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ATHENS HIGH SCHOOL ATHLETIC FIELDS

TROY SCHOOL DISTRICT - TROY, MICHIGAN 48098

2022 BOND PROGRAM - BID PACKAGE NO. 02A

PROJECT NUMBER 22103D

CONSTRUCTION DOCUMENTS

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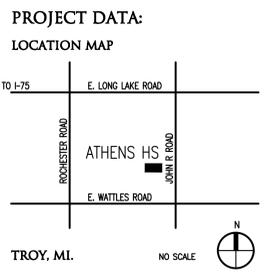
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BUILDING:
 BUILDING AREA = 1,384 SQ. FT. (NEW)

CODE:
GOVERNING CODES:
 - 2016 SCHOOL FIRE SAFETY RULES (2012 Life Safety Code, plus amendments)
 - 2015 MICHIGAN BUILDING CODE
 - 2015 MICHIGAN REHABILITATION CODE FOR EXISTING BUILDINGS
 - 2018 MICHIGAN PLUMBING CODE
 - 2015 MICHIGAN MECHANICAL CODE
 - 2015 MICHIGAN UNIFORM ENERGY CODE (ANSI/ASHRAE/IES Standard 90.1-2013)
 - 2017 MICHIGAN ELECTRICAL CODE (2017 NEC, plus Part 8 Rules)
 - 2010 MICHIGAN ELEVATOR RULES (ASME A17.1-2010, ASME A18.1-2011)
 - MICHIGAN BARRIER FREE CODE (Michigan Building Code 2015 and ICC A117.1-2009)
 - 2015 MICHIGAN BOILER CODE RULES (ASME Boiler and Pressure Vessel Code, 2019 edition) (National Board Inspection Code [NBIC], 2019 edition)

ADDRESS: ATHENS HIGH SCHOOL
 4333 JOHN R. ROAD
 TROY, MICHIGAN 48085

CONSTRUCTION CLASSIFICATION: V-B (MBC) | V(000) (LSC)
USE GROUP CLASSIFICATION: S-1 MODERATE-HAZARD STORAGE

12-10-2024 CONSTRUCTION DOCUMENTS
 DATE ISSUED FOR:

LICENSEE'S STATEMENT:
 This Document has been prepared under the supervision of the Architect, as the person in Responsible Charge with the firm of **TMP ARCHITECTURE, INC.** An original embossed or rubber stamp seal and original signature of the Architect is required and shall be affixed to any copy of this Document submitted to a governmental agency for approval or record. This is in conformance with the State of Michigan's PA 299, Article 20 and the General Rules of the Board of Architects.

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REGISTRATION SEALS

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PROJECT TITLE
Athens High School Athletic Fields
PROJECT NO.
22103D
DRAWING NO.
TS.1

ZONED R-1C
"ONE FAMILY RESIDENTIAL"
DISTRICT

ZONED R-1C
"ONE FAMILY RESIDENTIAL"
DISTRICT

ZONED R-1C
"ONE FAMILY RESIDENTIAL"
DISTRICT

- LEGEND:**
- CONCRETE CURB AND GUTTER
 - REVERSE GUTTER PAN
 - SETBACK LINE
 - SIGN LIGHTPOLE
 - FENCE GUARD RAIL
 - STANDARD DUTY ASPHALT
 - HEAVY DUTY ASPHALT
 - ALL-WEATHER SURFACE OVER STANDARD DUTY ASPHALT PAVEMENT
 - ALL-WEATHER SURFACE STANDARD DUTY CONCRETE PAVEMENT
 - CONCRETE SIDEWALK
 - HEAVY DUTY CONCRETE PAVEMENT
 - TOPSOIL AND SOO
 - TOPSOIL AND SEED
 - CRUSHED LIMESTONE ATHLETIC MEAL
 - CRUSHER DUST
 - SYNTHETIC TURF
- REFER TO FORESITE PLANS FOR HATCHING DETAILS AND INFO

PAVEMENT PREPARATION NOTES:

1. PAVEMENT PREPARATION SHALL FOLLOW THE PROCESS SUMMARIZED BELOW. AS PART OF THE PAVEMENT REMOVAL, REMOVE THE EXISTING PAVEMENT AND ANY AGGREGATE BASE REQUIRED FOR THE PROPOSED THICKNESS OF ASPHALT/CONCRETE PAVEMENT TO BE PLACED. ANY EXISTING BASE MATERIAL REMOVED TO ACHIEVE THIS ELEVATION WILL BE PART OF THE EARTHWORKS FOR THE PAVING OPERATION. WILL NOT BE PAID FOR SEPARATELY AND/OR CONSIDERED PART OF THE SUBGRADE UNDERCUTTING PAY ITEM AND WILL BE INCLUDED IN THE SHALE BID FOR THE WORK.
2. ANY OF THE EXISTING AGGREGATE BASE REMOVED TO ACHIEVE THE THICKNESS OF THE PROPOSED PAVEMENT, AS DESCRIBED IN ITEM 1.1, AND DEEMED ACCEPTABLE BY A QUALIFIED ENGINEERING TECHNICIAN SHALL BE STOCKPILED FOR RE-USE IN THE PAVEMENT OPERATION.
3. PROOF ROLL EXISTING BASE AND SUBGRADE PER PLANS, SPECIFICATIONS AND GEOTECH REPORT.
4. DETERMINE AREAS THAT FAIL THE PROOF ROLL. UNDERCUTS SHALL BE EVALUATED BY A QUALIFIED ENGINEERING TECHNICIAN TO DETERMINE IF SUBGRADE STABILIZATION IS NECESSARY. DRAIN TILE SHALL BE PLACED WITHIN ANY UNDERCUT AREA AND CONNECTED TO THE CLOSEST CATCH BASIN TO PREVENT GROUNDWATER FROM POOLING WITHIN THE GRANULAR SOILS IN UNDERCUTS AND CREATING "BATHTUBS" IN THE COHESIVE SOILS.
5. TO MINIMIZE INSTABILITY AND UNDERCUTS, THE AGGREGATE BASE SHALL NOT BE LEFT EXPOSED TO PRECIPITATION AND CONSTRUCTION OPERATIONS AND SHOULD BE PERFORMED DURING THE SUMMER MONTHS TO ENSURE DRY, WARM, HEATHER. ADDITIONALLY, THE SUBGRADE MAY BECOME UNSTABLE UNDER REPEATED LOADING OF CONSTRUCTION TRAFFIC; THEREFORE, CONSTRUCTION EQUIPMENT SHOULD BE LIMITED ON THE EXPOSED SUBGRADE.
6. BACKFILL THE INITIAL PORTION OF THE UNDERCUT WITH THE SALVAGED AGGREGATE BASE AND THEN COMPLETE THE BACKFILL PROCESS WITH IMPORTED MDOT 21AA CRUSHED LIMESTONE AGGREGATE PER THE PLANS, SPECIFICATIONS AND GEOTECH REPORT.
7. UNDERCUT SHALL BE EVALUATED BY A QUALIFIED ENGINEERING TECHNICIAN TO DETERMINE IF SUBGRADE STABILIZATION IS NECESSARY. UNDERCUT EXCAVATIONS SHALL BE BACKFILLED WITH MDOT 21AA CRUSHED AGGREGATE PLACED IN AN ENGINEERED MANNER. LIFT THICKNESS SHALL NOT EXCEED 9 INCHES. THE USE OF TOP-AVAL GEOTEXT MAY BE USED TO REDUCE UNDERCUT DEPTHS, AS APPROVED BY THE DISTRICT AND PER THE UNIT PRICE PROVIDED WITH THE CONTRACTORS BID.
8. ALL ENGINEERED FILL SHALL BE COMPACTED TO A DENSITY OF AT LEAST 90 PERCENT OF THE MAXIMUM DENSITY DETERMINED BY THE MODIFIED SANDY (ASTM) METHOD OF TESTING. ALL ENGINEERED FILL MATERIAL SHALL BE PLACED AND COMPACTED AT APPROXIMATELY THE OPTIMUM MOISTURE CONTENT. FROZEN MATERIAL SHALL NOT BE USED AS FILL, NOR SHOULD FILL BE PLACED ON FROZEN SUBGRADE.
9. THE QUANTITY FOR UNDERCUT FOR EACH SITE SHALL BE INCLUDED IN THE BASE BID. THIS ITEM IS CONSIDERED AN ALLOWANCE AND FINAL PAYMENT WILL BE BASED ON THE ACTUAL VOLUME OF COMPACTED IN PLACE STONE PER THE UNIT PRICE PROVIDED IN THE BID PACKAGE.
10. UNDERCUT DRAIN TILE SHALL BE EVALUATED BY A QUALIFIED ENGINEERING TECHNICIAN TO DETERMINE IF SUBGRADE STABILIZATION IS NECESSARY. DRAIN TILE SHALL BE PLACED WITHIN ANY UNDERCUT AREA AND CONNECTED TO THE CLOSEST CATCH BASIN TO PREVENT GROUNDWATER FROM POOLING WITHIN THE GRANULAR SOILS IN UNDERCUTS AND CREATING "BATHTUBS" IN THE COHESIVE SOILS.
11. THE QUANTITY FOR UNDERCUT DRAIN TILE (4") FOR EACH SITE SHALL BE INCLUDED IN THE BASE BID. THIS ITEM IS CONSIDERED AN ALLOWANCE AND FINAL PAYMENT WILL BE BASED ON THE ACTUAL FOOTAGE OF COMPACTED IN PLACE STONE PER THE UNIT PRICE PROVIDED IN THE BID PACKAGE.
12. THE IMPORTING, ADDING, FINE GRADING AND COMPACTING ADDITIONAL PAVEMENT AGGREGATE BASE MATERIAL (MDOT 21AA CRUSHED LIMESTONE) REQUIRED TO ACHIEVE THE PROPOSED TOP OF BASE ELEVATIONS AND PRIOR TO PLACING THE ASPHALT PAVEMENT WILL BE EVALUATED BY A QUALIFIED ENGINEERING TECHNICIAN TO DETERMINE THE VOLUME OF ADDITIONAL MATERIAL REQUIRED PER THE PROJECT PLANS.
13. THE QUANTITY FOR IMPORTING, ADDING, FINE GRADING AND COMPACTING ADDITIONAL PAVEMENT AGGREGATE BASE MATERIAL (MDOT 21AA CRUSHED LIMESTONE) REQUIRED TO ACHIEVE THE PROPOSED TOP OF BASE ELEVATIONS AND PRIOR TO PLACING THE ASPHALT PAVEMENT FOR EACH SITE SHALL BE INCLUDED IN THE BASE BID AND THE EARTHWORK CALCULATIONS COMPLETED BY THE CONTRACTOR DURING THE BIDDING PROCESS. AS PART OF THE EARTHWORK CALCULATIONS, THE CONTRACTOR SHALL ASSUME THAT THE VOLUME OF 2" OF MATERIAL ACROSS THE ENTIRE AREA WILL BE REMOVED WITH THE PAVEMENT AND/OR CONSIDERED UN-USABLE BY THE QUALIFIED ENGINEERING TECHNICIAN AND NEED TO BE REPLACED WITH IMPORTED MDOT 21AA CRUSHED LIMESTONE.
14. IF A JOINT PLAN IS NOT PROVIDED IN THE PLANS, THE CONTRACTOR SHALL SUBMIT ONE TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.

PAVING QUANTITIES:

VALLEY GUTTER PAN	300 LF
STANDARD DUTY ASPHALT PAVEMENT (THIS DOES NOT INCLUDE PAVEMENT IN TRACK AREA)	18,043 SF
CONCRETE SIDEWALK	29,770 SF
STANDARD DUTY CONCRETE BUTT JOINT	700 LF
CONCRETE CURB SPILLWAY	1 EA
POUR IN PLACE WALL WITH FENCE AND 6" CURB	635 LF

ALLOWANCE:

SUBGRADE UNDERCUT ALLOWANCE	2,040 CY
SUBGRADE UNDERCUT DRAIN TILE (4") ALLOWANCE	2,000 LF

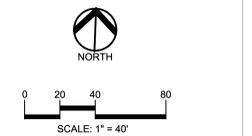
- NOTES:**
1. CONTRACTOR TO VERIFY ALL QUANTITIES SHOWN ON THE PLANS. ANY DEVIATIONS TO THE PLAN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE SCHOOL DISTRICT AND PEIA GROUP, IN WRITING PER THE BID PACKAGE, FOR VERIFICATION PRIOR TO BIDDING.
 2. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB, FACE OF SIDEWALK, CENTER OF MANHOLE/CATCH BASIN UNLESS OTHERWISE NOTED.
 3. DOWEL INTO EXISTING CURB AND GUTTER 9" WITH EPOXY COATED #4 BAR CONTINUOUS BETWEEN EXISTING AND PROPOSED CURBING.
 4. CONTRACTOR TO FIELD VERIFY ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION INCLUDING BUT NOT LIMITED TO: SITE LIGHTING, FIBER LINES, ETC.
 5. REFER TO NOTES AND DETAIL SHEETS FOR ON SITE PAVING DETAILS.
 6. FOR THE FOUR (4) CATCH BASINS IN THE WORK AREA, BIDDERS ARE TO INCLUDE RECONSTRUCTION OF THESE STRUCTURES (GREATER THAN 12-INCHES IN DEPTH FROM THE RIM ELEVATION OF REPAIR WORK) IN THE BASE BID. THE SUCCESSFUL BIDDER WILL BE PAID FOR REPAIRING EACH STRUCTURE BASED ON THE ACTUAL DEPTH OF REPAIR WITH EITHER STRUCTURAL ADJUSTMENT (WITHIN TOP 12-INCHES OF RIM ELEVATION) OR STRUCTURAL RECONSTRUCTION (GREATER THAN 12-INCHES IN DEPTH) PER THE UNIT PRICES PROVIDED IN THE BID PACKAGE AND THE SCOPE OF WORK DETERMINED AND APPROVED PRIOR TO THE WORK COMMENCING. REPLASTERING OF THE ENTIRE STRUCTURE SHALL BE INCLUDED IN THE UNIT PRICE FOR BOTH STRUCTURAL ADJUSTMENT AND STRUCTURAL RECONSTRUCTION.
 7. ALL PROPOSED ADA RAMPS SHALL HAVE TRUNCATED DOMES. YELLOW PLASTIC OR METAL STYLE DOMES ARE BOTH ACCEPTABLE.
 8. CONTRACTOR SHALL REFER TO THE "REPORT ON GEOTECHNICAL INVESTIGATION" PREPARED BY G2 CONSULTING GROUP DATED 11/07/2024 AND THE "REPORT ON GEOTECHNICAL INVESTIGATION" PREPARED BY G2 CONSULTING GROUP DATED 11/26/2024.

CONNECTION TO EXISTING CONCRETE SIDEWALK

SCOREBOARD. REFER TO FORESITE PLANS FOR DETAILS

CONNECT TO EXISTING CONCRETE SIDEWALK

ZONED R-1C "ONE FAMILY RESIDENTIAL" DISTRICT



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PROJECT TITLE
Athens High School Athletic Fields Bid Package No. 02B

PROJECT LOCATION
Troy School District Troy, Michigan

DRAWING TITLE
DIMENSION AND PAVING PLAN

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE ISSUED FOR:

DRAWN JW

CHECKED TD

APPROVED TD

PROJECT NO.
22103D

DRAWING NO.
C-3.0

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GRADING LEGEND:

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION: TYPICALLY TOP OF PAVEMENT IN PAVED AREAS, GUTTER GRADE IN CURVE LINES.
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED REVERSE GUTTER PAN
- PROPOSED RIDGE LINE
- PROPOSED SWALE/DITCH

ABBREVIATIONS

TC = TOP OF CURB G = GUTTER GRADE
 TP = TOP OF PAVEMENT F.G. = FINISH GRADE
 TS = TOP OF SIDEWALK RM = RIM ELEVATION
 TW = TOP OF WALL BW = BOTTOM OF WALL

REFER TO GRADING NOTES ON SHEET C-4.0

RETAINING WALL NOTE:

TOP OF WALL (TW) AND BOTTOM OF WALL (BW) GRADES ARE THE FINISH GRADE AT THE TOP AND BOTTOM OF THE RETAINING WALL, NOT ACTUAL TOP AND BOTTOM OF THE WALL STRUCTURE.

EARTHWORK BALANCING NOTE:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPORTING OR EXPORTING ALL MATERIALS AS REQUIRED TO PROPERLY GRADE THIS PROJECT TO THE FINISHED ELEVATIONS SHOWN ON THE APPROVED PLANS. THE CONTRACTOR SHALL MAKE THEIR OWN DETERMINATION OF CUT AND FILL QUANTITIES AND ALLOW FOR REMOVAL OF EXCESS OR IMPORTATION OF ADDITIONAL MATERIAL AT NO ADDITIONAL COST TO THE OWNER.

BENCHMARKS
 (GPS DERIVED - NAVD88)

BM#300
 ARROW ON HYDRANT IN FRONT OF SCHOOL BUILDING, ±30' EAST NORTHEAST OF THE NORTHEAST CORNER OF BUILDING ELEV. = 658.04

BM#301
 ARROW ON HYDRANT IN THE NORTHWEST CORNER OF THE NORTHWEST PARKING LOT ±5 FEET SOUTH OF THE 8 FOOT CHAIN LINK FENCE, ±40 FEET EAST NORTHEAST OF THE BUILDING CORNER ELEV. = 657.14

BM#302
 ARROW ON DIMPLE ON A HYDRANT LOCATED APPROX. 109'± SOUTH OF THE SCHOOL AUDITORIUM, ON THE NORTH SIDE OF ENTRANCE DRIVE TO THE STUDENT PARKING LOT, APPROX. 680'± WEST OF THE CENTERLINE OF JOHN R ROAD. ELEV. = 655.46

BM#303
 ARROW ON DIMPLE ON A HYDRANT LOCATED SOUTHWEST OF THE FOOTBALL FIELD/TRACK, APPROX. 36.5'± WEST OF THE BUILDING, NORTH OF THE AUDITORIUM ENTRANCE. ELEV. = 656.70



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CONSULTANT



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PROJECT TITLE
 Athens High School
 Athletic Fields
 Bid Package No. 02B

Troy School District
 Troy, Michigan

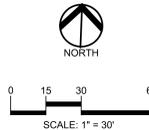
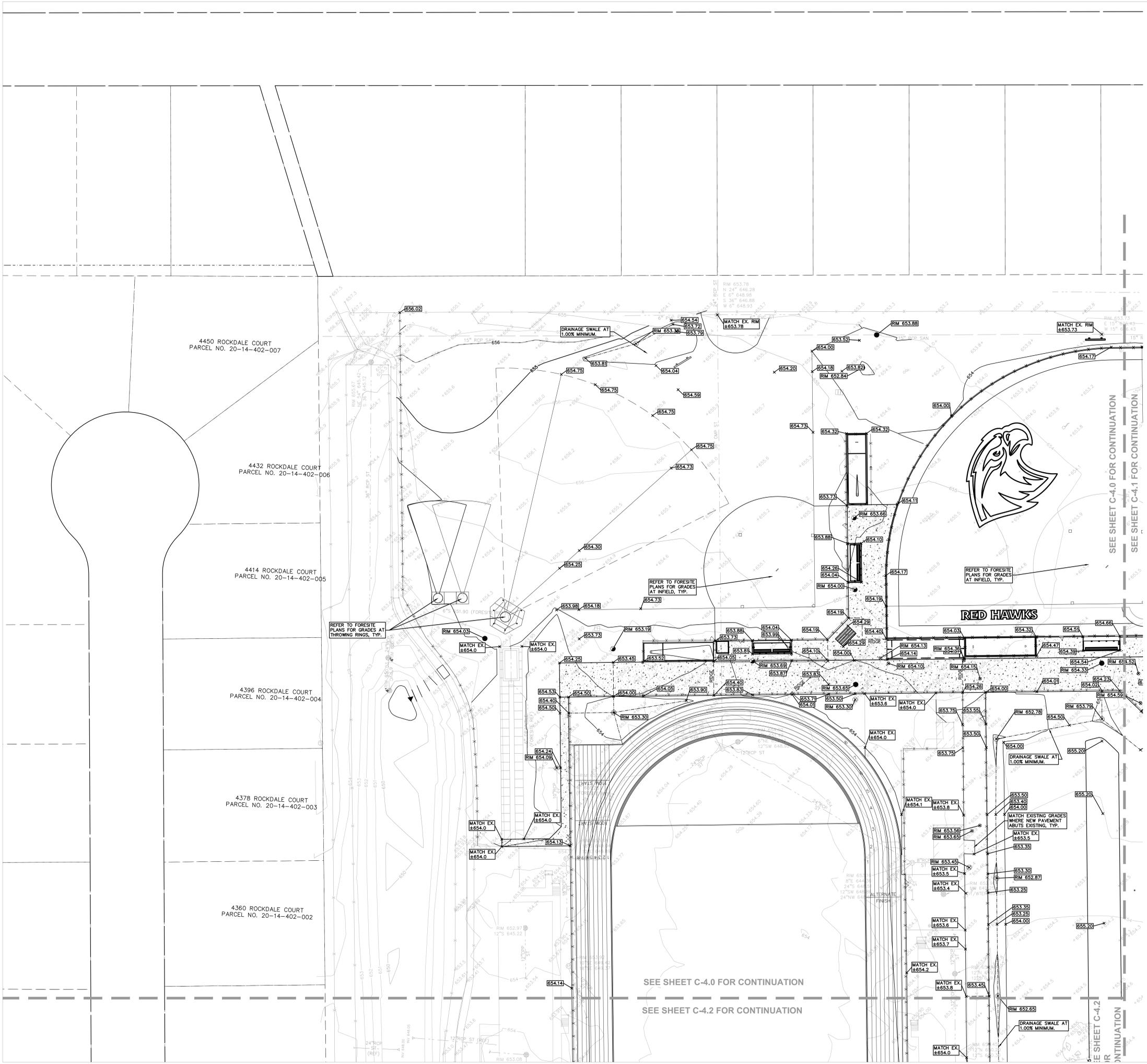
DRAWING TITLE
 GRADING PLAN -
 NORTH

ISSUE DATES

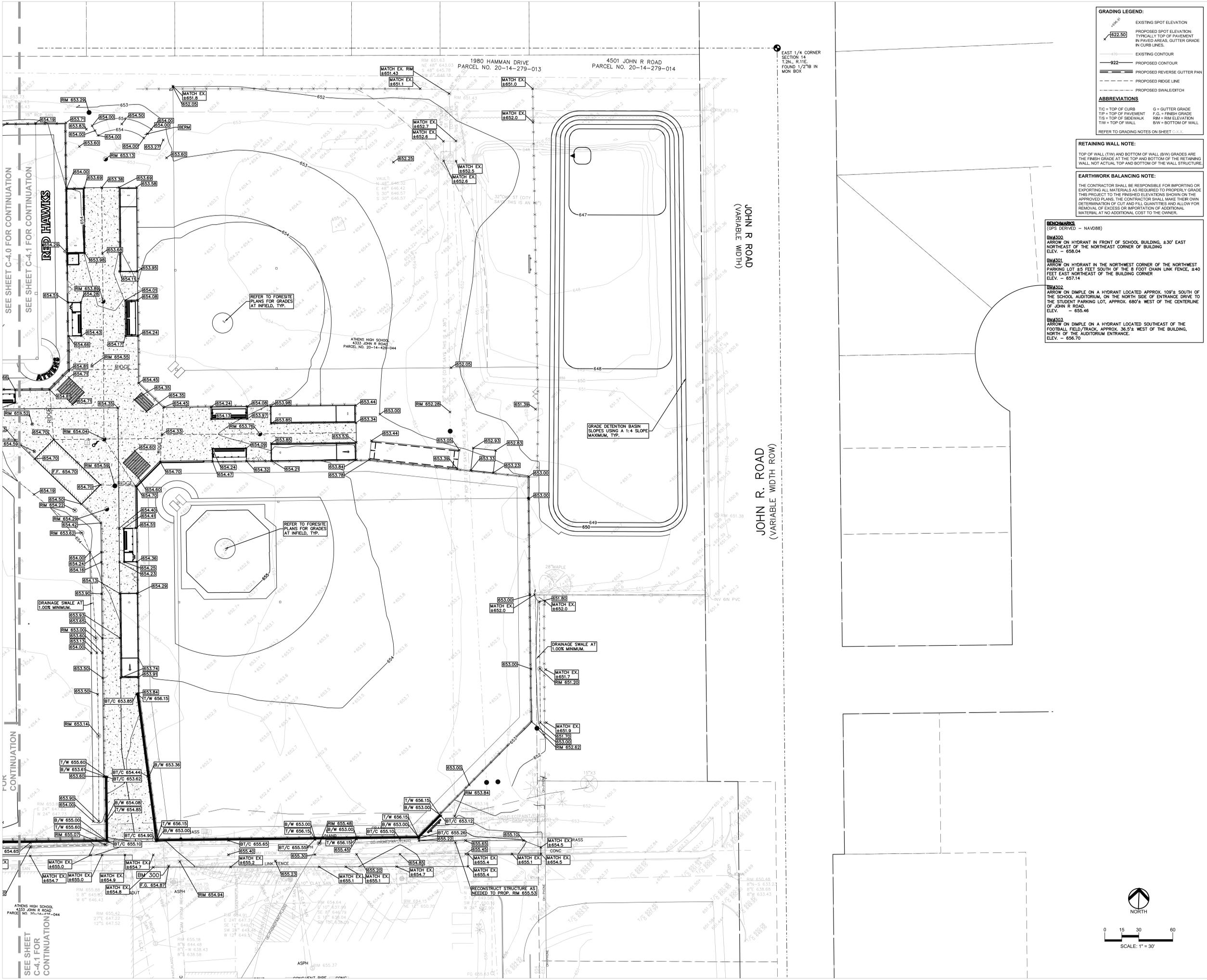
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APPROVED	TD

PROJECT NO.
 22103D

DRAWING NO.
 C-4.0



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GRADING LEGEND:

- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION: TYPICALLY TOP OF PAVEMENT IN PAVED AREAS, GUTTER GRADE IN CURB LINES.
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED REVERSE GUTTER PAN
- PROPOSED RIDGE LINE
- PROPOSED SWALE/DITCH

ABBREVIATIONS

T/C = TOP OF CURB G = GUTTER GRADE
 T/P = TOP OF PAVEMENT F.G. = FINISH GRADE
 T/S = TOP OF SIDEWALK RM = RIM ELEVATION
 T/W = TOP OF WALL B/W = BOTTOM OF WALL

REFER TO GRADING NOTES ON SHEET C-4.1

RETAINING WALL NOTE:

TOP OF WALL (T/W) AND BOTTOM OF WALL (B/W) GRADES ARE THE FINISH GRADE AT THE TOP AND BOTTOM OF THE RETAINING WALL, NOT ACTUAL TOP AND BOTTOM OF THE WALL STRUCTURE.

