2-WAY HORN LOADED CO-AXIAL, WEATHER RESISTANT LOUDSPEAKERS, AND SHALL BE MULTI-TAP FOR 70V AND 100V INPUTS. SPEAKER SIZE SHALL BE 16" X 16" X 1 1/2", AND MANUFACTURED BY COMMUNITY PRO. LOUDSPEAKER (MODEL R5-947X), AUDIOVOX, BOSE, OR APPROVED EQUAL. AUDIO CABLING SHALL BE 14 GAUGE MINIMUM, WATERPROOF CABLE. INSTALLATION OF SPEAKER SYSTEM: SPEAKERS SHALL BE MOUNTED A MINIMUM OF 25 FEET ABOVE FINISHED GRADE, WITH STAINLESS STEEL HARDWARE. EACH SPEAKER SHALL HAVE A HOLE RUN BACK TO THE PA CABINET BEHIND THE BACKSTOP. PROVIDE PA MOUNTED PA CABINET WITH GFCI RECEPTACLE AND TERMINAL STRIP. SEE DETAIL.
<p>ELECTRICAL CABINET</p> <p>PROVIDE OUTDOOR, NEMA 3R STAINLESS STEEL, TO CONTAIN 120/240V PANELBOARDS, RECEPTACLES, ETC. FOR POWER, WITH SPACE FOR FUTURE EQUIPMENT.</p> <p>CONTRACTOR TO SIZE CABINET TO COORDINATE WITH SIZES OF PANELBOARD AND EQUIPMENT TO BE INSTALLED WITHIN CABINETS. DIMENSIONS SHOWN ARE TYPICAL AND ARE FOR REFERENCE ONLY. CABINET TO BE SIMILAR TO CABINETS INSTALLED AT THE RECENTLY RENOVATED PARKS (LIST PROVIDED UPON REQUEST). CABINET TO INCLUDE ALL EQUIPMENT SHOWN OR IMPLIED AND ALL EQUIPMENT SHALL BE INSTALLED INSIDE OF CABINET WITHOUT PHYSICAL CONFLICTS AND PER NEC. CABINET TO BE SIZED FOR ALL NECESSARY CONDUITS, WHETHER ACTIVE, SPARE OR FUTURE AS LISTED ON PANELBOARD SCHEDULES.</p> <p>CABINETS TO BE MANUFACTURED FROM 11 GAUGE MINIMUM STAINLESS STEEL WITH 12 GAUGE STEEL PANEL, MOUNTED INSIDE. CABINETS TO HAVE INTEGRAL KEY LOCKING MECHANISM, KEYS ALIKE, WITH PROVISION FOR PAD-LOCK. CABINETS SHALL BE VENTILATED TYPE AND FACTORY PAINTED BLACK POWDER-COAT. CABINETS TO HAVE DOOR HOLD-OPEN LATCHES.</p>	<p>SECURITY CAMERA</p> <p>INCLUDE IN BASE BID, TO FURNISH, INSTALL AND TEST ALL FIBER OPTIC CABLE SPECIFIED (12 STRAND SINGLE MODE OUTDOOR PLANT FIBER).</p> <p>COMMUNICATIONS CONDUITS SHALL BE 2-INCH TYPE HDPE CONTINUOUS ROLL, 30" WITH W/AVE SDR 30R BETWEEN HANDHOLES, COMMUNICATION CONDUITS RUN INTO LIGHT POLES CAN BE SCHEDULE 40 PVC, ELECTRICAL AND HDPE CONDUITS SHALL BE IN SEPARATE HANDHOLE/PULLBOX.</p> <p>INCLUDE IN BASE BID, TO COORDINATE, FURNISH AND INSTALL AT PEDESTRIAN LIGHT POLE WITH CAMERAS, WITH COMMUNICATION HANDHOLE, ONE POLE MOUNTED NEMA 4X RATED UTILITY CABINET WITH STAINLESS STEEL BACK PANEL, INCLUDE LABOR AND MATERIALS TO ENERGIZED DUXED OUTLET FOR SECURITY CAMERAS, SECURITY CAMERA APPLIANCE, CAMERAS AND APPLIANCE ENANCES INSIDE POLE MOUNTED UTILITY CABINET ARE NOT INCLUDED IN BASE BID (SEE ITEM "A" OF ARTICLE 40), FURNISH AND INSTALL MANUFACTURER'S STANDARD AUXILIARY WAVE EXITS (2) MOUNT UTILITY CABINETS WITH POLE MANUFACTURER'S STANDARD AND PROVIDED "TRAC NUT" HARDWARE, INCLUDE FABRICATION OF CUSTOM MOUNTING HARDWARE FOR UTILITY CABINET. UTILITY CABINET STANDARD SHALL BE STAHLIN PART# R13164H-WAVE 1"PE, 1.3#, 4X, 6P, 12" PAINTED BLACK, OR APPROVED EQUAL.</p>



- NOTES**
1. INSTALLATION TYPICAL FOR LANDSCAPED OR PAVED SIDEWALK AREAS. HANDHOLE SHALL NOT BE LOCATED IN TRAFFIC AREAS. COORDINATE COVER AND FRAME COLOR OF HANDHOLE.
 2. PROVIDE IN-LINE, WATERPROOF FUSE HOLDER-BUSS "TRON", TYPE HEB OR HEX, AS REQUIRED.