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BENCHMARKS
 (GPS DERIVED - NAVD88)

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 ARROW ON HYDRANT IN FRONT OF SCHOOL BUILDING, ±30' EAST NORTHEAST OF THE NORTHEAST CORNER OF BUILDING
 ELEV. - 655.04

BM#301
 ARROW ON HYDRANT IN THE NORTHWEST CORNER OF THE NORTHWEST PARKING LOT ±5 FEET SOUTH OF THE 8 FOOT CHAIN LINK FENCE, ±40 FEET EAST NORTHEAST OF THE BUILDING CORNER
 ELEV. - 657.14

BM#302
 ARROW ON DIMPLE ON A HYDRANT LOCATED APPROX. 100'± SOUTH OF THE SCHOOL AUDITORIUM, ON THE NORTH SIDE OF ENTRANCE DRIVE TO THE STUDENT PARKING LOT, APPROX. 680'± WEST OF THE CENTERLINE OF JOHN R ROAD.
 ELEV. - 655.46

BM#303
 ARROW ON DIMPLE ON A HYDRANT LOCATED SOUTHEAST OF THE FOOTBALL FIELD/TRACK, APPROX. 36.5'± WEST OF THE BUILDING, NORTH OF THE AUDITORIUM ENTRANCE.
 ELEV. - 656.70



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PROJECT TITLE
Athens High School Athletic Fields Bid Package No. 02B

Troy School District Troy, Michigan

DRAWING TITLE
GRADING PLAN - EAST

ISSUE DATES

DATE	ISSUED FOR:
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DRAWN	JW
CHECKED	TD
APPROVED	TD

PROJECT NO.
22103D

DRAWING NO.
C-4.1

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 Date: 10/20/24 11:34am



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PROJECT TITLE
**Athens High School
Athletic Fields
Bid Package No. 02B**

**Troy School District
Troy, Michigan**

DRAWING TITLE
UTILITY PLAN

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

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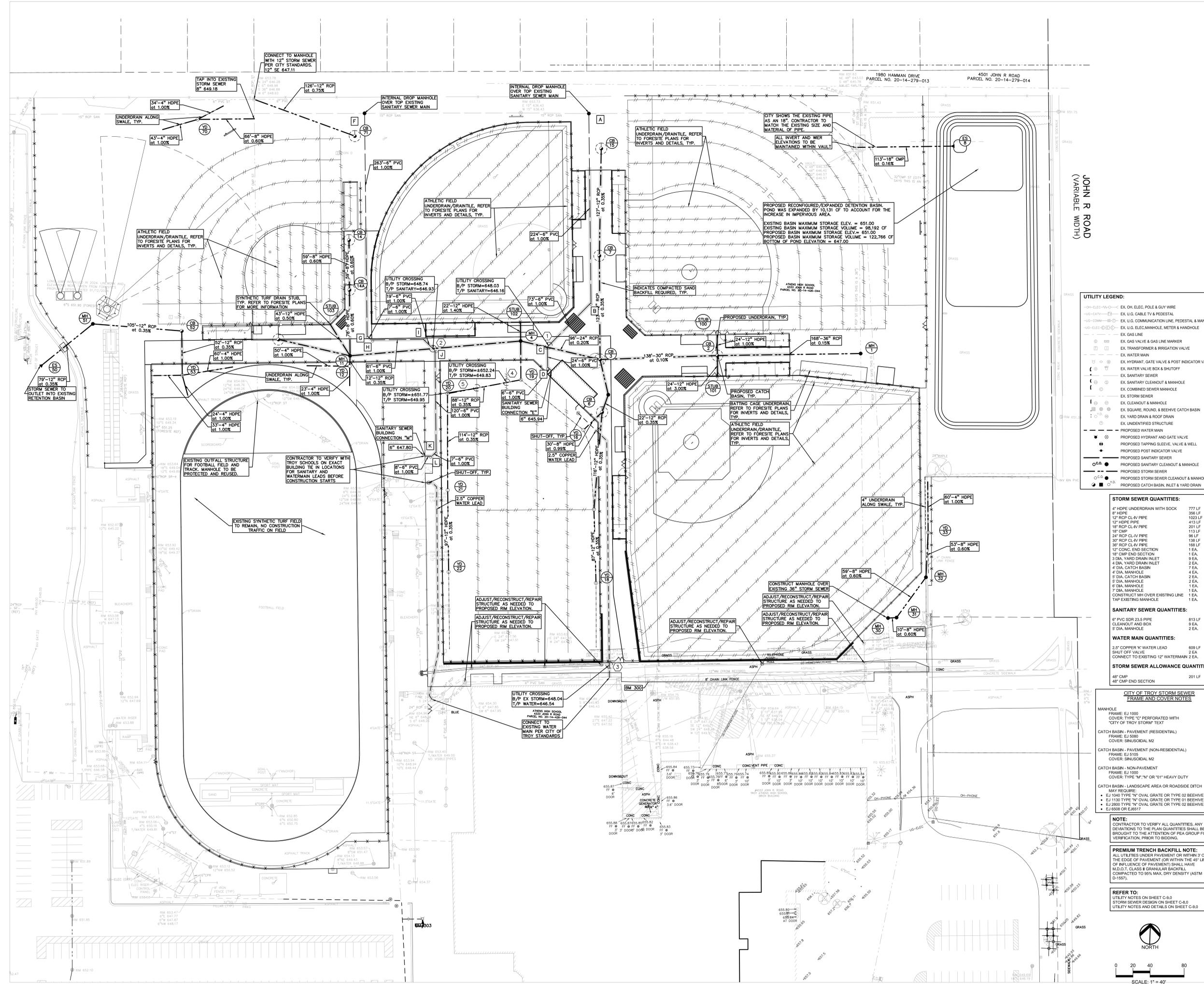
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DRAWING NO.

C-6.0



JOHN R ROAD
(VARIABLE WIDTH)

UTILITY LEGEND:

- EX. OH. ELEC. POLE & GUY WIRE
- EX. U.G. CABLE TV & PEDESTAL
- EX. U.G. COMMUNICATION LINE, PEDESTAL & MANHOLE
- EX. U.G. ELEC. MANHOLE, METER & HANDHOLE
- EX. GAS LINE
- EX. GAS VALVE & GAS LINE MARKER
- EX. TRANSFORMER & IRRIGATION VALVE
- EX. WATER MAIN
- EX. HYDRANT, GATE VALVE & POST INDICATOR VALVE
- EX. WATER VALVE BOX & SHUTOFF
- EX. SANITARY SEWER
- EX. SANITARY CLEANOUT & MANHOLE
- EX. COMBINED SEWER MANHOLE
- EX. STORM SEWER
- EX. CLEANOUT & MANHOLE
- EX. SQUARE, ROUND, & BEEHIVE CATCH BASIN
- EX. YARD DRAIN & ROOF DRAIN
- EX. UNDESIGNED STRUCTURE
- PROPOSED WATER MAIN
- PROPOSED HYDRANT AND GATE VALVE
- PROPOSED TAPPING SLEEVE, VALVE & WELL
- PROPOSED POST INDICATOR VALVE
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY CLEANOUT & MANHOLE
- PROPOSED STORM SEWER
- PROPOSED STORM SEWER CLEANOUT & MANHOLE
- PROPOSED CATCH BASIN, INLET & YARD DRAIN

STORM SEWER QUANTITIES:

- 4" HDPE UNDERDRAIN WITH SOCK 777 LF
- 8" HDPE 356 LF
- 12" RCP CL-V PIPE 1023 LF
- 12" HDPE PIPE 433 LF
- 18" RCP CL-V PIPE 201 LF
- 18" CMP 153 LF
- 24" RCP CL-V PIPE 86 LF
- 30" RCP CL-V PIPE 138 LF
- 30" RCP CL-V PIPE 188 LF
- 12" CONC. END SECTION 1 EA.
- 18" CMP END SECTION 1 EA.
- 3 DIA. YARD DRAIN INLET 9 EA.
- 4 DIA. YARD DRAIN INLET 2 EA.
- 4 DIA. CATCH BASIN 7 EA.
- 4 DIA. MANHOLE 4 EA.
- 5 DIA. CATCH BASIN 2 EA.
- 5 DIA. MANHOLE 2 EA.
- 7 DIA. MANHOLE 1 EA.
- 7 DIA. MANHOLE 1 EA.
- CONSTRUCT MH OVER EXISTING LINE 1 EA.
- TAP EXISTING MANHOLE 1 EA.

SANITARY SEWER QUANTITIES:

- 6" PVC SDR 23.5 PIPE 813 LF
- CLEANOUT AND BOX 9 EA.
- 5 DIA. MANHOLE 2 EA.

WATER MAIN QUANTITIES:

- 2.5" COPPER "K" WATER LEAD 609 LF
- SHUT-OFF VALVE 2 EA.
- CONNECT TO EXISTING 12" WATERMAIN 2 EA.

STORM SEWER ALLOWANCE QUANTITIES:

- 48" CMP 201 LF
- 48" CMP END SECTION

CITY OF TROY STORM SEWER FRAME AND COVER NOTES

MANHOLE
FRAME: EJ 1000
COVER: TYPE "C" PERFORATED WITH "CITY OF TROY" STORM" TEXT

CATCH BASIN - PAVEMENT (RESIDENTIAL)
FRAME: EJ 5085
COVER: SINUSOIDAL M2

CATCH BASIN - PAVEMENT (NON-RESIDENTIAL)
FRAME: EJ 5105
COVER: SINUSOIDAL M2

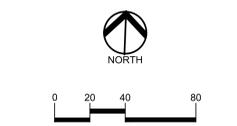
CATCH BASIN - NON-PAVEMENT
FRAME: EJ 1000
COVER: TYPE "M," "N" OR "11" HEAVY DUTY

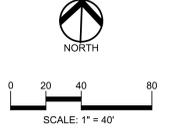
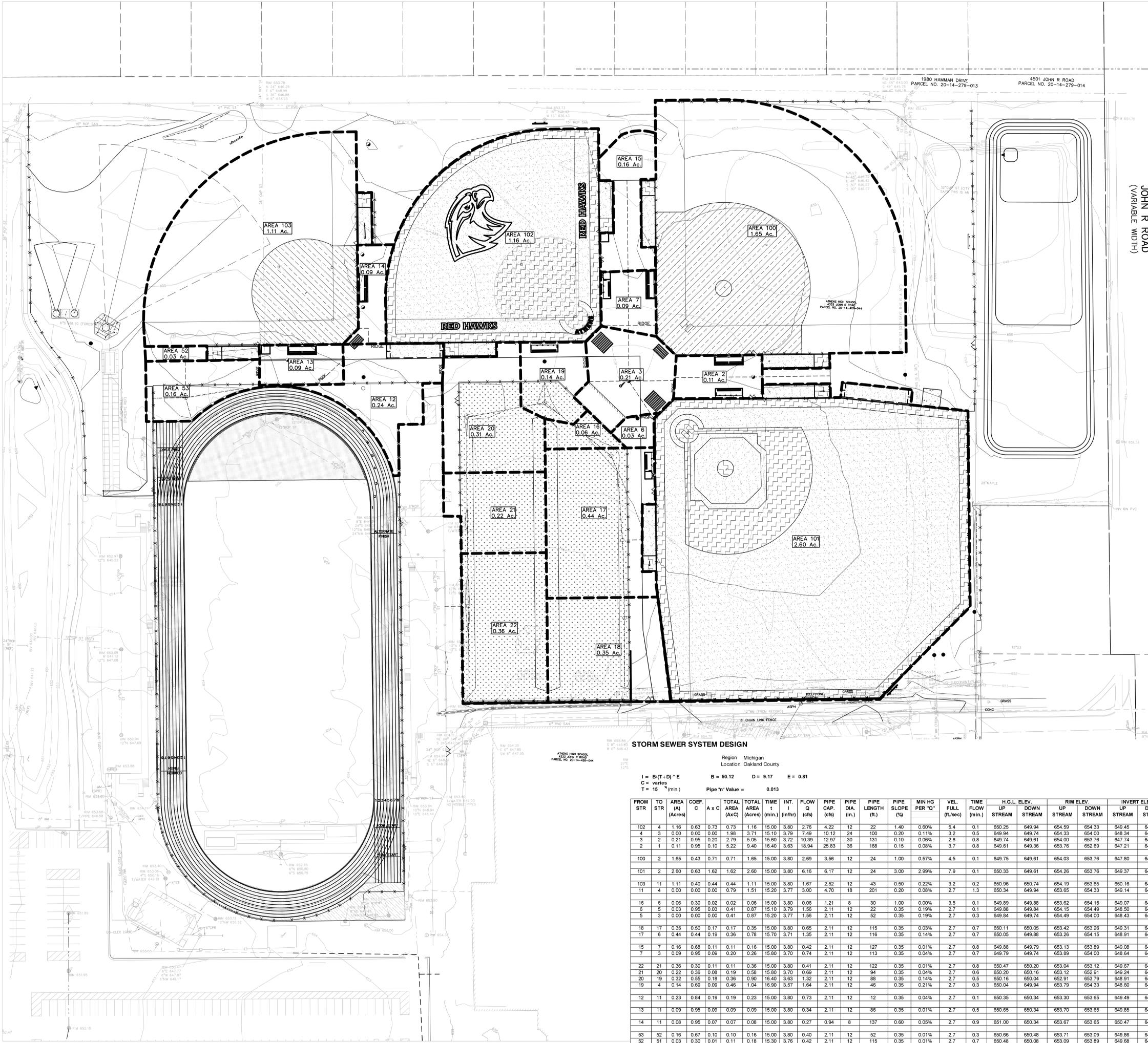
CATCH BASIN - LANDSCAPE AREA OR ROADSIDE DITCH
MAX REQUIRE:
• EJ 1040 TYPE "N" OVAL GRATE OR TYPE O2 BEEHIVE GRATE
• EJ 1150 TYPE "N" OVAL GRATE OR TYPE O2 BEEHIVE GRATE
• EJ 2800 TYPE "N" OVAL GRATE OR TYPE O2 BEEHIVE GRATE
• EJ 6508 OR EJ 6517

NOTE:
CONTRACTOR TO VERIFY ALL QUANTITIES. ANY DEVIATIONS TO THE PLAN QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF PEA GROUP FOR VERIFICATION, PRIOR TO BIDDING.

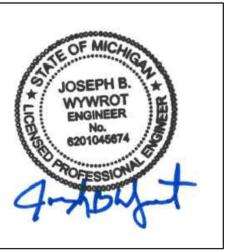
PREMIUM TRENCH BACKFILL NOTE:
ALL UTILITIES UNDER PAVEMENT OR WITHIN 3' OF THE EDGE OF PAVEMENT (OR WITHIN THE 45' LINE OF INFLUENCE OF PAVEMENT) SHALL HAVE M.D.O.T. CLASS 3 GRANULAR BACKFILL COMPACTED TO 95% MAX. DRY DENSITY (ASTM D-1557).

REFER TO:
UTILITY NOTES ON SHEET C-6.0
STORM SEWER DESIGN ON SHEET C-6.0
UTILITY NOTES AND DETAILS ON SHEET C-6.0





TMP ARCHITECTURE INC
 1191 WEST SQUARE LAKE ROAD
 BLOOMFIELD HILLS - MICHIGAN - 48302
 PH - 248.338.4561 FX - 248.338.0233
 EM - INFO@TMP-ARCHITECTURE.COM



CONSULTANT



PROJECT TITLE
**Athens High School
 Athletic Fields
 Bid Package No. 02B**

**Troy School District
 Troy, Michigan**

DRAWING TITLE
DRAINAGE MAP

ISSUE DATES

DATE	ISSUED FOR
12-10-2024	CONSTRUCTION DOCUMENTS

DRAWN JW
 CHECKED TD
 APPROVED TD

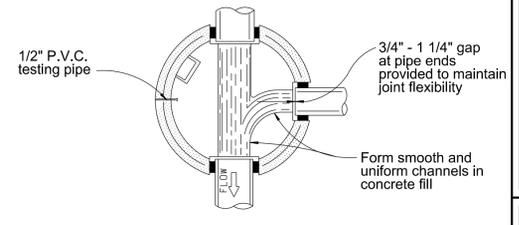
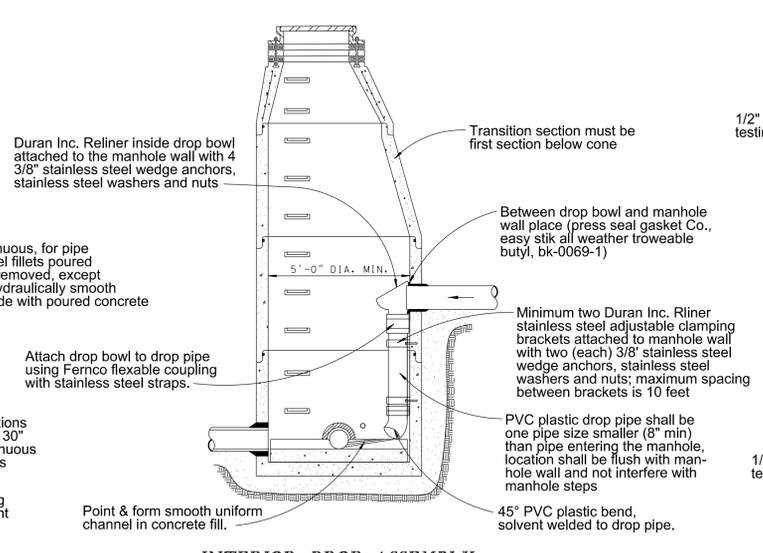
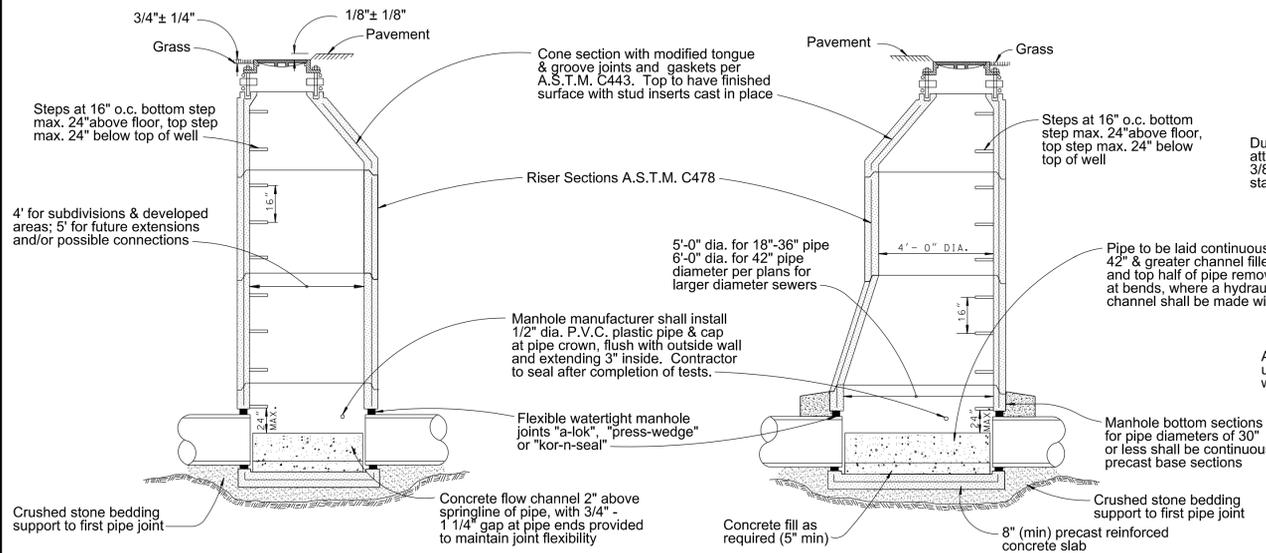
PROJECT NO.
22103D
 DRAWING NO.
C-8.0

STORM SEWER SYSTEM DESIGN

Region Michigan
 Location Oakland County
 $I = B/(T+D)^E$ $B = 50.12$ $D = 9.17$ $E = 0.81$
 $C = \text{vertices}$
 $T = 15 \text{ (min.)}$ Pipe "n" Value = 0.013

FROM STR	TO STR	AREA (A)	COEF. C	A x C	TOTAL AREA (AxC)	TOTAL AREA (Acres)	TIME t (min.)	INT. I (in/hr)	FLOW Q (cfs)	PIPE CAP. (cfs)	PIPE DIA. (in.)	PIPE LENGTH (ft.)	PIPE SLOPE (%)	MIN HG PER "Q"	VEL. FULL (ft./sec)	TIME FLOW (min.)	H.G.L. ELEV. UP STREAM	H.G.L. ELEV. DOWN STREAM	RIM ELEV. UP STREAM	RIM ELEV. DOWN STREAM	INVERT ELEV. UP STREAM	INVERT ELEV. DOWN STREAM	PIPE COVER UP STREAM	PIPE COVER DOWN STREAM	HGL COVER UP STREAM	HGL COVER DOWN STREAM	
102	4	1.16	0.63	0.73	1.16	15.00	3.80	2.76	4.22	12	22	140	0.60%	0.60%	5.4	0.1	650.25	649.94	654.59	654.33	649.45	649.14	3.97	4.02	4.34	4.38	
4	3	0.00	0.00	0.00	1.98	3.71	15.10	3.79	7.49	10	12	24	100	0.20	0.11%	3.2	0.5	649.94	649.74	654.33	654.00	648.34	648.14	3.73	3.61	4.38	4.26
3	2	0.21	0.95	0.20	2.79	5.05	15.80	3.72	10.39	12	30	131	0.10	0.06%	2.6	0.8	649.74	649.61	654.00	653.76	647.74	647.61	3.47	3.35	4.26	4.15	
2	1	0.11	0.95	0.10	5.22	9.40	16.40	3.63	18.94	25	36	168	0.15	0.08%	3.7	0.8	649.61	649.36	653.76	652.69	647.21	646.96	3.21	2.39	4.15	3.33	
100	2	1.65	0.43	0.71	0.71	1.65	15.00	3.80	2.69	3.56	12	24	1.00	0.57%	4.5	0.1	649.75	649.61	654.03	653.76	647.80	647.55	5.06	5.04	4.28	4.15	
101	2	2.60	0.63	1.62	1.62	2.60	15.00	3.80	6.16	6.17	12	24	3.00	2.99%	7.9	0.1	650.33	649.61	654.26	653.76	649.37	648.65	3.72	3.94	3.93	4.15	
103	11	1.11	0.40	0.44	0.44	1.11	15.00	3.80	1.67	2.52	12	43	0.50	0.22%	3.2	0.2	650.96	650.74	654.19	653.65	650.16	649.94	2.86	2.53	3.23	2.90	
11	4	0.00	0.00	0.79	1.51	15.20	3.77	3.00	4.70	18	20	120	0.20	0.08%	2.7	1.3	650.34	649.94	653.65	654.33	649.14	648.74	2.79	3.88	3.30	4.38	
16	6	0.06	0.30	0.02	0.02	0.06	15.00	3.80	0.06	1.21	8	30	1.00	0.00%	3.5	0.1	649.89	649.88	653.62	654.15	649.07	648.77	3.74	4.58	3.73	4.27	
6	5	0.03	0.95	0.03	0.41	0.87	15.10	3.79	1.56	2.11	12	22	0.35	0.19%	2.7	0.1	649.88	649.84	654.15	654.49	648.50	648.43	4.48	4.90	4.27	4.65	
5	3	0.00	0.00	0.41	0.87	15.20	3.77	1.56	2.11	12	52	35	0.35	0.19%	2.7	0.3	649.84	649.74	654.49	654.00	648.43	648.24	4.90	4.59	4.65	4.26	
18	17	0.35	0.50	0.17	0.17	0.35	15.00	3.80	0.65	2.11	12	115	0.35	0.03%	2.7	0.7	650.11	650.05	653.42	653.26	649.31	648.91	2.94	3.19	3.31	3.21	
17	6	0.44	0.44	0.19	0.36	0.78	15.70	3.71	1.35	2.11	12	116	0.35	0.14%	2.7	0.7	650.05	649.88	653.26	654.15	648.91	648.50	3.19	4.48	3.21	4.27	
15	7	0.16	0.68	0.11	0.11	0.16	15.00	3.80	0.42	2.11	12	127	0.35	0.01%	2.7	0.8	649.88	649.79	653.13	653.89	649.08	648.64	2.88	4.09	3.24	4.10	
7	3	0.09	0.95	0.09	0.20	0.26	15.80	3.70	0.74	2.11	12	113	0.35	0.04%	2.7	0.7	649.79	649.74	653.69	654.00	648.64	648.24	4.09	4.59	4.10	4.26	
22	21	0.36	0.30	0.11	0.11	0.36	15.00	3.80	0.41	2.11	12	122	0.35	0.01%	2.7	0.8	650.47	650.20	653.04	653.12	649.67	649.24	2.21	2.71	2.57	2.92	
21	20	0.22	0.36	0.08	0.19	0.58	15.80	3.70	0.69	2.11	12	94	0.35	0.04%	2.7	0.6	650.20	650.16	653.12	652.91	649.24	648.91	2.71	2.84	2.92	2.75	
20	19	0.32	0.55	0.18	0.36	0.90	16.40	3.63	1.32	2.11	12	88	0.35	0.14%	2.7	0.5	650.16	650.04	653.91	653.79	648.91	648.60	2.84	4.01	2.75	3.74	
19	4	0.14	0.69	0.09	0.46	1.04	16.90	3.57	1.84	2.11	12	46	0.35	0.21%	2.7	0.3	650.04	649.94	653.79	654.33	648.60	648.44	4.01	4.72	3.74	4.38	
12	11	0.23	0.84	0.19	0.19	0.23	15.00	3.80	0.73	2.11	12	12	0.35	0.04%	2.7	0.1	650.35	650.34	653.30	653.65	649.49	649.44	2.65	3.03	2.95	3.30	
13	11	0.09	0.95	0.09	0.09	0.09	15.00	3.80	0.34	2.11	12	86	0.35	0.01%	2.7	0.5	650.85	650.34	653.70	653.85	649.85	649.54	2.69	2.93	3.06	3.30	
14	11	0.08	0.95	0.07	0.07	0.08	15.00	3.80	0.27	0.94	8	137	0.60	0.05%	2.7	0.9	651.00	650.34	653.67	653.65	650.47	649.64	2.40	3.20	2.67	3.30	
53	52	0.16	0.67	0.10	0.10	0.16	15.00	3.80	0.40	2.11	12	52	0.35	0.01%	2.7	0.3	650.66	650.48	653.71	653.09	649.86	649.68	2.68	2.25	3.05	2.61	
52	51	0.30	0.01	0.11	0.11	0.18	15.30	3.76	0.42	2.11	12	115	0.35	0.01%	2.7	0.7	650.48	650.08	653.09	653.89	649.68	649.28	2.25	3.45	2.61	3.81	
51	50	0.00	0.00	0.00	0.11	0.18	16.00	3.68	0.42	2.11	12	79	0.35	0.01%	2.7	0.5	650.08	649.80	653.89	650.13	649.28	649.00	3.45	-0.03	3.81	0.33	

Drawing File: V:\projects\2023\103\22103D\TROY_SCHOOLS_2023_BIDDING\CONSTRUCTION\TROY ATHLETICS - 2023\C-8-001.dwg - 2023.dwg
 Date: 10/24/2024 11:38am



NOTE: ALL PRECAST MANHOLES, SLAB BASES & CONCRETE CHANNELIZATION SHALL BE MANUFACTURED WITH TYPE II, IP, OR IIA CEMENT

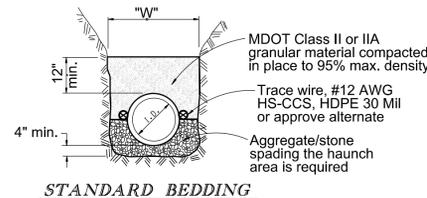
SANITARY SEWER MANHOLE
(8" THRU 15" DIA. SEWERS)

SANITARY SEWER MANHOLE
(18" AND LARGER DIA. SEWERS)

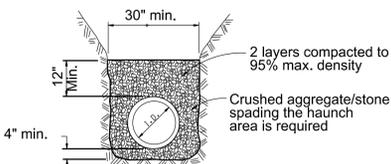
GENERAL PIPE BEDDING & TRENCH NOTES

- The contractor shall install the pipe in accordance with the bedding detail required for the pipe depth (measured from the top of the pipe), and trench width (measured across the trench at the top of the pipe) constructed. Alternate material and methods must be approved in writing by the City Engineer
- Crushed stone bedding shall be utilized for dewatered ground trench's, trenches greater than 30" in width or 20' in depth.
- Bedding material shall be as follows:
Standard bedding - MDOT 6A, 17A or 34R
Crushed stone bedding - MDOT 25A or 34G
MDOT Class II or IIA granular material
- Backfill material shall be as follows:
Excavated material - T.D. - A
MDOT Class II granular material - T.D. - B

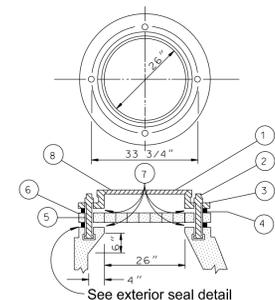
Bedding shall be defined as that material placed from four (4) inches below the pipe to a point twelve (12) inches above the pipe.



STANDARD BEDDING

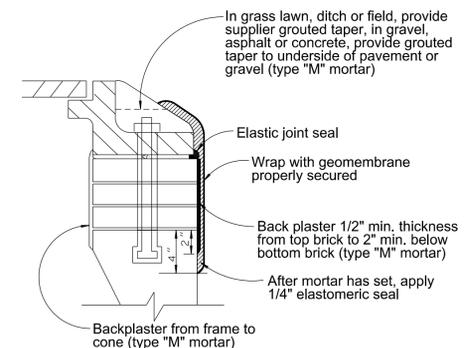


CRUSHED STONE BEDDING



WATERPROOF MANHOLE FRAME & COVER

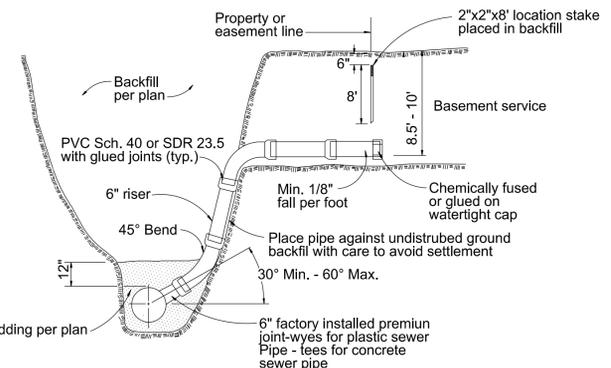
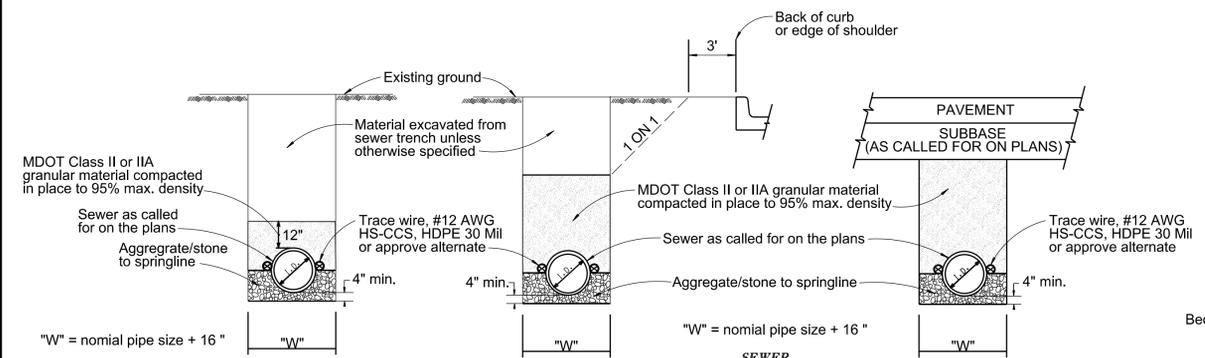
- Bolled waterproof frame & cover equal to East Jordan 1040 ZPT with four (4) 3/4" dia. base flange holes.
- Four (4) cadmium coated 5/8" threaded studs, 3/4" x 2" x 1/16" flat washers and hex headnuts.
- Four (4) 3/4" x 2" x 1/16" neoprene flat washers.
- Elastic joint sealant.
- Four (4) 5/8" threaded inserts cast as shown
- Concrete brick in full mortar bed for grade adjustment. 5" min. - 12" max. adjustment. No brick or mortar coating shall extend beyond the O.D. of the manhole. Mortar coat all open spaces and irregularities on the outside of the brickwork. Taper outside mortar coat a min. 1% from the manhole O.D. to the frame flange.
- Form inside of manhole and completely fill space with type "M" mortar.
- Cover supplied with four (4) 1/2" stainless steel cap screws countersunk flush with cover.



EXTERIOR SEAL DETAIL

MATERIALS

- Elastic joint seal: butyl rubber joint sealant (A-Lok, Butyl-Lok system) or approved equal.
- Elastomeric seal: butyl rubber sealant (trowelable-grade) (a-lok, butyl-lok system) or approved equal.
- Geomembrane: pvc geometric, in thickness fifteen (15 mil), Staff Inds. or double layer of six (6) mil polyethylene wrap.
- Adhesive primer: water emulsion or solvent per manufacturers recommendations.



BUILDING LEAD DETAIL
0' - 15' COVER

STANDARD SANITARY SEWER DETAILS (1 of 2)
ENGINEERING DEPARTMENT
APPROVED BY : WILLIAM J. HUOTARI, CITY ENGINEER
DATE : JUNE 2019



3 FULL WORKING DAYS BEFORE YOU DIG CALL 811
Know what's below Call before you dig
MICHIGAN 811
1-800-485-2171 www.michigan811.com
Contractor Note:
The locations of existing underground utilities are shown on the plans. The contractor shall determine the exact location of all existing utilities before commencing work. They agree to be fully responsible for any damages which might be occasioned by their failure to exactly locate and preserve any and all underground utilities.
CONTRACT NO. XX-XX
PROJECT NO. XX-XXX-X
A

REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Athens High School
 Athletic Fields
 Bid Package No. 02B**

Troy School District
 Troy, Michigan

DRAWING TITLE
 Site Details

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

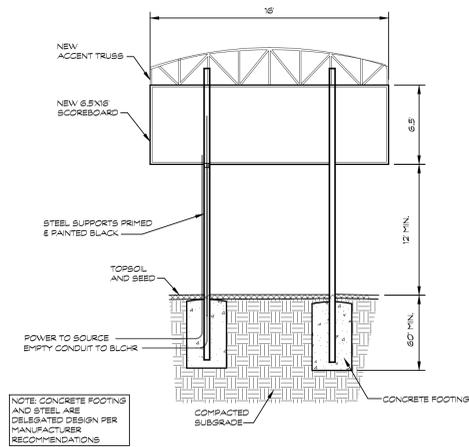
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CHECKED: HD

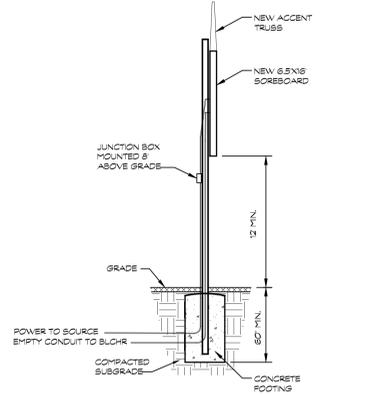
APPROVED: MDS

PROJECT NO.
22103D

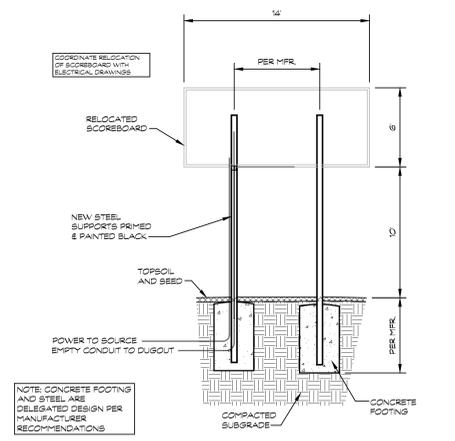
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LD1.01



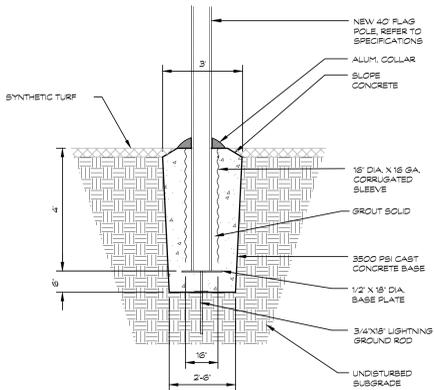
1 SCOREBOARD ELEVATION DETAIL
 VARSITY BASEBALL AND SOFTBALL SCALE 3/16"=1'-0"



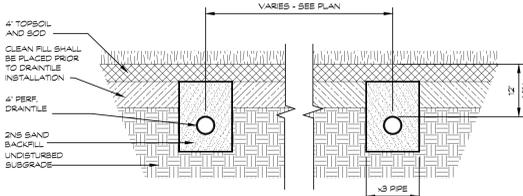
2 SCOREBOARD SECTION DETAIL
 VARSITY BASEBALL AND SOFTBALL SCALE 3/16"=1'-0"



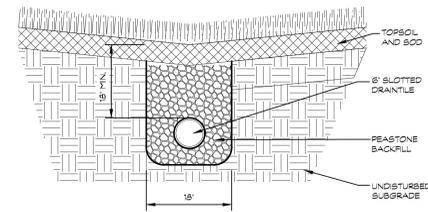
3 RELOCATED SCOREBOARD
 JV BASEBALL AND SOFTBALL SCALE 3/16"=1'-0"



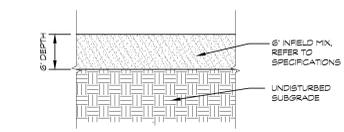
4 FLAG POLE FOUNDATION
 N.T.S.



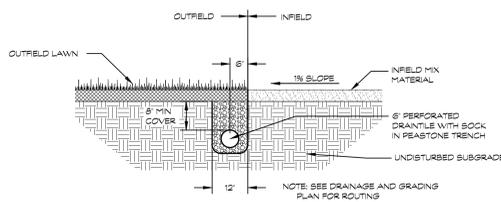
5 4" DRAINTILE SECTION
 SCALE 3/4"=1'-0"



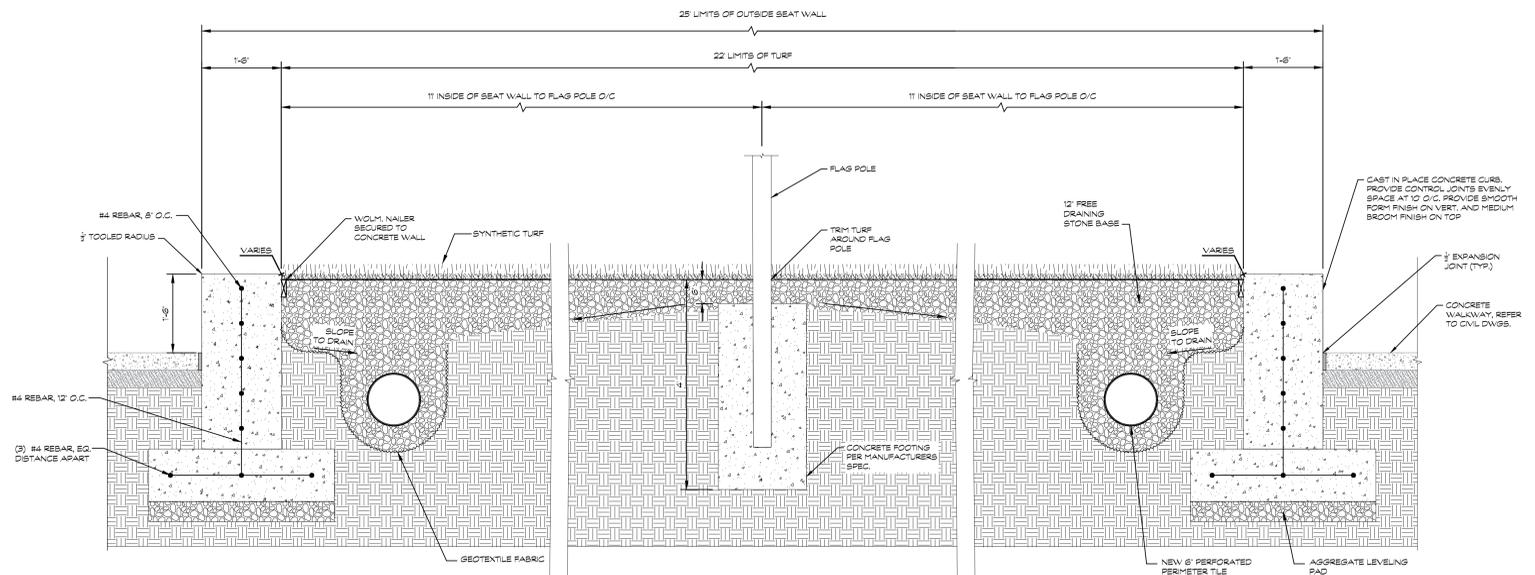
6 6" DRAINTILE SECTION
 N.T.S.



7 INFIELD MIX SECTION
 SCALE 1/2"=1'-0"



8 INFIELD/OUTFIELD DRAIN SECTION
 SCALE 1/2"=1'-0"



9 FLAG POLE FOCAL POINT SECTION
 SCALE 3/4"=1'-0"

REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Athens High School
Athletic Fields
Bid Package No. 02B**

Troy School District
Troy, Michigan

DRAWING TITLE
**Track and Field Event
Details**

ISSUE DATES

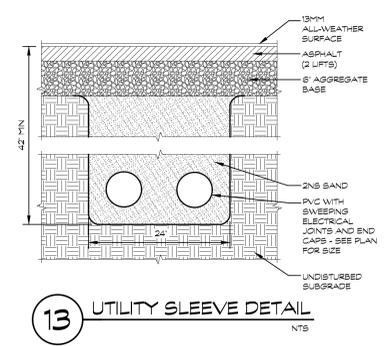
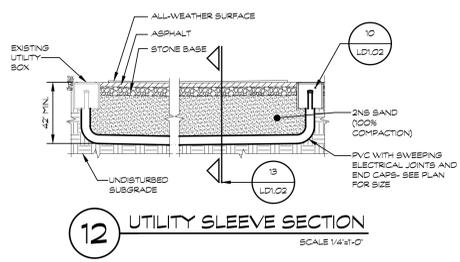
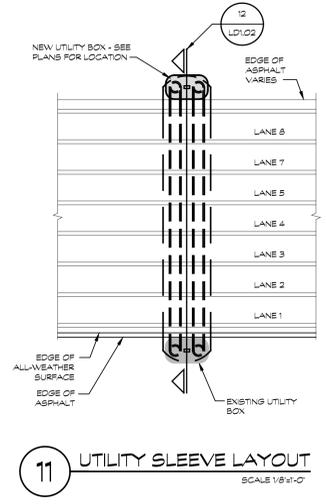
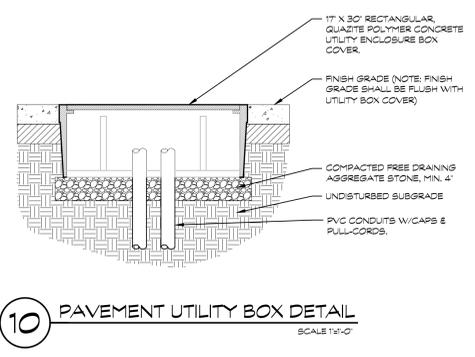
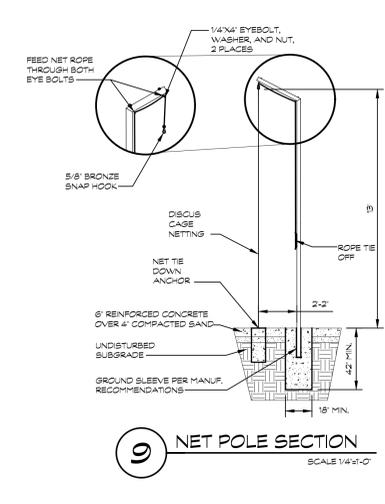
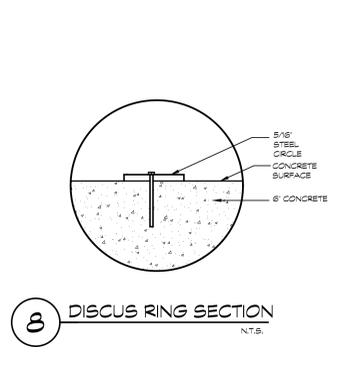
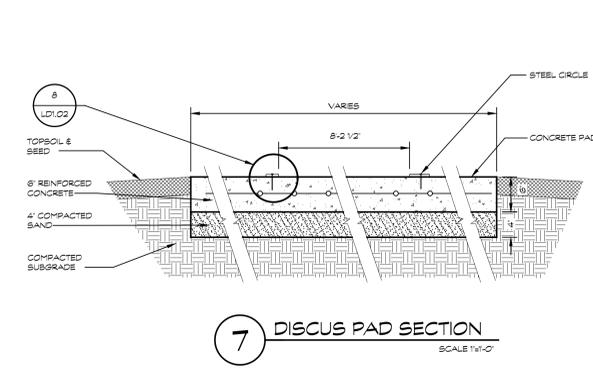
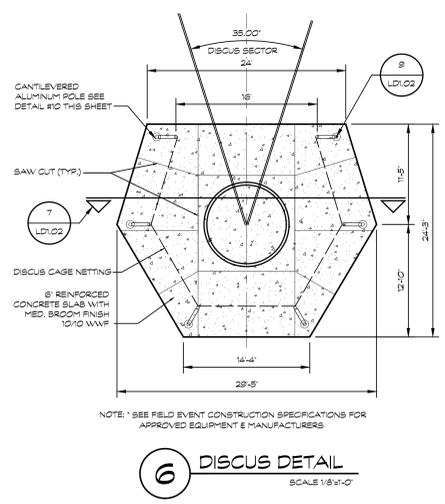
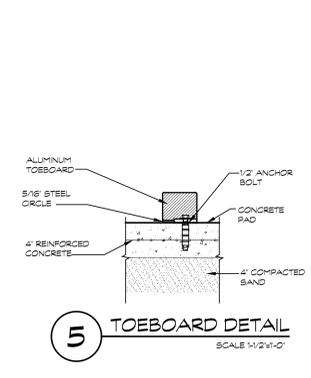
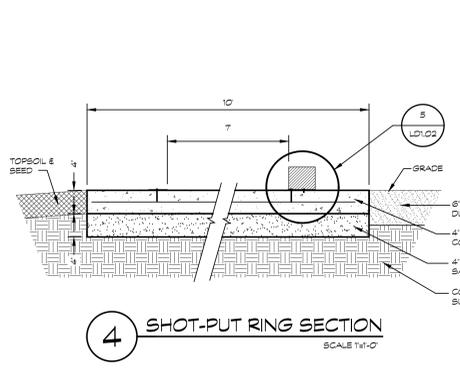
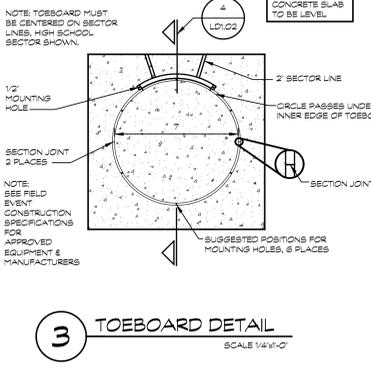
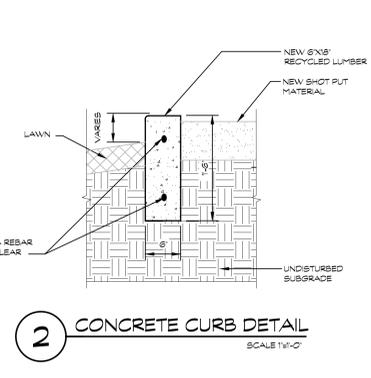
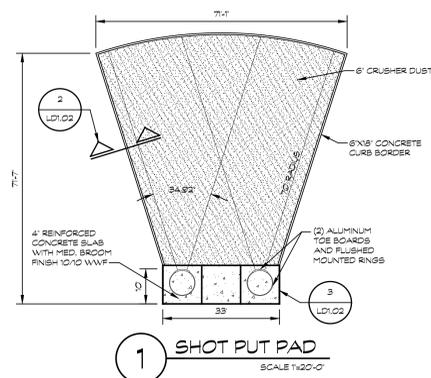
12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