[illegible]

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PROJECT No.:	W211159
DRAWN BY:	CV
CHECKED BY:	~ AR/RB ~
DATE:	03/15/2022
CAD I.D.:	W211159-X-TTB

PROJECT:

PROPOSED SITE PLAN DOCUMENTS

— FOR —



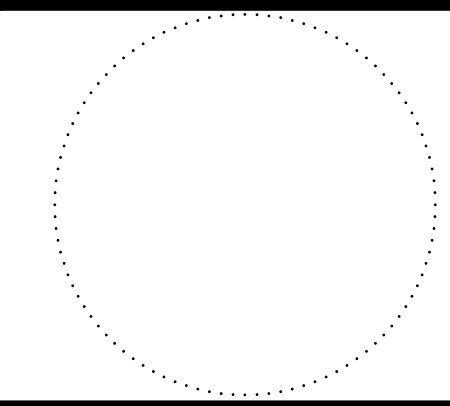
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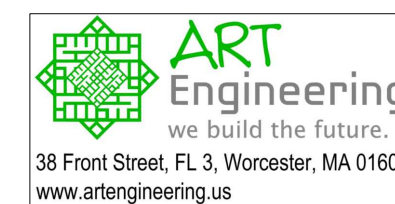
SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-202

ORG. DATE - 04/06/2022





Light Level Summary									
Calculation Grid Summary									
Grid Name	Calculation Metric	Illumination					Circuits	Fixture Qty	
		Ave	Min	Max		Ave/Min			
MultiPurpose	Horizontal Illuminance	31.9	25	40	1.62	1.28	B	26	
	Security Illuminance	0.176	0	4	168.00				
Softball 1 (infield)	Horizontal Illuminance	52.4	40	63	1.56	1.31	A,B	34	
Softball 1 (outfield)	Horizontal Illuminance	34.4	29	44	1.54	1.19	A,B	48	
Softball 2 (infield)	Horizontal Illuminance	51.9	41	65	1.60	1.27	B,C	34	
Softball 2 (outfield)	Horizontal Illuminance	34.5	27	39	1.45	1.28	B,C	34	
Zero Grid	Horizontal Illuminance	16.5	0	66	10236.70		A,B	42	

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PROJECT

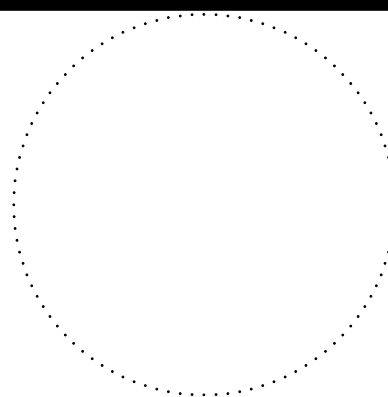
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PROPOSED DEVELOPMENT

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MASSACHUSETTS

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SHEET TITLE:

**SPORTS
FIELD
LIGHTING
DETAIL**

SHEET NUMBER

E-404

ORG. DATE - 04/06/2022

POLE(S): A3-A4

Musco 60FT Light-Structure System™ pole
TLC for LED™ luminaires
(1) TLC-LED-900
(2) TLC-LED-600

[illegible]

Indian Hill Park LED
Worcester, MA
Pole Configuration Drawing

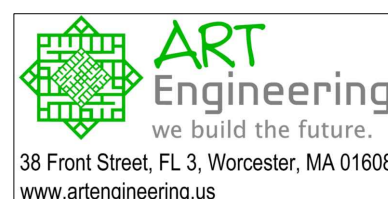
POLE(S): B1-B2

Musco 70FT Light-Structure System™ pole
TLC for LED™ luminaires
(1) TLC-LED-1200
(3) TLC-LED-900

DRAWING NUMBER: 215451		DATE: 02/22/2022		BY: R.L.		REVISIONS:	
DRAWING TITLE: J.Shepherd		DATE: 02/22/2022		BY: R.L.		REVISIONS:	
SCALE: NTS		DATE: 02/22/2022		BY: R.L.		REVISIONS:	
DRAWING NUMBER: 215451P1		DATE: 02/22/2022		BY: R.L.		REVISIONS:	
3 OF 5 SHEETS		DATE: 02/22/2022		BY: R.L.		REVISIONS:	



Indian Hill Park LED
Worcester, MA
Pole Configuration Drawing



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