DRAWN: JB
CHECKED: HD
APPROVED: MDS

PROJECT NO.
22103D

DRAWING NO.
LD1.02



REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Athens High School
 Athletic Fields
 Bid Package No. 02B**

Troy School District
 Troy, Michigan

DRAWING TITLE
**Track and Field Event
 Details**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

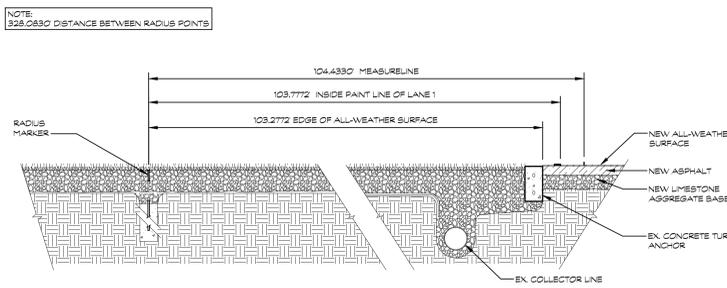
DRAWN JB
 CHECKED HD
 APPROVED MDS

PROJECT NO.
22103D

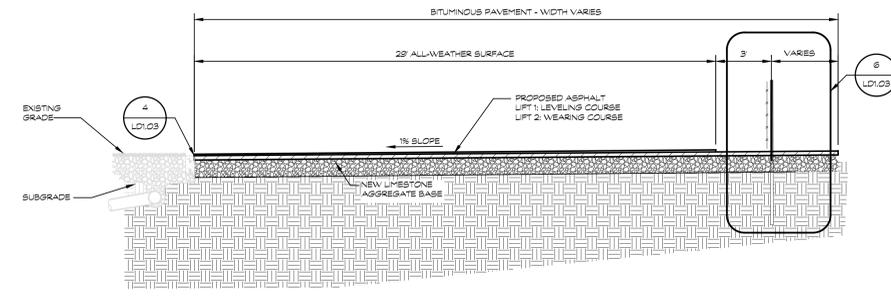
DRAWING NO.
LD1.03



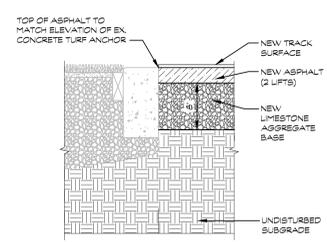
1 TRACK DIMENSION
 SCALE 1/4"=1'-0"



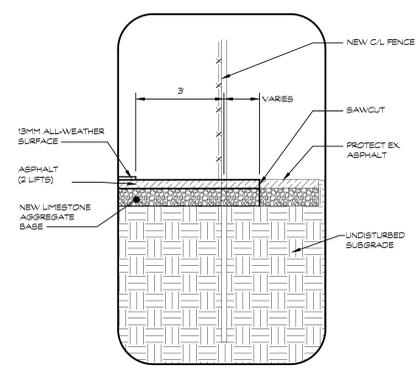
2 TRACK DIMENSION
 SCALE 1/2"=1'-0"



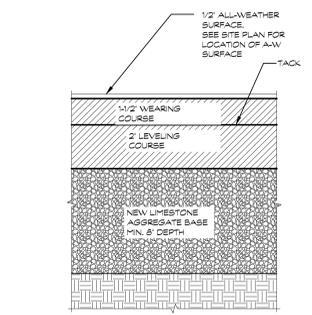
3 TRACK SECTION
 SCALE 1/4"=1'-0"



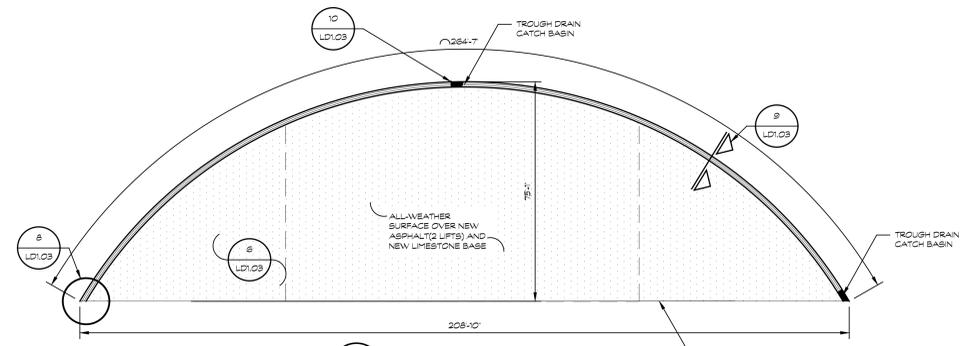
4 INSIDE TRACK EDGE
 SCALE 1/4"=1'-0"



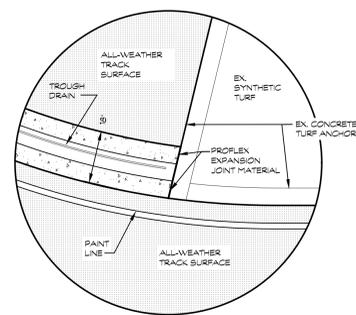
5 TRACK AND FENCE SECTION
 SCALE 1/2"=1'-0"



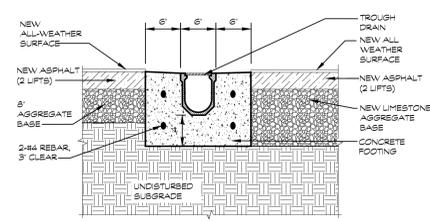
6 BITUMINOUS PAVEMENT
 REFER TO GEOTECHNICAL REPORT SCALE 3/4"=1'-0"



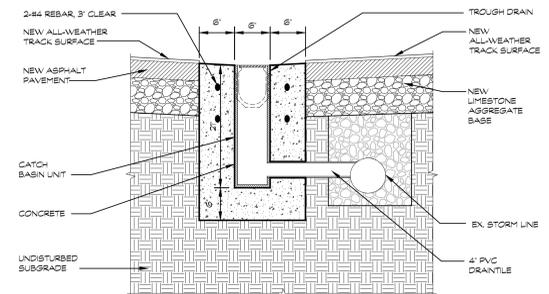
7 HIGH JUMP DETAIL
 SCALE 1/8"=1'-0"



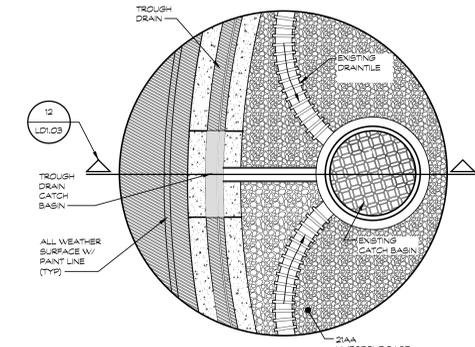
8 TROUGH DRAIN/TURF ANCHOR
 SCALE 1/8"=1'-0"



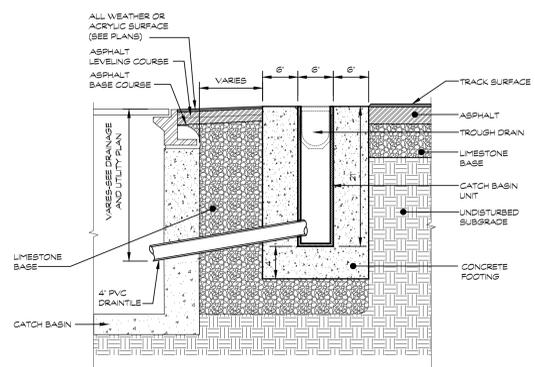
9 TROUGH DRAIN
 SCALE 1/4"=1'-0"



10 TROUGH DRAIN CATCH BASIN
 SCALE 1/4"=1'-0"



11 TROUGH DRAIN CATCH BASIN DETAIL
 SCALE 1/2"=1'-0"



12 TROUGH DRAIN CATCH BASIN DETAIL
 SCALE 1/4"=1'-0"

REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Athens High School
 Athletic Fields
 Bid Package No. 02B**

Troy School District
 Troy, Michigan

DRAWING TITLE
**Synthetic Turf
 Fence Details**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

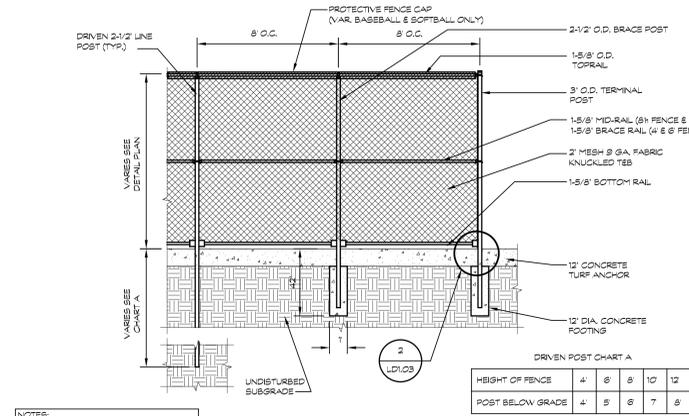
DRAWN -

CHECKED -

APPROVED -

PROJECT NO.
22103D

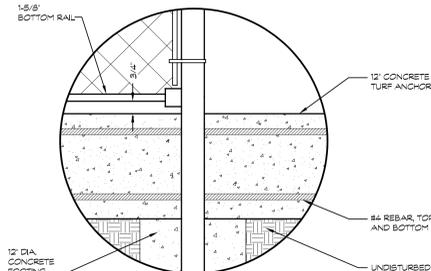
DRAWING NO.
LD1.04



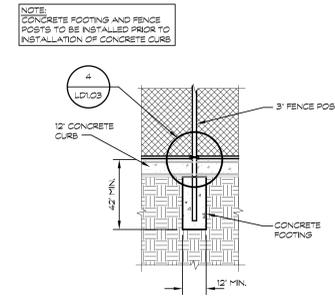
1 FENCE ELEVATION
 SCALE 1/4\"/>

NOTES:
 ALL DBL. GATES WIDER THAN 12' SHALL
 USE 4\"/>

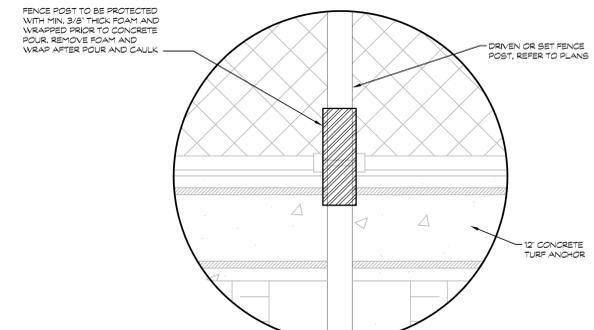
HIGHT OF FENCE	4'	6'	8'	10'	12'
POST BELOW GRADE	4'	5'	6'	7'	8'



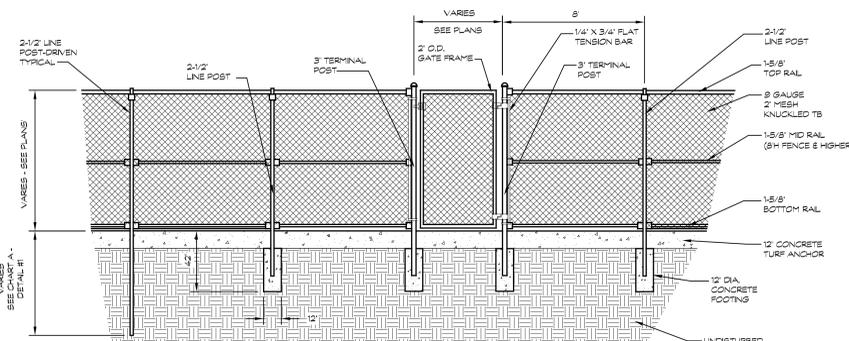
2 FENCE CONCRETE DETAIL
 SCALE 1/4\"/>



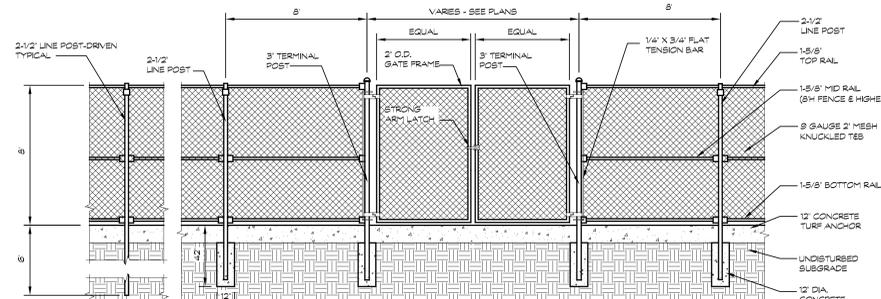
3 FENCE CONCRETE DETAIL
 SCALE 1/4\"/>



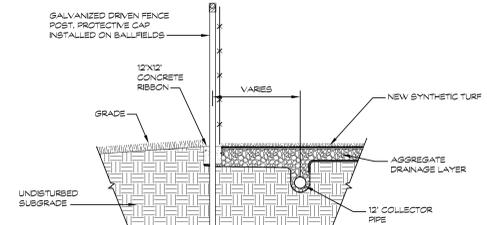
4 FENCE INSTALLATION DETAIL
 SCALE 1/2\"/>



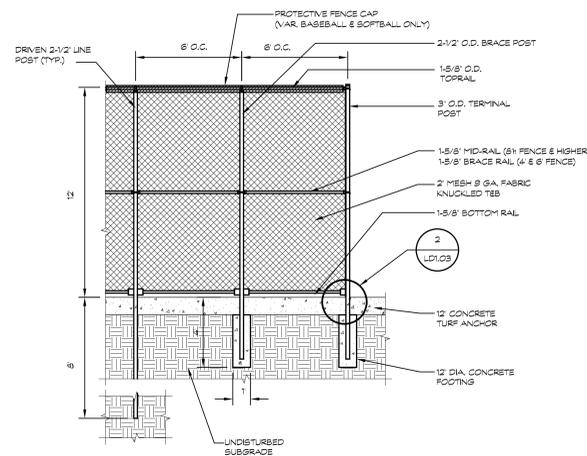
5 PEDESTRIAN GATE
 SCALE 1/4\"/>



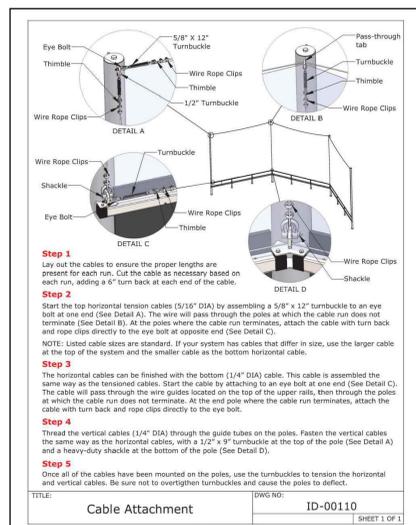
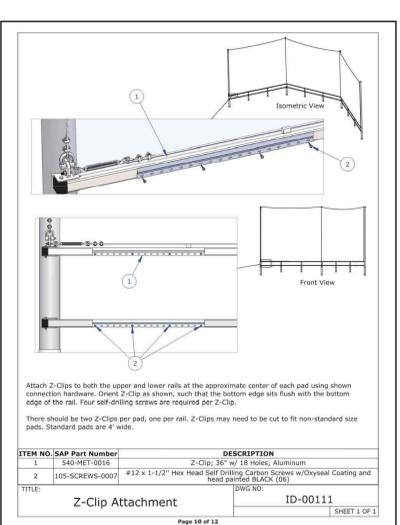
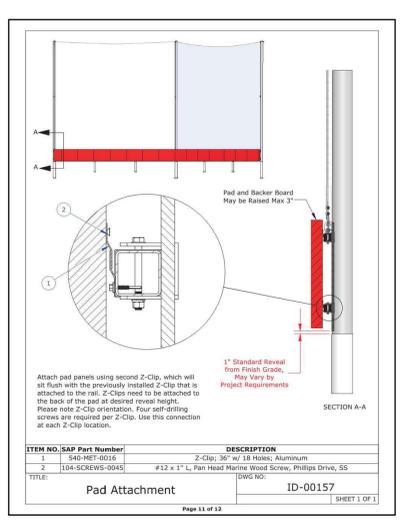
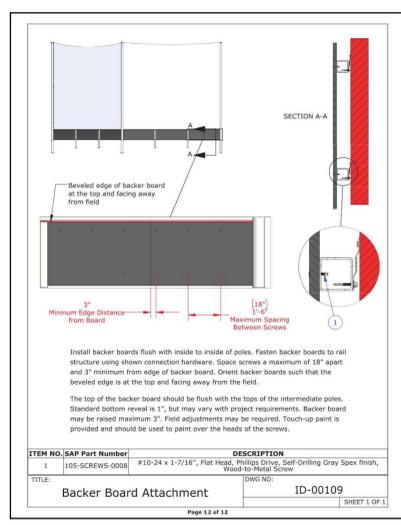
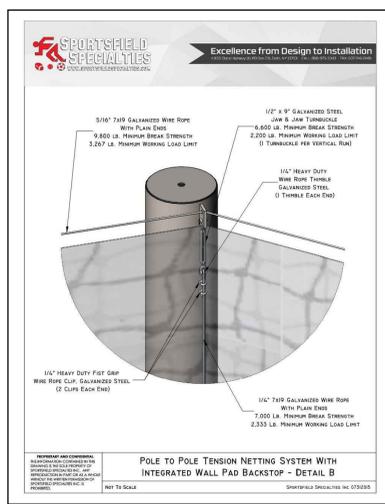
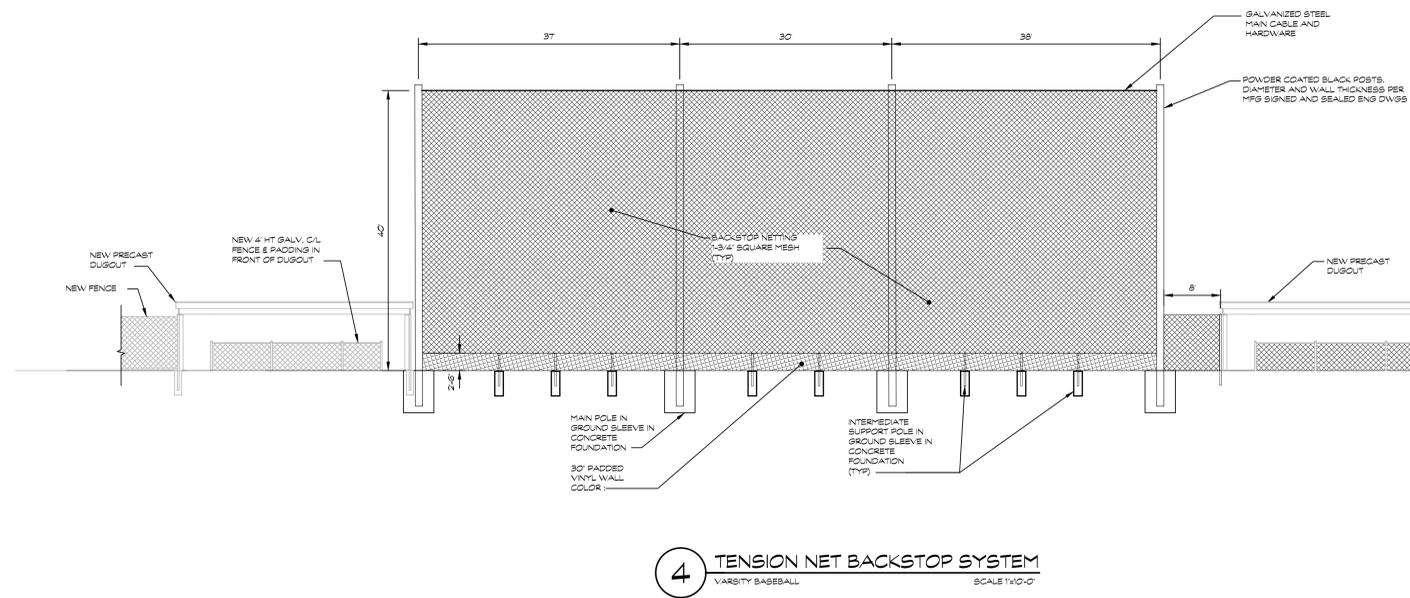
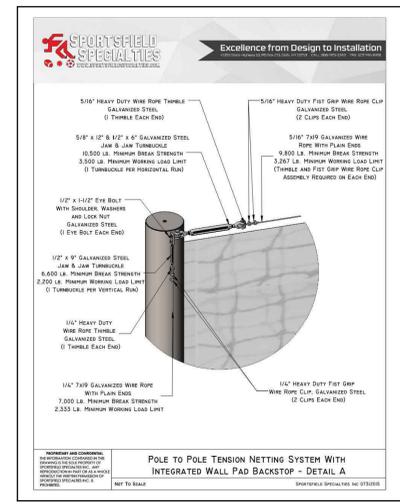
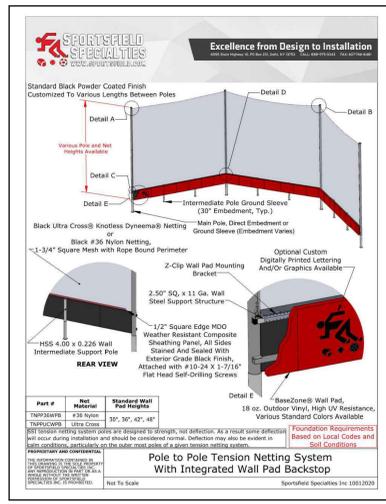
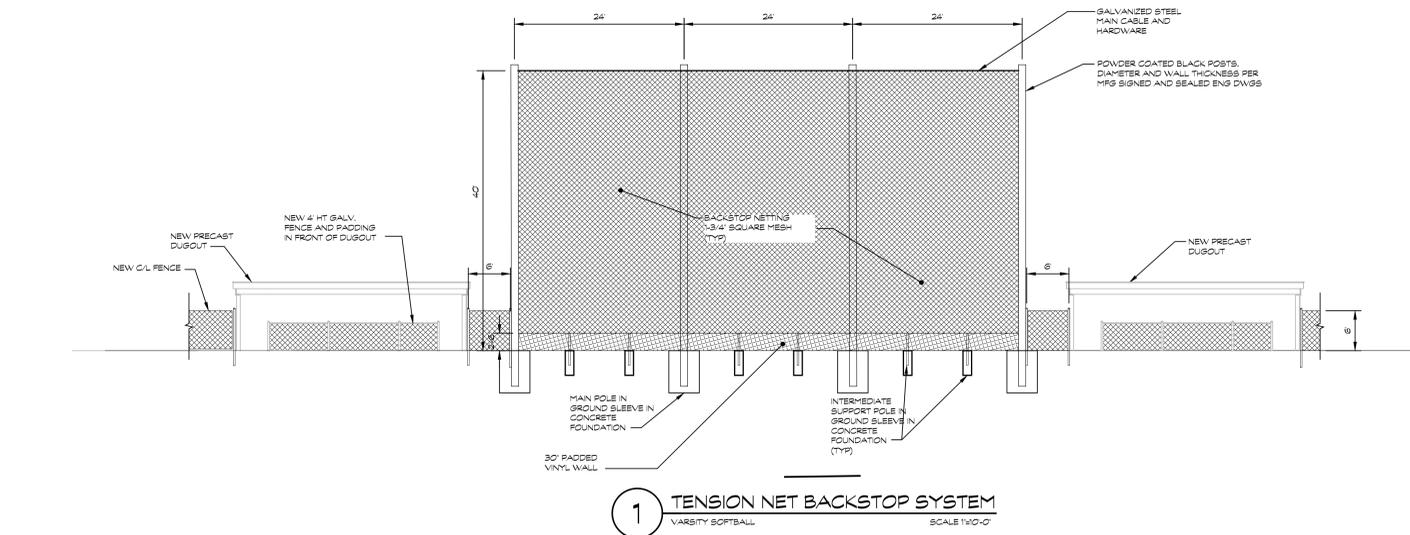
6 12\"/>



7 SYNTHETIC TURF FENCE SECTION
 SCALE 1/4\"/>



8 FENCE ELEVATION
 SCALE 1/4\"/>



TMP ARCHITECTURE INC
 1191 WEST SQUARE LAKE ROAD
 BLOOMFIELD HILLS - MICHIGAN - 48302
 PH - 248.338.4561 FX - 248.338.0023
 EM - INFO@TMPARCHITECTURE.COM

REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Athens High School
 Athletic Fields
 Bid Package No. 02B**

Troy School District
 Troy, Michigan

DRAWING TITLE
**Varsity Backstop
 Details**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS
 DATE: ISSUED FOR:

DRAWN -
 CHECKED -
 APPROVED -

PROJECT NO.
22103D

DRAWING NO.
LD1.07

REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Athens High School
 Athletic Fields
 Bid Package No. 02B**

Troy School District
 Troy, Michigan

DRAWING TITLE
Bullpen Details

ISSUE DATES

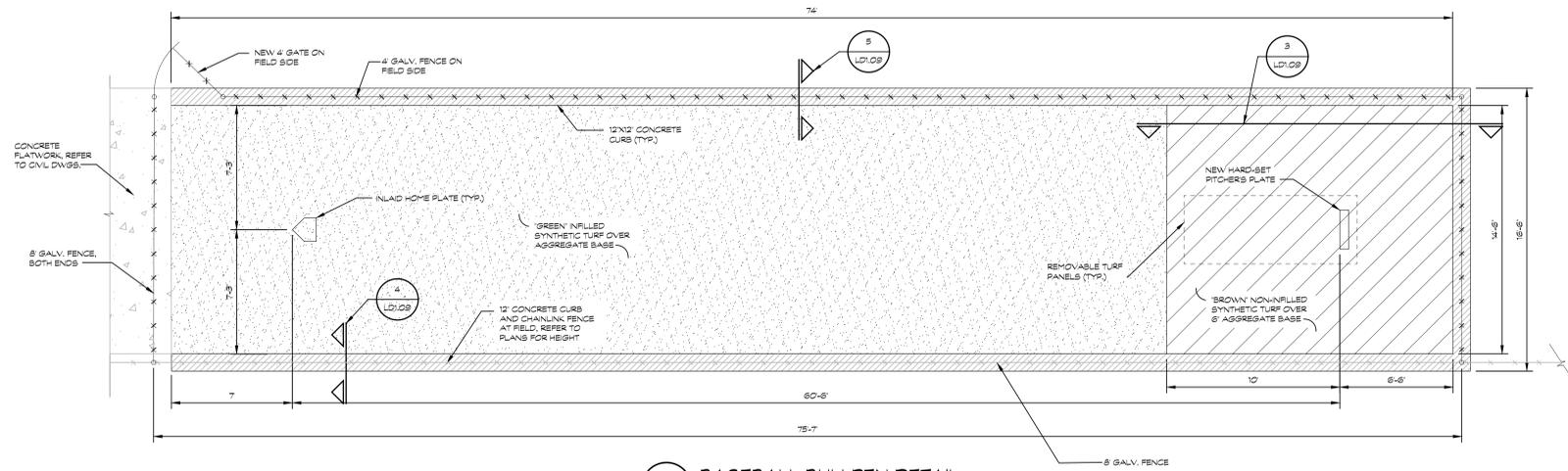
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DATE: ISSUED FOR:

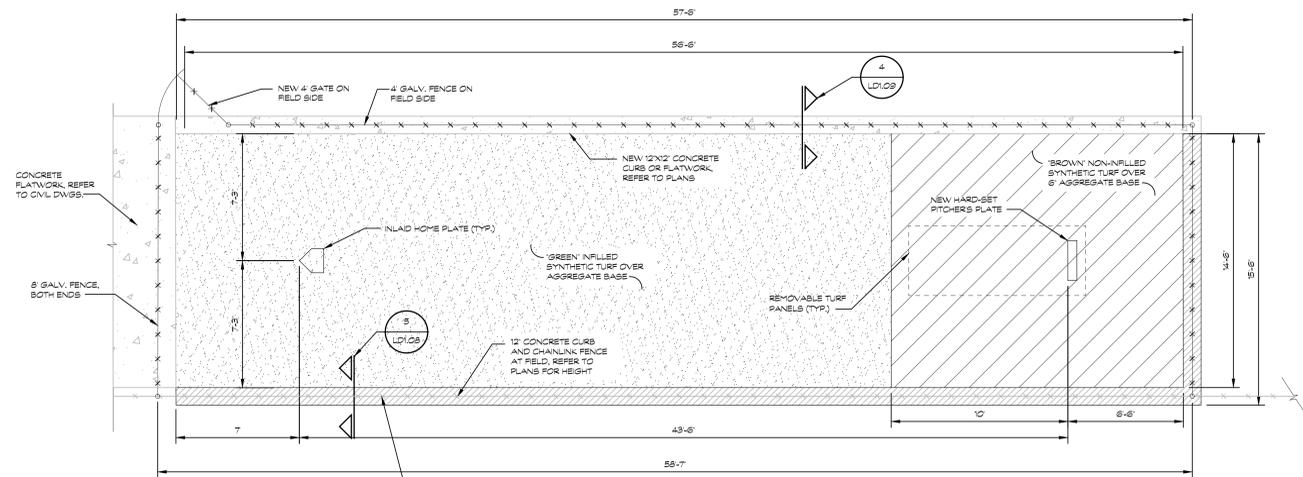
DRAWN -
 CHECKED -
 APPROVED -

PROJECT NO.
22103D

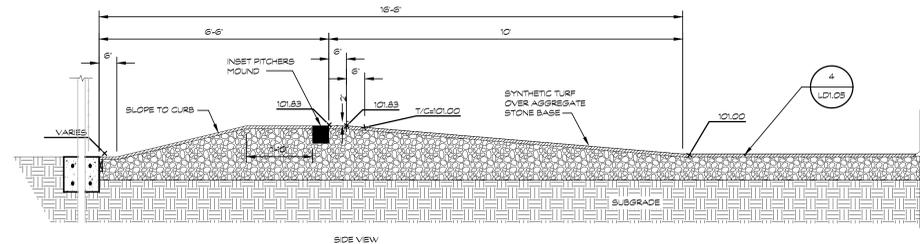
DRAWING NO.
LD1.09



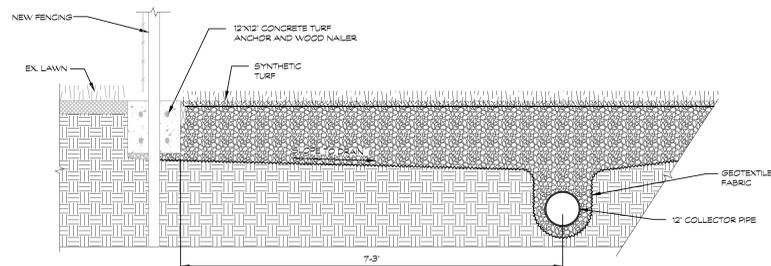
1 BASEBALL BULLPEN DETAIL
 SCALE 1/4"=1'-0"



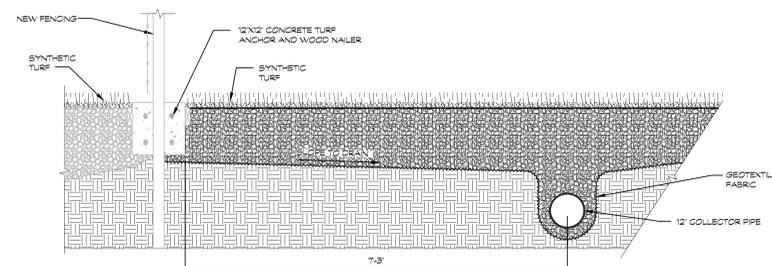
2 SOFTBALL BULLPEN DETAIL
 SCALE 1/4"=1'-0"



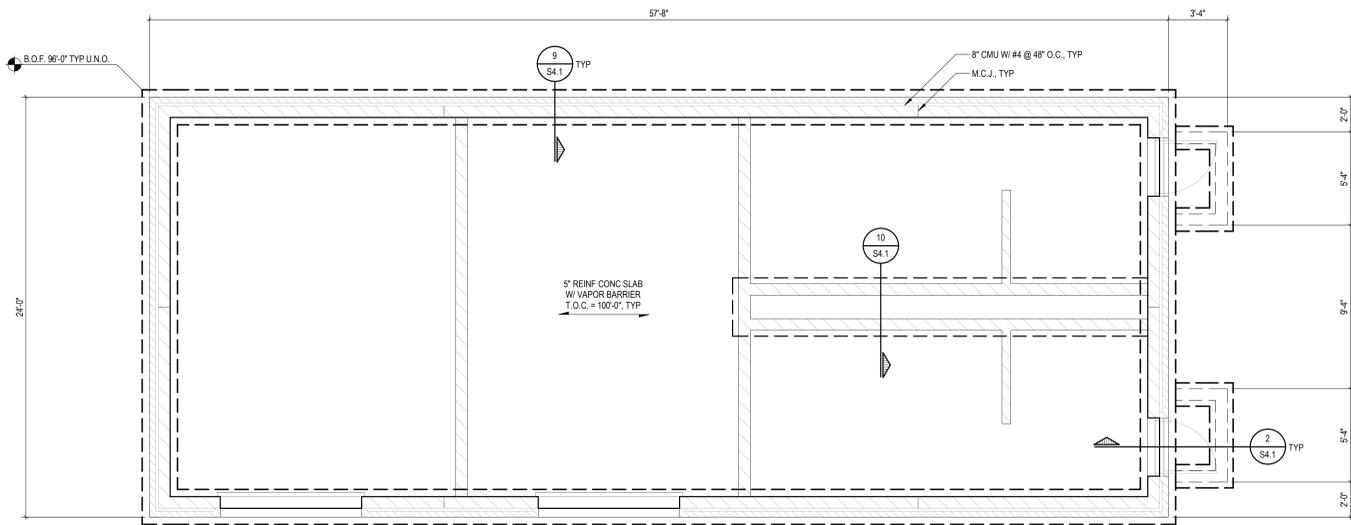
3 PITCHING MOUND SIDE ELEVATION
 BASEBALL NOT TO SCALE



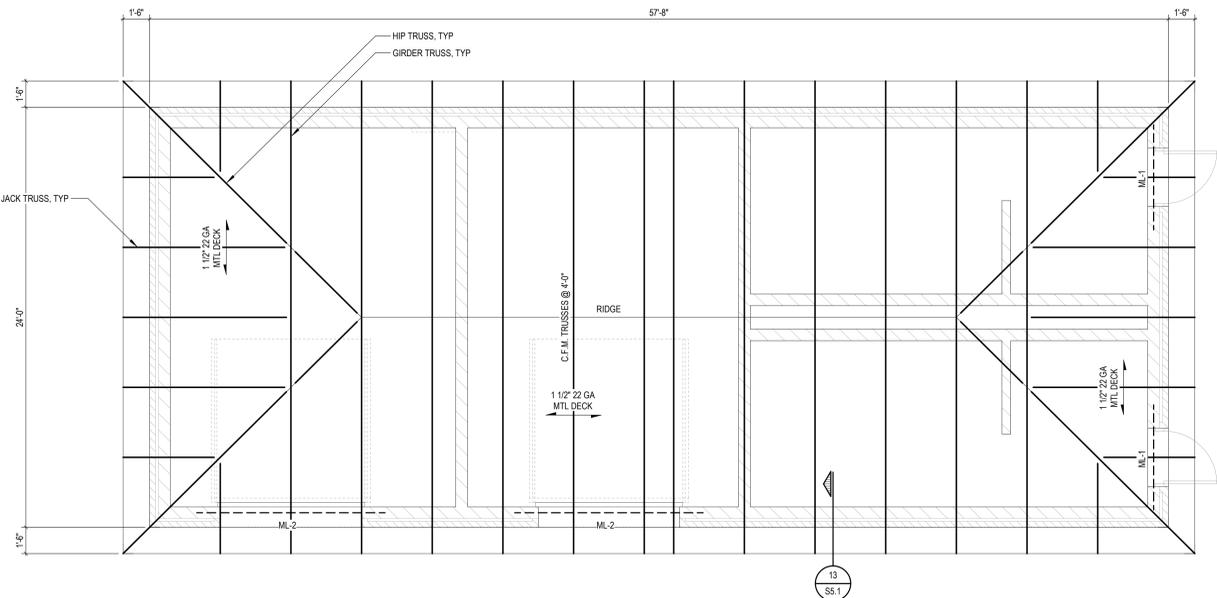
4 BULLPEN EDGE DETAIL - LAWN
 SCALE 3/4"=1'-0"



5 BULLPEN EDGE DETAIL - TURF
 SCALE 3/4"=1'-0"



FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



FRAMING PLAN
SCALE: 1/4" = 1'-0"



TMP ARCHITECTURE INC
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REGISTRATION SEAL

CONSULTANT



PROJECT TITLE
**Troy High School
Athletic Fields**
BID PACKAGE No. 02B

Troy School Dsistrict
Troy, Michigan

DRAWING TITLE
Structural Plans



ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS
DATE: ISSUED FOR:

DRAWN: D. BART
CHECKED: B. KANNERS
APPROVED: E. MANNOR

PROJECT NO.
22103D
DRAWING NO.
S1.0



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CONSULTANT



WILLIAM A. KIBBE & ASSOCIATES, INC.
 ENGINEERS | ARCHITECTS | SURVEYORS

PROJECT TITLE
**Troy High School
 Athletic Fields**
 BID PACKAGE No. 02B

Troy School District
 Troy, Michigan

DRAWING TITLE
Concrete Details



ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

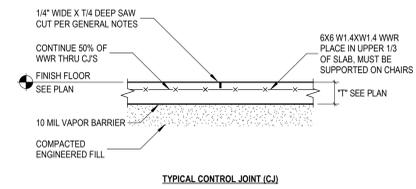
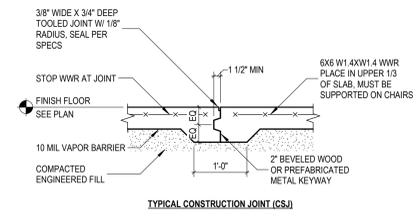
DATE: ISSUED FOR:

DRAWN: D. BART

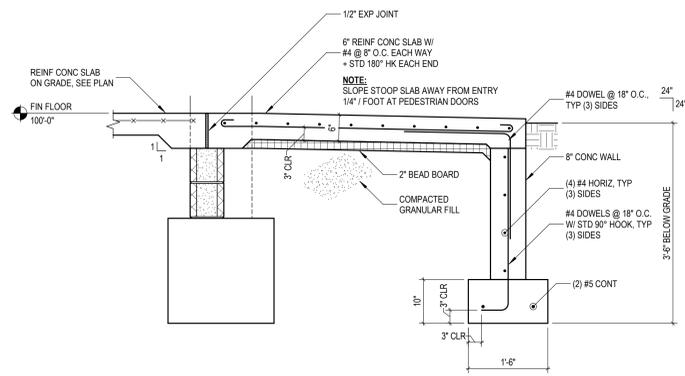
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APPROVED: E. MANNOR

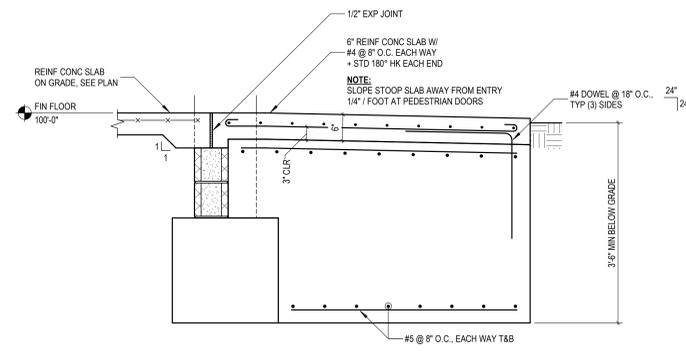
PROJECT NO.
22103D
 DRAWING NO.
S4.1



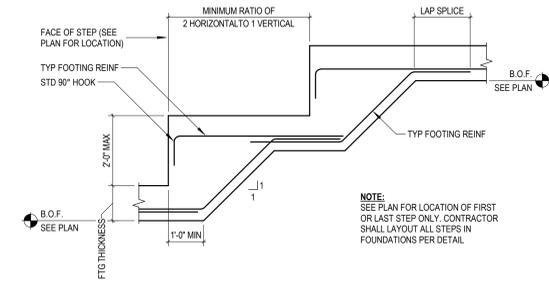
1 TYPICAL SLAB ON GRADE DETAILS
 S4.1 NOT TO SCALE



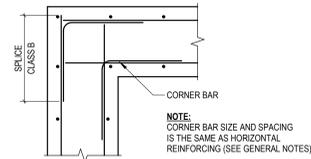
2 TYPICAL STOOP SECTION
 S4.1 NOT TO SCALE



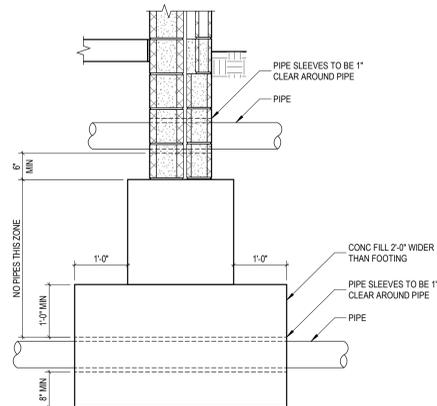
3 MASS POUR STOOP SECTION
 S4.1 NOT TO SCALE
 NOTE: CONTACTOR MAY USE TYPICAL STOOP SECTION.



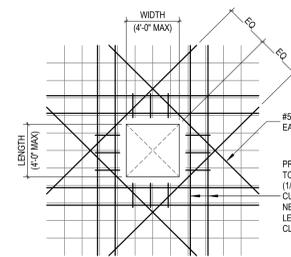
4 TYPICAL STEP FOOTING DETAIL
 S4.1 NOT TO SCALE



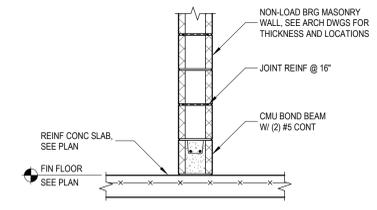
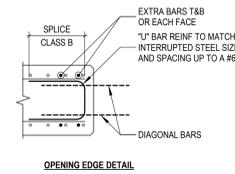
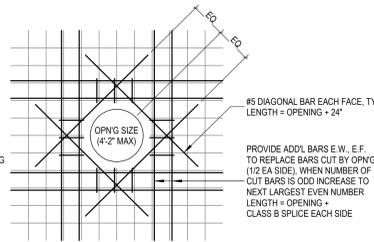
5 TYP WALL & FTG CORNER DETAIL
 S4.1 NOT TO SCALE



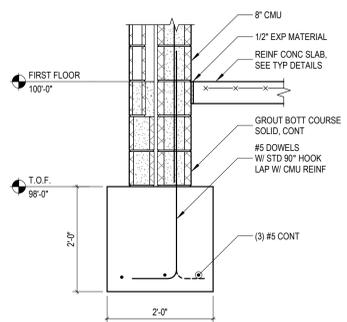
6 TYP FDN DETAIL AT UTILITY
 S4.1 NOT TO SCALE



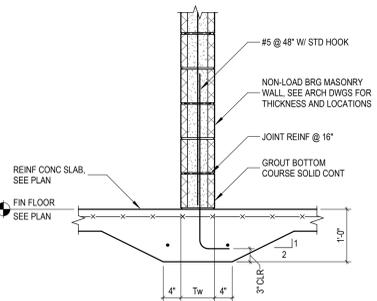
7 TYPICAL SLAB AND WALL OPENINGS
 S4.1 NOT TO SCALE



8 DETAIL
 S4.1 NOT TO SCALE



9 DETAIL
 S4.1 SCALE: 3/4" = 1'-0"



10 TYPICAL THICKENED SLAB DETAIL
 S4.1 NOT TO SCALE

INTERIOR SIGNAGE SCHEDULE			
Door or Room Number	Sign Type	Mounting Type	Text <small>TBD = TO BE DETERMINED BY OWNER</small>
101	2	1	LINE 1: STORAGE LINE 2: BRaille
102	2	1	LINE 1: STORAGE LINE 2: BRaille
103	1	1	LINE 1: SYMBOL LINE 2: BRaille
104	1	1	LINE 1: SYMBOL LINE 2: BRaille

DOOR & FRAME SCHEDULE																
No.	Opening Size (Width x Height)	Door				Frame			Details			Threshold	U.L. Label	Hdw. Set	Remarks	
		Type	Material	Finish	Glass	Type	Material	Finish	Glass	Head	Jamb					Sill
Storage Building																
101	8'-0" x 8'-0"	B	STL	PFN	.	.	.	.	2/M.1	.	2/M.1	.	.	11.00	.
102	8'-0" x 8'-0"	B	STL	PFN	.	.	.	.	2/M.1	.	2/M.1	.	.	11.00	.
103	3'-0" x 7'-2"	A	FRP	PFN	.	1	AL	PFN	1/M.1	7/M.1	1/M.1	MTL	.	10.00	.	
104	3'-0" x 7'-2"	A	FRP	PFN	.	1	AL	PFN	1/M.1	7/M.1	1/M.1	MTL	.	10.00	.	



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REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Athens High School Athletics Bid Package No. 02B

Troy School District
Troy, Michigan

DRAWING TITLE
Door & Frame Schedule

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

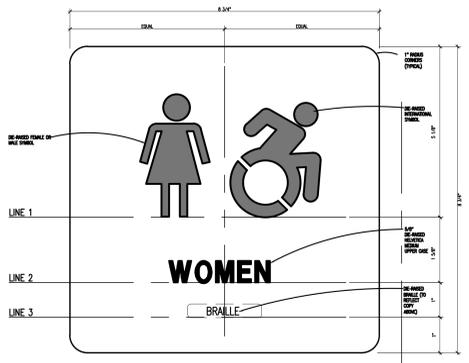
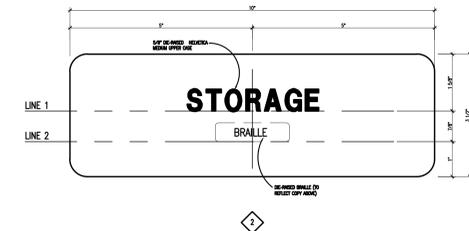
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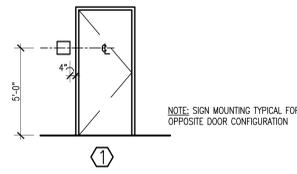
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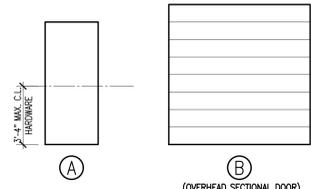
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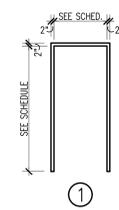
INTERIOR SIGNAGE TYPES



INTERIOR SIGNAGE MOUNTING TYPES



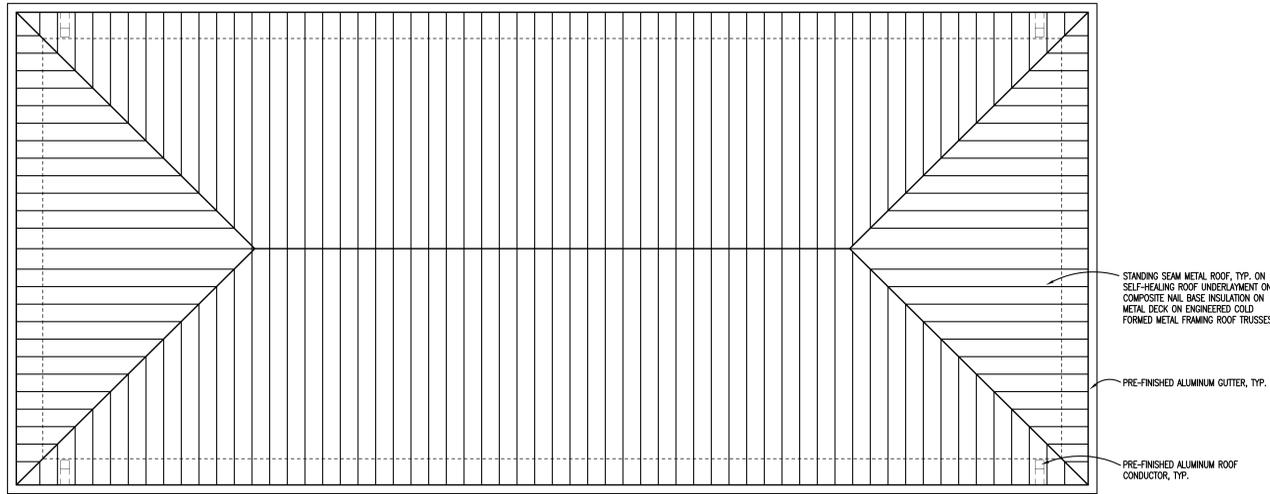
DOOR TYPES



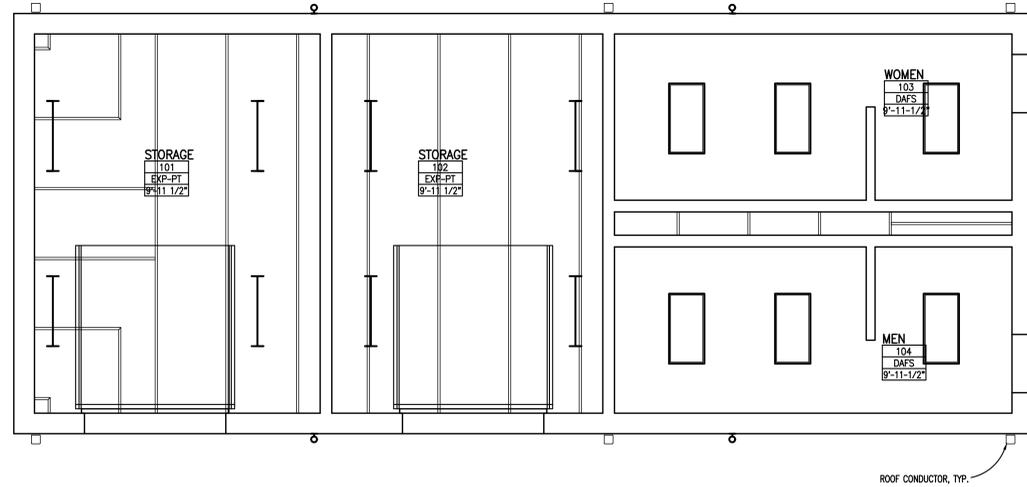
FRAME TYPES

DOOR SCHEDULE ABBREVIATIONS AND NOTES
(REFER TO SPECIFICATIONS FOR ADDITIONAL DOOR INFORMATION)

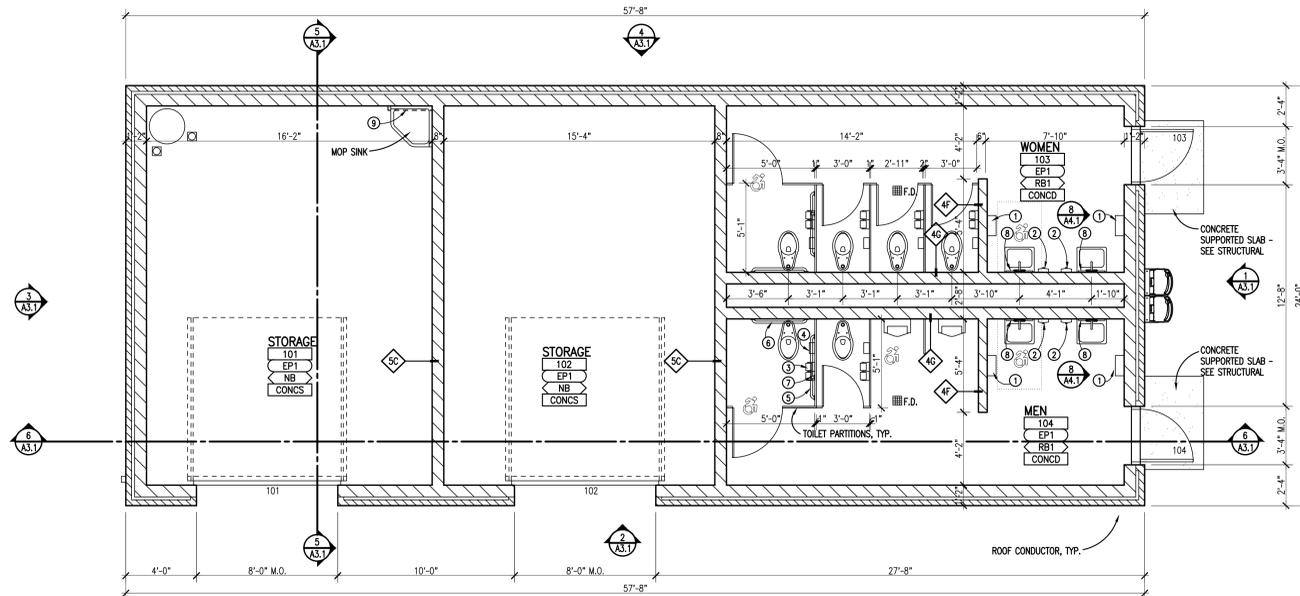
<p>DOOR SCHEDULE ABBREVIATIONS</p> <p>AL ALUMINUM ALGL ALUMINUM AND GLASS EX EXISTING FRF FIRE RATED ALUMINUM FRAMING FRP FIBERGLASS REINFORCED POLYESTER HM HOLLOW METAL LAM PLASTIC LAMINATE CLAD MET METAL THRESHOLD NAT NATURAL FINISHED WOODWORK PFN PREFINISHED BY MANUFACTURER PTD PAINTED SUSF SOLID SURFACE THRESHOLD STL STEEL STSL STAINLESS STEEL WD WOOD CORE HARDWOOD</p>	<p>DOOR SCHEDULE GENERAL NOTES</p> <ol style="list-style-type: none"> GALVANIZED METAL TO BE PROVIDED FOR HOLLOW METAL DOOR AND/OR FRAME AT EXTERIOR LOCATION. DOORS ARE 1-3/4" THICK UNLESS OTHERWISE NOTED. DETAIL NUMBERS NOTED SIM. REFER TO DETAILS SHOWING HEAD, JAMB, AND/OR SILL DETAILS THAT REPRESENT CONDITIONS SIMILAR TO THOSE NOTED. HOLLOW METAL FRAMES SET IN MASONRY WALLS ARE 5 3/4" WIDE (I.O.N.). HOLLOW METAL FRAMES, SET IN GYPSUM BD., METAL STUD PARTITIONS, SHALL BE "DOUBLE BACK-BEND" FRAMES WITH A THROAT DIMENSION EQUAL TO THE PARTITION THICKNESS PLUS 9/16" RETURNS ON EACH SIDE OF THE PARTITION. PROVIDE EQUAL RABBETS. AN ASTERISK (*) CALLS ATTENTION TO THE REMARKS COLUMN OF THE SCHEDULE. 	<p>U.L. DOOR LABEL DESIGNATIONS:</p> <table border="0"> <tr> <td>U.L. LABEL**</td> <td>MIN. OPENING PROTECTION ASSEMBLY</td> </tr> <tr> <td>150</td> <td>3 HR. FIRE RATING</td> </tr> <tr> <td>90</td> <td>1-1/2 HR. FIRE RATING</td> </tr> <tr> <td>60</td> <td>1 HR. FIRE RATING</td> </tr> <tr> <td>45</td> <td>3/4 HR. FIRE RATING</td> </tr> <tr> <td>20</td> <td>1/3 HR. FIRE RATING</td> </tr> </table> <p>** ALL FIRE RATED DOORS SHALL BE SMOKE AND DRAFT CONTROL LABELED IN ADDITION TO U.L. LABELS INDICATED.</p>	U.L. LABEL**	MIN. OPENING PROTECTION ASSEMBLY	150	3 HR. FIRE RATING	90	1-1/2 HR. FIRE RATING	60	1 HR. FIRE RATING	45	3/4 HR. FIRE RATING	20	1/3 HR. FIRE RATING
U.L. LABEL**	MIN. OPENING PROTECTION ASSEMBLY													
150	3 HR. FIRE RATING													
90	1-1/2 HR. FIRE RATING													
60	1 HR. FIRE RATING													
45	3/4 HR. FIRE RATING													
20	1/3 HR. FIRE RATING													



ROOF LEVEL PLAN
SCALE: 1/4" = 1'-0"



FIRST LEVEL REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



FIRST LEVEL FLOOR PLAN
SCALE: 1/4" = 1'-0"

FIXTURE LEGEND

	RECESSED L.E.D. TROFFER (2'x4' 1'x4')
	L.E.D. INDUSTRIAL FIXTURE
	SURFACE MOUNTED L.E.D. FIXTURE
	PENDANT MOUNTED L.E.D. LIGHT FIXTURE
	EXTERIOR, WALL-MOUNTED L.E.D. FIXTURE

CEILING KEY

	GYPSUM BOARD (PAINTED) OR INTERIOR/EXTERIOR DIRECT APPLIED FINISH SYSTEM CEILING/SOFFT
	EXPOSED CONSTRUCTION (PAINTED, U.O.N.)

CEILING LEGEND

ROOM/CEILING TAGS	CEILING FINISH TAG
ROOM NAME AND NUMBER PLUS GENERAL CEILING FINISH AND HEIGHT UNLESS OTHERWISE NOTED CEILING FINISH TAGS.	SPECIFIC FINISH/HEIGHT WHERE VARYING FROM GENERAL ROOM/CEILING TAGS.

CLASSROOM

101	ROOM NAME	ALUM	8'-10"
ACT	ROOM NUMBER	ALUM	8'-10"
9'-0"	CEILING FINISH ABBREVIATION (SEE BELOW)	ALUM	8'-10"
9'-0"	CEILING HEIGHT (A.F.F.)	ALUM	8'-10"

CEILING FINISH ABBREVIATIONS

DAFS	DIRECT APPLIED FINISH SYSTEM
EXP-PT	EXPOSED CONSTRUCTION - TO BE PAINTED
GYP-PT	GYPSUM BOARD CEILING - PAINTED
PT	PAINT
UF	UNFINISHED

NOTES:

- REFER TO FINISH PLANS FOR INFORMATION ON ROOM FINISHES.
- REFER TO ARCHITECTURAL PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION ON MATERIALS AND CONSTRUCTION.
- WHERE EXPOSED CONSTRUCTION IS INDICATED TO BE PAINTED, THIS SHALL INCLUDE ALL STRUCTURAL MEMBERS, ROOF/FLOOR DECK, DUCTWORK, DIFFUSERS, GRILLES, PIPING, SUSPENDED EQUIPMENT, CONDUITS, ETC. (U.O.N.)

GENERAL NOTES

- REFER TO ELECTRICAL DRAWINGS FOR FIXTURE TYPES. REFER TO ELECTRICAL AND MECHANICAL DRAWINGS FOR ADDITIONAL INFORMATION PERTAINING TO ELECTRICAL AND MECHANICAL WORK.
- COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADE REQUIRING THE SAME. ACCESS PANELS ARE SPECIFIED ARCHITECTURALLY BUT ARE REQUIRED TO BE PROVIDED BY TRADE. SPOT ALL LOCATIONS WITHIN FIXED GYPSUM BOARD CEILINGS AND RECEIVE APPROVAL FROM THE ARCHITECT'S FIELD REPRESENTATIVE BEFORE PLACEMENT.
- COORDINATE CEILING SUSPENSION SYSTEMS WITH OTHER CEILING SPACE EQUIPMENT SUPPORTS.
- PROVIDE WOOD BLOCKING, ABOVE CEILINGS, AS REQUIRED FOR MISCELLANEOUS SUSPENDED ITEMS (e.g. CURTAIN TRACKS, WINDOW SHADES, ACOUSTICAL BAFFLES, ETC.)

FINISH LEGEND

ROOM TAGS	FINISH LEGEND
ROOM NAME AND NUMBER PLUS GENERAL ROOM FINISH INFORMATION. REFER TO SPECIFICATIONS FOR FINISH TAGS SHALL APPLY TO ALL LIKE MATERIALS WITHIN A ROOM (U.O.N.).	FINISH LEGEND IS GENERAL. REFER TO SPECIFICATIONS FOR SPECIFIC FINISH INFORMATION. MULTIPLE FINISH TYPES ARE DENOTED BY NUMBER FOLLOWING ABBREVIATION.

CLASSROOM

101	ROOM NAME	PT-P	PT-P
PT	ROOM NUMBER	PT-P	PT-P
RB	WALL FINISH (SEE BELOW)	RB	RB
CPT	BASE (SEE BELOW)	CPT-P	CPT-P
CPT	FLOOR FINISH (SEE BELOW)	CPT-P	CPT-P

REFERS TO "SPECIFIC NOTES" BELOW

PLASTIC LAMINATE TYPE/COLOR (TAG APPLIES TO ALL CABINETS AND/OR COUNTERTOPS WITHIN THAT SPACE, U.O.N.)

WALL FINISH ABBREVIATIONS

EP	EPOXY PAINT
PT	PAINT

BASE FINISH ABBREVIATIONS

RB	RESILIENT BASE
NB	NO BASE, WALL FINISH EXTENDS TO FLOOR

FLOOR FINISH ABBREVIATIONS

CONC	CONCRETE (UNFINISHED)
CONCD	CONCRETE - DECORATIVE CONCRETE
CONCS	CONCRETE - WITH APPLIED SURFACE SEALER

GENERAL NOTES

- REFER TO REFLECTED CEILING PLANS FOR CEILING TYPES, HEIGHTS AND FINISH INFORMATION.
- ALL WALL MOUNTED MECHANICAL EQUIPMENT (DIFFUSERS, GRILLES, ETC.) AND ELECTRICAL EQUIPMENT (PANELS, ETC.) SHALL BE PAINTED TO MATCH THE ADJACENT WALL COLOR. REFER TO MECHANICAL AND ELECTRICAL DRAWINGS FOR QUANTITIES AND LOCATIONS.
- REFER TO SPEC. SECTION 012300 FOR COMPLETE LIST AND DESCRIPTION OF ALTERNATES.

WALL / PARTITION KEY

	EXISTING WALL CONSTRUCTION
	METAL STUD PARTITION
	CONCRETE MASONRY UNIT WALL w/ HORIZONTAL JOINT REINFORCEMENT AT 18" O.C.
	CAST-IN-PLACE CONCRETE WALL (REFER TO STRUCTURAL FOR REINFORCING REQUIREMENTS)

WALL / PARTITION LEGEND

	6" NOMINAL CONCRETE MASONRY UNIT. HEIGHT: FROM FLOOR TO UNDERSIDE OF ROOF TRUSSES.
	8" NOMINAL CONCRETE MASONRY UNIT. HEIGHT: FROM FLOOR UNDERSIDE OF ROOF TRUSSES.
	8" NOMINAL CONCRETE MASONRY UNIT. HEIGHT: FROM FLOOR TO ROOF DECK ABOVE. 1 HOUR RATED, UL DESIGN NO. U905.

NOTES:

- DIMENSIONS OF WALLS ARE SHOWN NOMINAL IN PLAN FOR DETERMINING THE CMU THICKNESS. REFER TO BUILDING SECTIONS, WALL SECTIONS AND INTERIOR ELEVATIONS FOR BANDING OF SPECIAL CMU TYPES OR ANY OTHER SPECIAL CONDITIONS. PARTIAL HEIGHT CMU WALLS WILL BE NOTED AS SUCH ON THE FLOOR PLANS.
- REFER TO MASONRY SPECIFICATION FOR VERTICAL REINFORCEMENT AND WALL BRACING NOT INDICATED ON DRAWINGS.
- AT FIRE-RATED AND SMOKE-RESISTING WALLS (MASONRY OR GYPSUM BOARD), PROVIDE U.L. APPROVED, FIRE-RATED, HEAD-OF-WALL TERMINATIONS AS INDICATED. IF NOT INDICATED, PROVIDE "BASIS OF DESIGN", HEAD-OF-WALL FIRESTOP JOINT SYSTEM AS INDICATED IN SPECIFICATION SECTION 07 8446 (1 OR 2 HOUR AS APPROPRIATE). PROVIDE MINIMUM 1 HOUR TERMINATION AT SMOKE-RESISTING WALLS.
- ALL CMU IS 8" THICK (NOM.) UNLESS DIMENSIONED OTHERWISE.
- PROVIDE BULLNOSE CMU UNITS AT ALL OUTSIDE CORNERS WHEN CORNERS ARE EXPOSED IN FINAL CONSTRUCTION. DO NOT BULLNOSE CORNERS WHEN ABUTTING CONSTRUCTION (i.e. GYPSUM BOARD) IS INTENDED TO BE FLUSH WITH CMU.

GENERAL NOTES

- COORDINATE SIZE AND LOCATION OF ALL CONCRETE HOUSEKEEPING PADS AND/OR EQUIPMENT SUPPORTS WITH APPROPRIATE EQUIPMENT MANUFACTURER.
- COORDINATE SIZE AND LOCATION OF ALL ACCESS PANELS WITH TRADE REQUIRING THE SAME. ACCESS PANELS ARE SPECIFIED ARCHITECTURALLY BUT ARE REQUIRED TO BE PROVIDED BY EACH TRADE. ALL LOCATIONS MUST BE COORDINATED AND APPROVED BY THE ARCHITECT'S FIELD REPRESENTATIVE.
- CONTRACTORS SHALL VERIFY ALL EXISTING BUILDING DIMENSIONS, PARTITION AND WALL LOCATIONS, AND FLOOR ELEVATIONS IN THE FIELD AND NOTIFY THE ARCHITECTS REPRESENTATIVE OF ANY DISCREPANCIES BEFORE START OF WORK.
- FLOOR PLANS ARE DIMENSIONED TO NOMINAL WALL THICKNESS - TYPICAL.
- DIMENSIONS FOLLOWED BY 4 SHOULD BE REVIEWED AND ALL NECESSARY ADJUSTMENTS MADE PRIOR TO FABRICATION AND/OR INSTALLATION OF AFFECTED WORK. NOTIFY ARCHITECTS REPRESENTATIVE IF DISCREPANCIES ARISE BEFORE PROCEEDING WITH THE WORK.
- INSTALL CONTROL JOINTS IN GYPSUM BOARD AND METAL STUD-FRAMED PARTITIONS, WALLS, CEILINGS, BULKHEADS, FASCIAE AND SOFFITS IN COMPLIANCE WITH SPECIFICATIONS, AND WITH GENERAL REQUIREMENTS OF ASTM C840. PRIOR TO COMMENCEMENT OF FRAMING INSTALLATION SUBMIT COORDINATION DRAWINGS INDICATING PROPOSED LOCATIONS OF ALL CONTROL JOINTS, AS SPECIFIED.
- PROVIDE CONTROL JOINTS WHERE INTERIOR CMU (ON SLAB) ABUTS EXTERIOR/INTERIOR MASONRY (ON FOUNDATIONS OR FOOTINGS).
- VERIFY QUANTITY, SIZE, AND LOCATION OF ALL FLOOR, ROOF, AND WALL OPENINGS FOR MECHANICAL AND ELECTRICAL WORK WITH THE APPROPRIATE TRADE. PROVIDE ALL OPENINGS SHOWN OR REQUIRED FOR THE COMPLETION OF THE WORK. PROVIDE ALL LINTELS REQUIRED FOR THESE OPENINGS PER SPECIFICATIONS.
- REFER TO LIFE SAFETY PLANS FOR LOCATIONS OF REQUIRED FIRE RESISTANCE RATINGS. BECAUSE OF THE DRAWING SCALE OF THE LIFE SAFETY PLANS, COORDINATE THE REQUIRED FIRE RESISTANCE RATINGS WITH THOSE SHOWN ON THE REFLECTED CEILING PLANS.
- REFER TO REFLECTED CEILING PLANS FOR EXTENSION OF PARTITION WALLS TO FLOOR OR ROOF CONSTRUCTION ABOVE AND WALL FIRE RESISTANCE RATING REQUIREMENTS.
- REFER TO STRUCTURAL DRAWINGS FOR ALL WIND FRAME LOCATIONS AT INTERIOR AND EXTERIOR WALLS.
- REFER TO A10.1 DRAWING FOR FLOOR FINISH PATTERNS AND ROOM FINISHES.
- REFER TO STRUCTURAL DRAWINGS FOR ORIENTATION AND SIZES OF ALL STRUCTURAL COLUMNS.
- REFER TO DRAWING A8.1 FOR TYPICAL DETAILS PERTAINING TO WALL TERMINATIONS AT STRUCTURE ABOVE AND MASONRY CONTROL JOINT DETAILS.
- VERIFY ALL DIMENSIONS IN FIELD.
- PROVIDE WOOD BLOCKING WITHIN STUD WALLS FOR WALL MOUNTED ITEMS i.e. GRAB BARS, TOWEL DISPENSERS.
- REFER TO EXTERIOR ELEVATIONS AND PLAN DETAILS FOR LOCATIONS OF CONTROL JOINTS IN EXTERIOR WALLS.
- WHERE SLAB DEPRESSIONS ARE INDICATED FOR WOOD FLOOR SYSTEMS, CONFIRM DEPRESSION WITH WOOD FLOORING CONTRACTOR. ADJUST DEPRESSION, AS REQUIRED, TO MEET FLUSH WITH ADJACENT FLOOR MATERIALS (i.e. CERAMIC TILE, QUARRY TILE, ETC.).

ACCESSORIES LEGEND

	SURFACE MOUNTED, ELECTRIC HAND DRYER
	SURFACE-MOUNTED, LIQUID SOAP DISPENSER - OWNER PROVIDED AND INSTALLED
	SURFACE-MOUNTED, TOILET PAPER HOLDER - OWNER PROVIDED AND INSTALLED
	SURFACE-MOUNTED, SANITARY NAPKIN DISPOSAL UNIT
	GRAB BAR (42" LONG)
	GRAB BAR (36" LONG)
	GRAB BAR (18" TALL - VERTICAL)
	CHANNEL FRAME MIRROR (24"W x 36" H)
	MOP HOOK WITH SHELF

GENERAL NOTES

- MOUNTING HEIGHTS AND POSITIONING SHALL BE AS INDICATED ON GENERAL INFORMATION SHEET (TG.1) U.O.N.

ROOF PLAN LEGEND

	INDICATES SLOPE OF ROOF
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ROOF PLAN NOTES

- SEE MECHANICAL DRAWINGS FOR LOCATIONS OF PLUMBING VENTS (FLASH AS PER S.M.A.C.N.A. AND N.R.C.A. STANDARDS).
- SEE MECHANICAL DRAWINGS FOR ADDITIONAL OPENINGS, IF ANY, IN NEW AND/OR EXISTING ROOFS. DETAILS OF SIMILAR OPENINGS REFERENCED ON THIS SHEET ARE APPLICABLE.
- WHERE NEW OPENINGS OCCUR IN EXISTING ROOF AREAS, INSTALL SUPPLEMENTAL STEEL FRAMING UNDER DECK PRIOR TO CUTTING HOLE IN DECK. REPAIR ROOFING AND INSULATION TO 2'-0" (MIN.) AROUND OPENING.
- WHERE WOOD NAILERS ARE SHOWN IN PLANE OF ROOF INSULATION, CUT NAILERS AS REQUIRED TO MATCH INSULATION THICKNESS.
- PROVIDE MIN. 1/150 VENTING OF TOTAL ATTIC AREA PER MBC 2015.

REGISTRATION SEAL

CONSULTANT

PROJECT TITLE
Athens High School Athletics Bid Package No. 02B

Troy School District
 Troy, Michigan

DRAWING TITLE
Wall Sections

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE ISSUED FOR:

DRAWN dco

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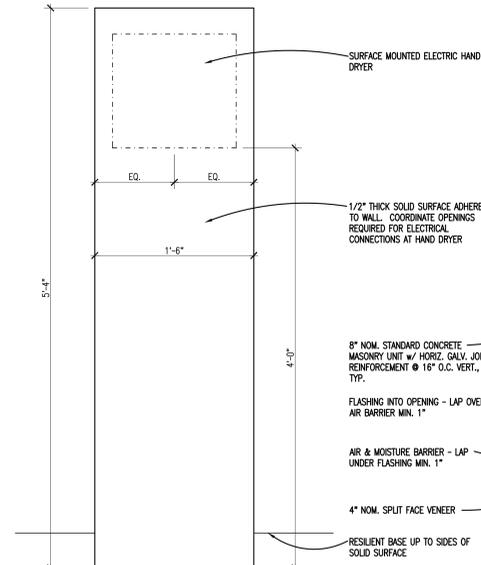
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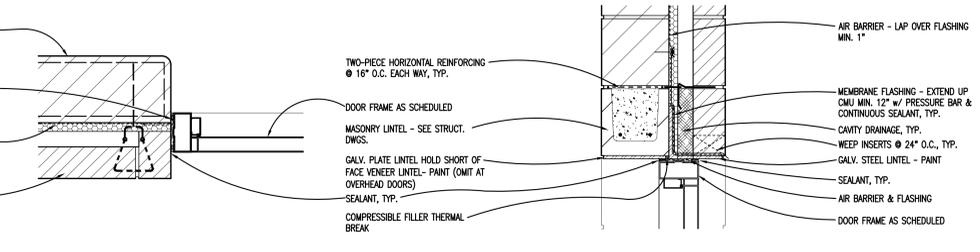
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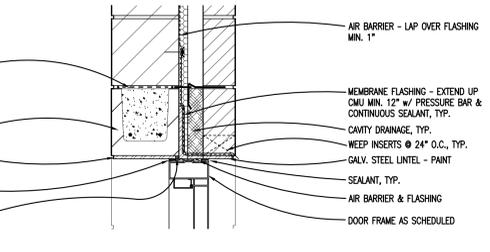
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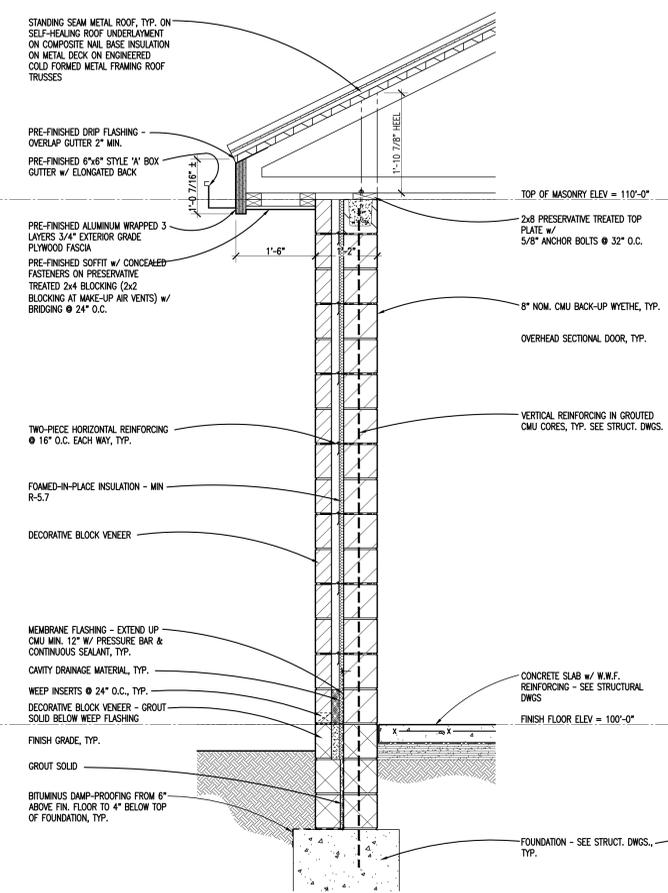
8 HAND DRYER WALL GUARD
 SCALE: 1-1/2" = 1'-0"
 A4.1



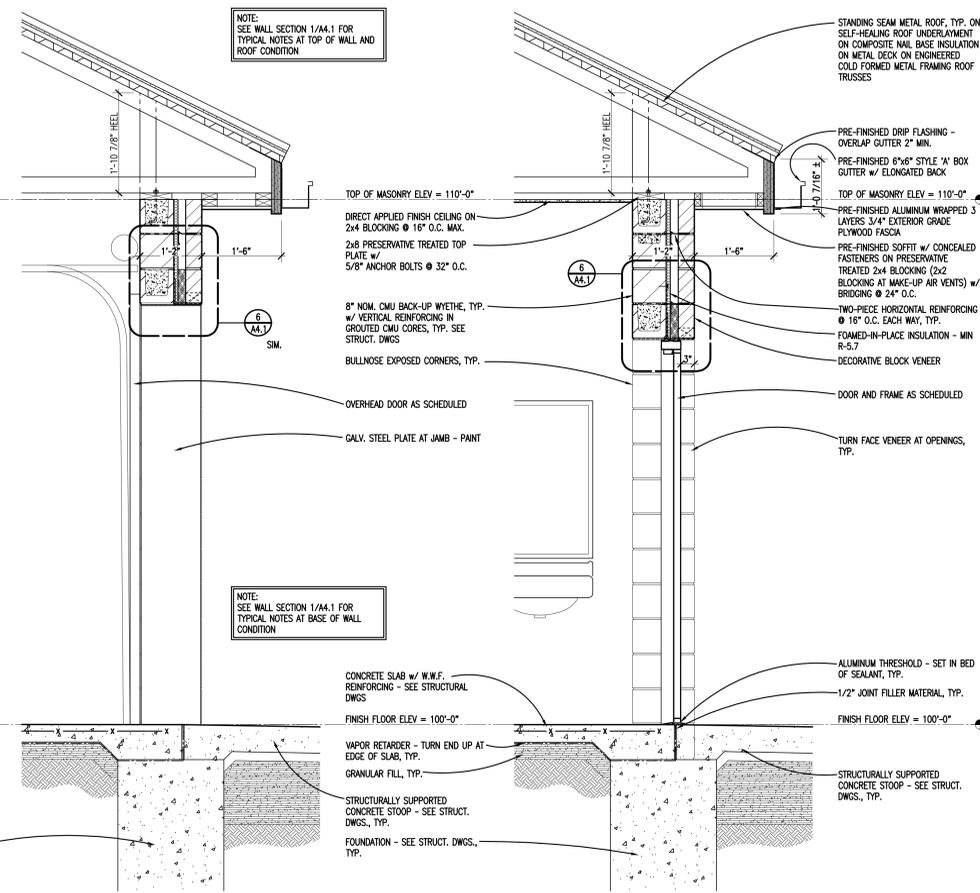
7 DOOR JAMB
 SCALE: 1-1/2" = 1'-0"
 A4.1



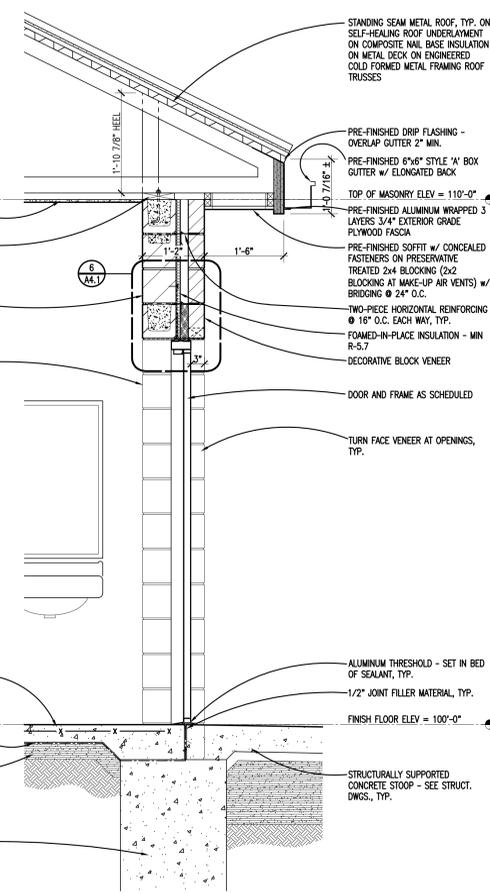
6 DOOR HEAD
 SCALE: 1-1/2" = 1'-0"
 A4.1



3 WALL SECTION
 SCALE: 3/4" = 1'-0"
 A3.1



2 WALL SECTION
 SCALE: 3/4" = 1'-0"
 A3.1



1 WALL SECTION
 SCALE: 3/4" = 1'-0"
 A3.1

5

4

MECHANICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	COMPRESSED AIR	FD	FLOOR DRAIN	PACU	PACKAGED AIR CONDITIONING UNIT
A (#)	COMPRESSED AIR (SPECIFIC PSIG)	FD	FLOOR DRAIN	PBD	PARALLEL BLADE DAMPER
AV	AIR VENT	FH	FIRE HYDRANT	PC	PROCESS COOLING WATER
ACC	AIR COOLED CONDENSER	FHC	FIRE HOSE CABINET	PCW	PROCESS COOLING WATER
ACCU	AIR COOLED CONDENSING UNIT	FHR	FIRE HOSE RACK	PCWR	PROCESS COOLING WATER RETURN
AD	ACCESS DOOR	FHV	FIRE VALVE	PCWS	PROCESS COOLING WATER SUPPLY
AD	AREA DRAIN	FLA	FULL LOAD AMPS	PD	PRESSURE DROP (FEET OF WATER)
AE	AIR EXTRACTOR	FLR	FLOOR	PH	PERMETER HEAT
AFT	ABOVE FINISHED FLOOR	FM	FLOW METER	PHR	PERMETER HEAT RETURN
AHU	AIR HANDLING UNIT	FMS	FLOW MEASURING STATION	PHS	PERMETER HEAT SUPPLY
ALT	ALTERNATE	FOB	FLAT ON BOTTOM	PNL	PANEL
AMP	AMPERE	FOT	FEET ON TOP	PFM	POUNDS PER MILLION
APD	AIR PRESSURE DROP	FPM	FEET PER MINUTE	PP	PRESSURE
AR	ARGON	FP	FIRE PUMP	PRV	PRESSURE REDUCING VALVE
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS	FPTU	FAN POWERED (AIR) TERMINAL UNIT	PSAN	PUMPED SANITARY
ASR	AUTOMATIC SPRINKLER RISER	FS	FLOOR SINK	PST	PUMPED STORM
ATD	AIR TRANSFER DUCT	FSEC	FOOD SERVICE EQUIPMENT CONTRACTOR	PS	POUNDS PER SQUARE INCH
AUX	AUXILIARY	FT	FEET	PSA	POUNDS PER SQUARE INCH - ABSOLUTE
AV	ACID VENT	FTR	FINNED TUBE RADIATION	PSD	POUNDS PER SQUARE INCH - GAUGE
AVTR	ACID VENT THROUGH ROOF	FV	FACE VELOCITY	PW	PURIFIED WATER
AW	ACID WASTE	G	NATURAL GAS	PWR	PURIFIED WATER RETURN
		GA	GAUGE	PWS	PURIFIED WATER SUPPLY
BAS	BUILDING AUTOMATION SYSTEM	GAL	GALLON	(R)	RELOCATED
BSCL	BLOWER COIL UNIT	GRH	GRAVITY RELIEF HOOD	R	RETURN AIR
BDD	BACKDRAFT DAMPER	GPH	GALLONS PER HOUR	RA	RETURN AIR REGISTER
BFF	BELOW FINISHED FLOOR	GPM	GALLONS PER MINUTE	RA	RETURN AIR REGISTER
BFP	BACKFLOW PREVENTER	GSAN	GREASE SANITARY WASTE	RC	RAIN CONDUCTOR
BHP	BRAKE HORSEPOWER			RCP	RADIANT CEILING PANEL
BOD	BOTTOM OF DUCT	H	HYDROGEN	RD	ROOF DRAIN
BOP	BOTTOM OF PIPE	HB	HOSE BIBB	REQD	REQUIRED
BTU	BRITISH THERMAL UNIT	HC	HEATING COIL	REF	REFRIGERANT
BTUH	BRITISH THERMAL UNIT PER HOUR	HD	HOT DECK	RF	RETURN FAN
BVC	BEVERAGE CONDUIT	HEPA	HIGH EFFICIENCY PARTICULATE ARRESTANCE	RH	RELATIVE HUMIDITY
BW	BACKWATER VALVE	HL	HIGH LIMIT	RL	REFRIGERANT LIQUID
		HOA	HAND/OFF/AUTO	RLFA	REFRIGERANT LIQUID
C	COMMON	HP	HEAT PUMP	RP	RELOCATED
CAP	CAPACITY	HP	HORSEPOWER	RPM	REVOLUTIONS PER MINUTE
CAV	CONSTANT AIR VOLUME	HPW	HIGH PRESSURE DOMESTIC COLD WATER	RPS	REDUCED PRESSURE BACKFLOW PREVENTION DETECTION ASSY
CB	CATCH BASIN	HPHW	HIGH PRESSURE DOMESTIC HOT WATER	RS	REFRIGERANT SUCTION
CC	COOLING COIL	HPHWR	HIGH PRESSURE DOMESTIC HOT WATER RETURN	RTU	ROOFTOP UNIT
CD	COLD DECK	HPL	HEAT PUMP LOOP	S	SUPPLY AIR DIFFUSER OR GRILLE
CD	CONDENSATE DRAIN	HPLR	HEAT PUMP LOOP RETURN	SA	SOUND ATTENUATOR
CFD	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	HPLS	HEAT PUMP LOOP SUPPLY	SA	SUPPLY AIR
CFH	CUBIC FEET PER HOUR	HR	HOUR	SA	SANITARY WASTE
CFM	CUBIC FEET PER MINUTE	HTG	HEATING	SAT	SUPPLY AIR TEMPERATURE
CH	CHILLER	HV	HEATING VENTILATING	SCCT	SECTION
CHW	CHILLED WATER	HVAC	HEATING VENTILATING AIR CONDITIONING	SCCR	SHORT CIRCUIT CURRENT RATING
CHWR	CHILLED WATER RETURN	HWH	HOT WATER HEATING	SF	SUPPLY FAN
CHWS	CHILLED WATER SUPPLY	HWR	HOT WATER HEATING RETURN	SH	SHOWER
CLS	COOLING LOAD	HWS	HOT WATER HEATING SUPPLY	SK	SINK
CND	CONDENSATE	HW	HOT WATER	SM	SNOW MELT RETURN
CND (#)	CONDENSATE (SPECIFIC PSIG)	HW (#)	DOMESTIC HOT WATER (SPECIFIC TEMP °)	SMS	SNOW MELT SUPPLY
CO	CLEAN OUT	HX	HEAT EXCHANGER	SP	STATIC PRESSURE
CO2	CARBON DIOXIDE	HZ	HERTZ	SPEC	SPECIFICATION
CONT	CONTINUATION OR CONTINUED	IAQ	INDOOR AIR QUALITY	SOFT	SOFT
CONTR	CONTRACTOR	IQ	INSIDE DIAMETER	S/S	START/STOP
CONV	CONVECTOR	IE	INTAKE EXHAUSTION	SS	SERVICE SINK
COP	COEFFICIENT OF PERFORMANCE	IH	INTAKE HOOD	ST	STORM
CP	CIRCULATING PUMP	IN	INCHES	STD	STANDARD
CRU	CONDENSATE RETURN UNIT	IR	INFRARED HEATER	STK	STACK
CSS	CHEMICAL SERVICE SINK	IW	INDIRECT WASTE	STM	STEAM (SPECIFIC PSIG)
CT	COOLING TOWER	JC	JANITOR'S CLOSET	S/W	SUMMER/WINTER SWITCH
CUH	CABINET UNIT HEATER	KA	KILOAMP	T	TRANSFER GRILLE
CW	DOMESTIC COLD WATER	KW	KILOWATT	TC	TEMPERATURE CONTROL
CWF	DOMESTIC COLD WATER - FILTERED	KWH	KILOWATT-HOUR	TC	TEMPERATURE CONTROL
CWR	CONDENSER WATER RETURN	LAT	LEAVING AIR TEMPERATURE	TD	TEMPERATURE CONTROL PANEL
CWS	CONDENSER WATER SUPPLY	LAB	LABORATORY	TEMP	TEMPERATURE
		LAV	LAVATORY	TH	TEMPERATURE
D&T	DRIP AND TRAP	LDB	LEAVING DRY BULB	THA	TOTAL HEAT ABSORBED
DA	DISCHARGE AIR	LDL	LEAVING DRY BULB	THR	TERMINAL HEATING RETURN
DAT	DISCHARGE AIR TEMPERATURE	LDS	LEAVING DRY BULB	THR	TERMINAL HEATING RETURN
DB	DRY BULB	LDR	LEAVING DRY BULB	THS	TOTAL HEAT REJECTED
DDC	DIRECT DIGITAL CONTROL	LL	LOW LIMIT	THS	TOTAL HEATING SUPPLY
DEG	DEGREE	LPC	LOW PRESSURE CONDENSATE	TK	TANK
DFU	DRAINAGE FIXTURE UNITS	LPS	LOW PRESSURE STEAM	TMR	TEMPERATURE
DA	DIAMETER	LRA	LOCKED ROTOR AMPS	TSP	TOTAL STATIC PRESSURE
DMPR	DAMPER	LWB	LEAVING WET BULB	TV	TURNING VANES
D/N	DAY/NIGHT	LWT	LEAVING WATER TEMPERATURE	TV	TEMPERED WATER
DN	DOWN	MA	MIXED AIR	TYP	TYPICAL
DNZ	DOWNSPOUT NOZZLE	MAU	MAKE-UP AIR UNIT	UH	UNIT HEATER
DNS	DUCT SILENCER	MAX	MAXIMUM	UL	UNDERWRITER'S LABORATORY
DT	DRAIN TILE	MBH	MILLION BRITISH THERMAL UNITS PER HOUR	UN	UNLESS OTHERWISE NOTED
DTC	DRAIN TILE CONNECTION	MCA	MINIMUM CIRCUIT AMPACITY	UV	UNIT VENTILATOR
DWH	DOMESTIC WATER HEATER	MCC	MOTOR CONTROL CENTER	V	VALVE
DWG	DRAWING	MCD	MOTOR CONTROL CENTER	V	VENT
		MCH	MECHANICAL	VAC	VACUUM
(E)	EXISTING	MEZ	MEZZANINE	VAV	VARIABLE AIR VOLUME
E	EXHAUST GRILLE OR REGISTER	MFR	MANUFACTURER	VOL	VOLUME
EA	EACH	MIL	1/1000th INCH	VOL	VOLUME DAMPER (MANUALLY ADJUSTABLE)
EA	EXHAUST AIR	MIN	MINIMUM	VVC	VARIABLE FREQUENCY CONTROLLER
EAT	ENTERING AIR TEMPERATURE	MISC	MISCELLANEOUS	VV	VENT THROUGH ROOF
EC	EXPANSION COMPENSATOR	MMH	MILLION BRITISH THERMAL UNITS PER HOUR	VVU	VERTICAL VENTILATOR
ECM	ELECTRONICALLY COMMUTATED MOTOR	MOP	MAXIMUM OVERCURRENT PROTECTION	W	WASTE
EDH	ELECTRIC DISCHARGE UNIT HEATER	MPS	MILES PER HOUR	W&V	WASTE AND VENT
EDB	ENTERING DRY BULB	MTD	MOUNTED	WAGD	WASTE ANESTHETIC GAS DISPOSAL
EER	ENERGY EFFICIENCY RATIO	MTR	MOTOR	WB	WET BULB
EES	EMERGENCY EYE WASH / SHOWER	MV	MEDICAL VACUUM	WC	WATER CLOSURE
EW	EMERGENCY EYE WASH	N	NITROGEN	WC	WATER COLUMN
EF	EXHAUST FAN	N2O	NITROUS OXIDE	WC	WATER GUAUGE
EJ	EFFICIENCY	NC	NORMALLY CLOSED	WCD	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EKH	ELECTRIC HEATING COIL	NCO	NORMALLY CLOSED TIMED CLOSED	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EL	ELEVATION	NCTO	NORMALLY CLOSED TIMED OPEN	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ELEC	ELECTRICAL	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EMS	ENERGY MANAGEMENT SYSTEM	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ERL	ENERGY RECOVERY LOOP	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ERLR	ENERGY RECOVERY LOOP RETURN	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ERLS	ENERGY RECOVERY LOOP SUPPLY	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ERU	ENERGY RECOVERY UNIT	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ESH	EMERGENCY SHOWER	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
ESP	EXTERNAL STATIC PRESSURE	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EUH	ELECTRIC UNIT HEATER	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EWB	ENTERING WET BULB	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EW	ELECTRIC WATER COOLER	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EWT	ENTERING WATER TEMPERATURE	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
EXH	EXHAUST	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
F	FIRE PROTECTION	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
F&B	FACE AND BYPASS	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
F&T	FLOAT AND THERMOSTATIC	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
FA	FACE AREA	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)
FCU	FAN COIL UNIT	NFO	NATIONAL FIRE PROTECTION ASSOCIATION	WCS	WATER COLUMN DAMPER (MANUALLY ADJUSTABLE)

TEMPERATURE CONTROL - PARTIAL SYMBOLS LIST

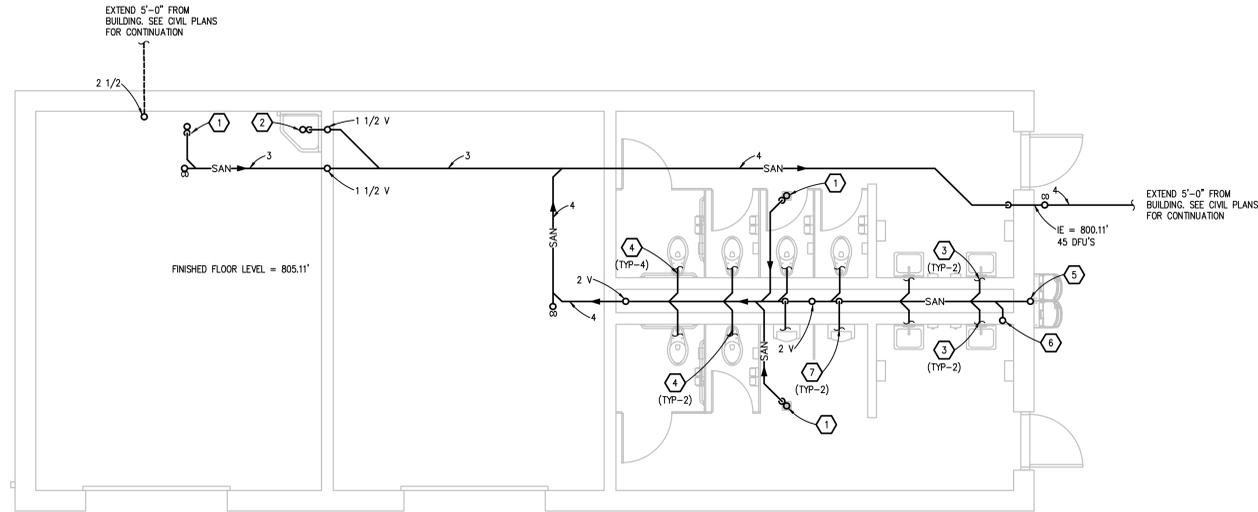
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	CARBON DIOXIDE SENSOR		OCCUPANCY SENSOR
	CARBON MONOXIDE SENSOR		PRESSURE TRANSMITTER
	DIFFERENTIAL PRESSURE TRANSMITTER		STATIC PRESSURE SENSOR OR PROBE
	FLOW METER		VALVE - 2 WAY CONTROL VALVE
	GUARD FOR STAT OR SENSOR		VALVE - 3 WAY CONTROL VALVE
	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)		THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)

NOTE: LIST OF ADDITIONAL SYMBOLS & ABBREVIATIONS ASSOCIATED WITH TEMPERATURE CONTROLS ARE IDENTIFIED ON TC DRAWINGS.

MECHANICAL SYMBOL LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	AIR VENT - AUTOMATIC		AIR TERMINAL UNIT
	AIR VENT - MANUAL		AIR TERMINAL UNIT WITH HEATING COIL
	BACKFLOW PREVENTER		VENTURI AIR TERMINAL UNIT
	CATCH BASIN		VENTURI AIR TERMINAL UNIT WITH HEATING COIL
	CIRCULATING PUMP		DAMPER - HORIZONTAL FIRE (EXISTING, NEW)
	CLEAN OUT - IN FLOOR		DAMPER - HORIZONTAL FIRE / SMOKE (EXISTING, NEW)
	CLEAN OUT - FLANGE		DAMPER - SMOKE (EXISTING, NEW)
	DIRECTION OF FLOW		DAMPER - VERTICAL FIRE (EXISTING, NEW)
	DIRECTION OF PITCH - DOWN		DAMPER - VERTICAL FIRE / SMOKE (EXISTING, NEW)
	FINNED TUBE RADIATION		DAMPER - BACK DRAFT
	FIRE PROTECTION - SIAMESE CONNECTION - FREE STANDING		DAMPER - MOTORIZED
	FIRE PROTECTION - SIAMESE CONNECTION - WALL MOUNTED		DAMPER - VOLUME (MANUALLY ADJUSTABLE)
	FIRE PROTECTION - SPRINKLER HEAD, CONCEALED		DIFFUSER - BLANK OFF
	FIRE PROTECTION - SPRINKLER HEAD, PENDANT		DIFFUSER - LINEAR SLOT
	FIRE PROTECTION - SPRINKLER HEAD, UPRIGHT		DIFFUSER - SQUARE OR RECTANGULAR
	FIRE PROTECTION - SPRINKLER HEAD, SIDEWALL		DUCT CROSS SECTION - SUPPLY
	FLOOR DRAIN		DUCT CROSS SECTION - RETURN
	FLOOR DRAIN - ELEVATION		DUCT CROSS SECTION - EXHAUST
	FLOOR DRAIN - FUNNEL		DUCT - FLEXIBLE CONNECTION
	FLOOR DRAIN - FUNNEL, ELEVATION		DUCT - FLEXIBLE DUCT
	FLOW MEASURING DEVICE (FOR TEST AND BALANCING)		DUCT TAKE-OFF - ROUND CONICAL
	FLOW SWITCH		DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	FLOW METER		ELBOW - RECTANGULAR WITH TURNING VANES
	HOSE BIBB		ELBOW - RECTANGULAR / ROUND SMOOTH RADIUS
	MANHOLE		ELBOW DOWN - RECTANGULAR
	OPEN SITE DRAIN		ELBOW DOWN - ROUND
	PIPE - ANCHOR		ELBOW UP - RECTANGULAR
	PIPE - CAP OR PLUG		ELBOW UP - ROUND
	PIPE - ELBOW DOWN		FAN - AXIAL
	PIPE - ELBOW UP		FAN - CENTRIFUGAL (ELEVATION)
	PIPE - EXPANSION JOINT OR COMPENSATOR		VARIABLE FREQUENCY CONTROLLER SERVING EQUIPMENT X1-X4
	PIPE - FLANGE		HEATING COIL
	PIPE - HOSE AND BRAID FLEXIBLE CONNECTION		INCLINED DROP IN DIRECTION OF AIRFLOW
	PIPE - RUBBER FLEXIBLE CONNECTION		INCLINED RISE IN DIRECTION OF AIRFLOW
	PIPE - GUIDE		INTAKE OR RELIEF HOOD
	PIPE - TEE DOWN		REGISTER - RETURN OR EXHAUST
	PIPE - TEE UP		REGISTER - RETURN WITH BOOT
	PIPE - UNION		REGISTER - TRANSFER GRILLE
	PRESSURE AND TEMPERATURE TEST PLUG		ROOF EXHAUST FAN
	PRESSURE GAUGE AND COOK		TRANSITION - CONCENTRIC
	REDUCER - CONCENTRIC		TRANSITION - ECCENTRIC
	REDUCER - ECCENTRIC		UNIT HEATER - HORIZONTAL THROW
	ROOF/OVERHEAD DRAIN		UNIT HEATER - VERTICAL THROW
	STEAM TRAP - FLOAT AND THERMOSTATIC		DOUBLE LINE DUCTWORK SYMBOLS
	STEAM TRAP - BUCKET		DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	STRAINER		DUCT TAKE-OFF - ROUND CONICAL
	STRAINER WITH VALVE AND BLOW-OFF		DUCT TAKE-OFF - ROUND CONICAL
	THERMOMETER		ELBOW - RECTANGULAR WITH TURNING VANES
	TRAP		ELBOW - RECTANGULAR SHORT RADIUS WITH SPLITTER VANES
	VALVE - ANGLE		ELBOW - ROUND
	VALVE - BALL		ELBOW - RECTANGULAR SMOOTH RADIUS
	VALVE - BUTTERFLY		ELBOW DOWN - RECTANGULAR
	VALVE - BALANCE (I.E. BALANCE VALVE TO 0.5 GPM)		ELBOW DOWN - ROUND
	VALVE - COMBINATION BALANCE & FLOW MEASURING (I.E. BALANCE VALVE TO 0.5 GPM)		ELBOW UP - RECTANGULAR
	VALVE - CHECK		ELBOW UP - ROUND
	VALVE - SPRING CHECK		HEATING COIL
	VALVE - GAS (MANUAL)		INCLINED DROP IN DIRECTION OF AIRFLOW
	VALVE - GLOBE		INCLINED RISE IN DIRECTION OF AIRFLOW

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.



STORAGE BUILDING UNDERGROUND PLUMBING PLAN
SCALE: 1/4" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
7. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
8. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
9. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
10. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 3".
11. WATER SERVICE ENTRANCE PIPING SHALL BE BURIED WITH DEPTH OF COVER OVER TOP OF PIPE OF AT LEAST 48" , OR WITH TOP OF PIPE AT LEAST 12" BELOW LEVEL OF MAXIMUM FROST PENETRATION, OR AS REQUIRED BY AUTHORITIES HAVING JURISDICTION, WHICHEVER IS DEEPEST.

CONSTRUCTION KEY NOTES:

1. 3 SAN TO FLOOR DRAIN.
2. 3 SAN TO SERVICE SINK.
3. 3 SAN TO LAV.
4. 4 SAN TO WATER CLOSET.
5. 3 SAN TO DRINKING FOUNTAIN.
6. 4 SAN TO WALL CLEANOUT.
7. 3 SAN TO URINAL.
8. PROVIDE ELECTRIC HEAT TRACE AND INSULATION ON COLD WATER, HOT WATER AND HOT WATER RETURN PIPING LOCATED IN CEILING SPACE OF STORAGE ROOM INTO PLUMBING CHASE. LOCATE CONTROLLER IN STORAGE ROOM. COORDINATE CONTROLLER LOCATION WITH ELECTRICAL TRADES.



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PBA Project No: 2023-0155.02

PROJECT TITLE
**Athens High School
Athletic Fields
Bid Package No. 02B**

Troy School District
Troy, Michigan

DRAWING TITLE
**STORAGE BUILDING
UNDERGROUND PLUMBING
PLAN**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

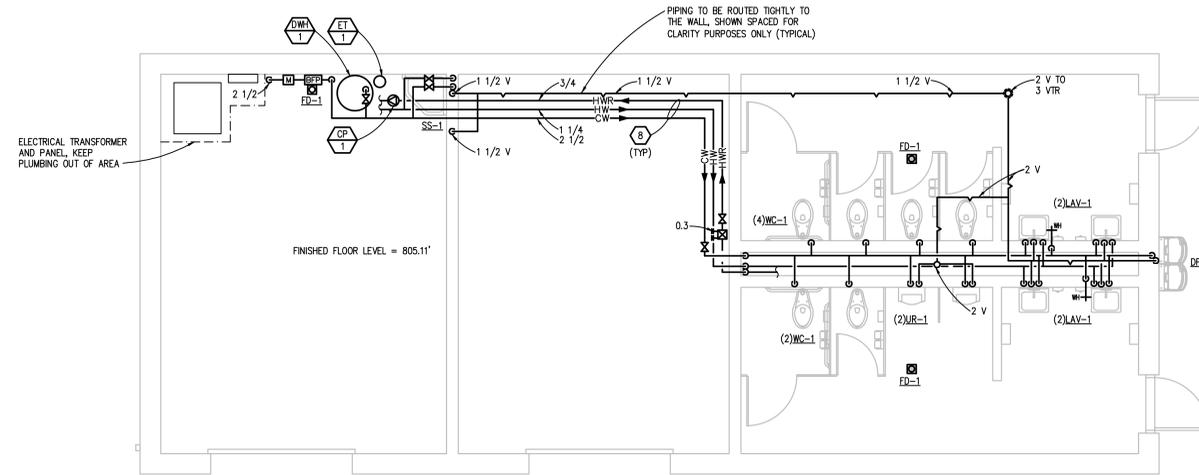
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CHECKED: MEP
APPROVED: SVM

PROJECT NO.
22103D

DRAWING NO.
M2.0

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THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.



STORAGE BUILDING PLUMBING PLAN
SCALE: 1/4" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
7. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
8. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
9. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY WASTE AND VENT PIPING.
10. MINIMUM UNDERGROUND PIPE SIZE SHALL BE 3".
11. WATER SERVICE ENTRANCE PIPING SHALL BE BURIED WITH DEPTH OF COVER OVER TOP OF PIPE OF AT LEAST 12" OR WITH TOP OF PIPE AT LEAST 12" BELOW LEVEL OF MAXIMUM FROST PENETRATION, OR AS REQUIRED BY AUTHORITIES HAVING JURISDICTION, WHICHEVER IS DEEPEST.

CONSTRUCTION KEY NOTES:

1. 3 SAN TO FLOOR DRAIN.
2. 3 SAN TO SERVICE SINK.
3. 3 SAN TO LAV.
4. 4 SAN TO WATER CLOSET.
5. 3 SAN TO DRINKING FOUNTAIN.
6. 4 SAN TO WALL CLEANOUT.
7. 3 SAN TO URINAL.
8. PROVIDE ELECTRIC HEAT TRACE AND INSULATION ON COLD WATER, HOT WATER AND HOT WATER RETURN PIPING LOCATED IN CEILING SPACE OF STORAGE ROOM INTO PLUMBING CHASE. LOCATE CONTROLLER IN STORAGE ROOM. COORDINATE CONTROLLER LOCATION WITH ELECTRICAL TRADES.



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PBA Project No: 2023-0155.02

PROJECT TITLE
**Athens High School
Athletic Fields
Bid Package No. 02B**

Troy School District
Troy, Michigan

DRAWING TITLE
**STORAGE BUILDING
PLUMBING PLAN**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

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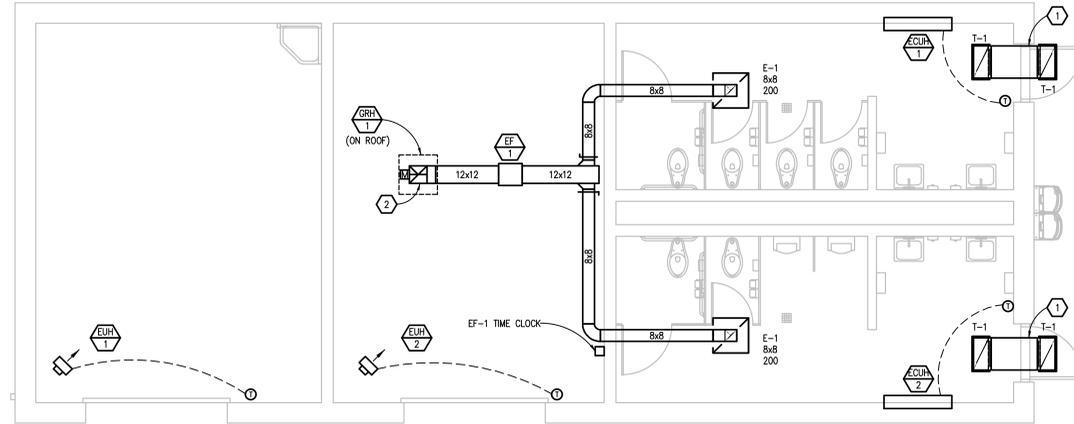
APPROVED: SVM

PROJECT NO.
22103D

DRAWING NO.
M2.1

g:\2023\2023-00\CAD\02 athletics ph2\2023-0155-02-M2-PL1.dwg, M2.1, 12/9/2024 8:15:02 AM, Dominic P. Maceri, None, 01/13/2024 8:15:02 AM, Dominic P. Maceri, Peter Basso Associates Inc.

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.



STORAGE BUILDING SHEET METAL PLAN
SCALE: 1/4" = 1' - 0"

SHEET METAL GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. PIPING AND DUCTWORK SHALL NOT BE INSTALLED ABOVE ELECTRICAL TRANSFORMERS, SWITCHBOARDS, PANELBOARDS OR MOTOR CONTROL CENTERS.
4. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
5. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
6. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR DIMENSIONED LOCATION OF GRILLES, REGISTERS, AND DIFFUSERS.
7. REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES.

CONSTRUCTION KEY NOTES:

1. 22x10 TRANSFER AIR DUCT WITH (2) TRANSFER GRILLES. EXTERIOR GRILLE TO BE WEATHERPROOF CONSTRUCTION AND LOCATED IN EAVE OF ROOF.
2. 12x12 EA UP TO GRH-1 ON ROOF.



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PBA Project No: 2023-0155.02

PROJECT TITLE

**Athens High School
Athletic Fields
Bid Package No. 02B**

Troy School District
Troy, Michigan

DRAWING TITLE

**STORAGE BUILDING SHEET
METAL PLAN**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

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PROJECT NO.

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DRAWING NO.

M4.1

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TEMPERATURE CONTROL - SYMBOLS LIST

SCHEMATIC SYMBOLS

SYMBOL	DESCRIPTION
AO	AQUASTAT, STRAP ON BULB
CO2	CARBON DIOXIDE SENSOR - WALL MOUNTED
CO2D	CARBON DIOXIDE SENSOR - DUCT MOUNTED
CS	CURRENT SWITCH
CT	CURRENT TRANSDUCER
DB	DAMPER - OPPOSED BLADE
DBP	DAMPER - PARALLEL BLADE
M	DAMPER MOTOR
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
ECM	ELECTRONICALLY COMMUTATED MOTOR
CM	FIRE ALARM SYSTEM, ADDRESSABLE CONTROL MODULE
FM	FLOW METER
FS	FLOW SWITCH
FZ	FREEZE/STAT
G	GUARD FOR STAT OR SENSOR
H	HUMIDIFIER
H	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)
H	HUMIDITY SENSOR, DUCT MOUNTED
LVL	LEVEL SWITCH OR TRANSMITTER
LS	LIMIT SWITCH
---	LINE - ELECTRIC
---	LINE - INSTRUMENT AIR (PNEUMATIC)
M/S	MOTOR STARTER
OS	OCCUPANCY SENSOR
PT	PRESSURE TRANSMITTER
R	RELAY, ELECTRIC
N	SELECTOR SWITCH, (N=NUMBER OF POSITIONS)
A	SIGNAL - DDC/BAS, ANALOG INPUT
AO	SIGNAL - DDC/BAS, ANALOG OUTPUT
D	SIGNAL - DDC/BAS, DIGITAL INPUT
DO	SIGNAL - DDC/BAS, DIGITAL OUTPUT
A	SIGNAL - PACKAGED EQUIPMENT, ANALOG INPUT
AO	SIGNAL - PACKAGED EQUIPMENT, ANALOG OUTPUT
D	SIGNAL - PACKAGED EQUIPMENT, DIGITAL INPUT
DO	SIGNAL - PACKAGED EQUIPMENT, DIGITAL OUTPUT
DD	SMOKE DETECTOR - DUCT MOUNTED
S/S	START/STOP RELAY
SP/T	STATIC PRESSURE TRANSMITTER
SP	STATIC PRESSURE SENSOR OR PROBE

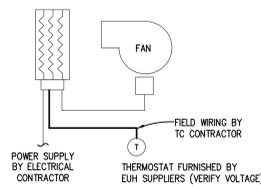
SCHEMATIC SYMBOLS (CONT.)

SYMBOL	DESCRIPTION
SW	SWITCH
T	TEMPERATURE SENSOR - RIGID ELEMENT IN WELL
T	TEMPERATURE SENSOR - STRAP ON BULB
T	TEMP SENSOR - DUCT MOUNTED AVG ELEMENT
T	TEMP SENSOR - DUCT MOUNTED RIGID ELEMENT
T	THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)
TMR	TIMER SWITCH
XF	TRANSFORMER
2V	VALVE - 2 WAY CONTROL VALVE
3V	VALVE - 3 WAY CONTROL VALVE
VFC	VARIABLE FREQUENCY CONTROLLER
VS	VELOCITY SENSOR
VB	VIBRATION SWITCH
M/S	COIL - MOTOR STARTER CONTACTOR
R	COIL - RELAY
C	CONTACT - INSTANT OPERATING, NO
C	CONTACT - INSTANT OPERATING, NC
G	GROUND
M	MOTOR, SINGLE PHASE
P	PUSH BUTTON - MOMENTARY, NC (MUSHROOM HEAD)
H	SWITCH - 3 POSITION SELECTOR HAND/OFF/AUTO
F	SWITCH - FLOW (AIR, WATER, ETC.), NO
L	SWITCH - LIMIT, NO
P	SWITCH - PRESSURE & VACUUM, NC
T	SWITCH - TEMPERATURE ACTUATED, NO
TL	THERMAL OVERLOAD, SINGLE PHASE
TL	THERMAL OVERLOAD CONTACTS-3 PHASE
X	TRANSFORMER
W	WIRE TERMINATION AT DEVICE
+	WIRE TO WIRE TERMINATION
---	WIRING NOT CONNECTED

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
BAS	BUILDING AUTOMATION SYSTEM
DDC	DIRECT DIGITAL CONTROL
TC	TEMPERATURE CONTROLS
NO	NORMALLY OPEN
NC	NORMALLY CLOSED

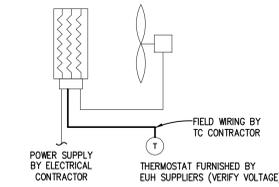
- NOTES:**
- SOME SYMBOLS & ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.
 - REFER TO MECHANICAL STANDARDS ON DRAWING M0.1 FOR ADDITIONAL SYMBOLS & ABBREVIATIONS THAT MAY BE USED ON TEMPERATURE CONTROL DRAWINGS.



TYPICAL ECUH CONTROL

NOTE:
REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

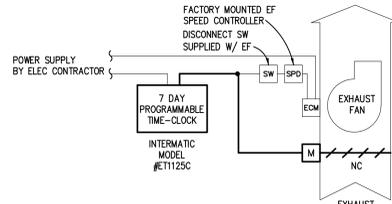
SEQUENCE OF OPERATION:
SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.



TYPICAL EUH CONTROL

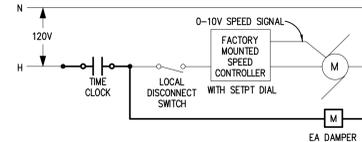
NOTE:
REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF UNITS.

SEQUENCE OF OPERATION:
SPACE THERMOSTAT SHALL ENERGIZE UNIT HEATER CONTROL CIRCUIT TO MAINTAIN SPACE TEMPERATURE SETPOINT.



EF-1 CONTROL

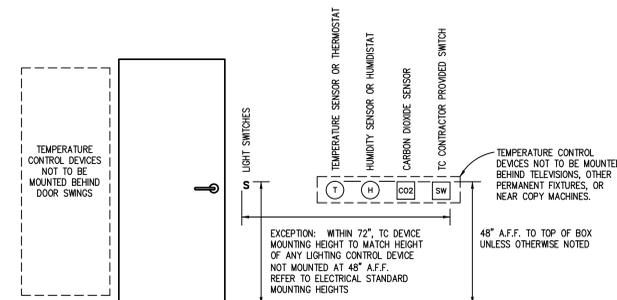
- NOTES:**
- REFER TO MECH FLOOR PLANS FOR LOCATION.
 - EXHAUST FAN SPEED SHALL BE MANUALLY SET VIA ON BOARD POTENTIOMETER DIAL DURING SYSTEM BALANCING.
- SEQUENCE OF OPERATION:**
- EXHAUST FAN SHALL BE STARTED AND STOPPED BY LOCAL PROGRAMMABLE TIME CLOCK. WIRING INTERLOCK SHALL OPEN DAMPERS.



EF-1 MOTOR CONTROL WIRING

TC GENERAL NOTES

- THESE GENERAL NOTES SHALL BE APPLICABLE FOR ALL TEMPERATURE CONTROL (TC) DRAWINGS.
- "PROVIDE" IS DEFINED AS FURNISH AND INSTALL.
- TEMPERATURE CONTROLS CONTRACTOR (TC CONTRACTOR) SHALL BE RESPONSIBLE TO COMPLY WITH ALL APPLICABLE CODES AND STANDARDS.
- FOR TEMPERATURE CONTROL DRAWINGS ONLY: ALL DETAILED INFORMATION IDENTIFIED WITH HEAVY LINE WEIGHT SHALL BE PROVIDED BY TC CONTRACTOR. ALL OTHER INFORMATION IDENTIFIED WITH LIGHT LINE WEIGHT SHALL BE PROVIDED BY OTHER TRADES.
- ALL CONTROL SCHEMATICS AND WIRING DIAGRAMS ARE FOR THE CLARIFICATION OF EQUIPMENT INTERLOCKING FUNCTIONS AND THE INTERFACE OF VARIOUS CONTRACTORS' WORK AND SHALL NOT BE MISTAKEN AS SHOP DRAWINGS FOR ACTUAL INSTALLATION.
- TC CONTRACTOR SHALL PROVIDE DDC CONTROLLERS AS REQUIRED TO MEET INTENT OF DESIGN DOCUMENTS. REFER TO THE PLANS FOR THE DDC FUNCTIONS THAT APPLY TO EACH MECHANICAL SYSTEM.
- ALL TC PROVIDED COMPONENTS AND ALL TC CONTRACTOR INSTALLED WIRING SHALL BE LABELED PER SPECIFICATIONS.
- ALL WIRING AND SYSTEM CONTROL VOLTAGES SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATION AND THE ELECTRICAL SPECIFICATIONS.
- VARIABLE FREQUENCY CONTROLLER, FAN AND PUMP MOTOR STARTERS, STARTER WIRING, CONTROL VOLTAGE TRANSFORMERS AND ASSOCIATED POWER WIRING SHALL BE PROVIDED BY OTHER TRADES.
- DUCT SMOKE DETECTORS SHALL BE FURNISHED, INSTALLED AND WIRED TO THE FIRE ALARM SYSTEM BY THE ELECTRICAL CONTRACTOR. ELECTRICAL SHALL PROVIDE FIRE ALARM SYSTEM CONTROL MODULES FOR REQUIRED GATES TO MOTOR STARTERS OR VFC'S AS INDICATED. CONTROL MODULES SHALL BE LOCATED NEAR RESPECTIVE MOTOR STARTERS OR VFC'S. TC CONTRACTOR SHALL PROVIDE INTERLOCK WIRING FROM CONTROL MODULES TO MOTOR STARTERS OR VFC'S.
- ALL DDC AND CONTROL INTERLOCK WIRING SHALL BE BY TC CONTRACTOR UNLESS OTHERWISE NOTED. TC CONTRACTOR SHALL COORDINATE WITH VFC AND MOTOR STARTER SUPPLIERS TO DETERMINE EXACT WIRING REQUIREMENTS AND TERMINATION POINTS.
- ALL DDC AND CONTROL INTERLOCK WIRING BETWEEN COMPONENTS SHALL BE INSTALLED WITHOUT INTERMEDIATE STOPS. WIRE SPLICING AT INTERMEDIATE TERMINAL STRIPS IS NOT ACCEPTABLE.
- ALL ELECTRICAL WIRING AND RACEWAY SYSTEMS SHALL COMPLY WITH ELECTRICAL SPECIFICATION REQUIREMENTS. WHERE RACEWAY IS REQUIRED, TWO SEPARATE ELECTRICAL RACEWAY SYSTEMS SHALL BE PROVIDED: ONE FOR 120V WIRING AND THE OTHER FOR 24V WIRING.
- TC CONTRACTOR SHALL BE RESPONSIBLE FOR ALL POWER SUPPLIES REQUIRED FOR TC SYSTEM UNLESS OTHERWISE NOTED. REFER TO ELECTRICAL PANEL SCHEDULES FOR SPARE CIRCUITS OR CIRCUITS DEDICATED TO TEMPERATURE CONTROLS. COORDINATE CIRCUIT USE WITH ELECTRICAL CONTRACTOR.
- TC CONTRACTOR SHALL VERIFY EXACT LOCATION OF ALL FIELD MOUNTED COMPONENTS.
- REFER TO TEMPERATURE CONTROLS STANDARD MOUNTING HEIGHTS DETAIL FOR ELEVATIONS OF WALL MOUNTED TEMPERATURE CONTROL DEVICES. PROVIDE WALL MOUNTED DEVICE GUARDS WHERE INDICATED ON TC DETAILS OR AT SPECIFIC LOCATIONS INDICATED ON MECHANICAL FLOOR PLANS.
- TC CONTRACTOR SHALL PROVIDE AUXILIARY PANELS FOR REQUIRED PANEL MOUNTED EQUIPMENT SUCH AS RELAYS, TRANSDUCERS, CONTROL TRANSFORMERS, ETC. AUXILIARY PANELS SHALL BE LOCATED NEXT TO ASSOCIATED DDC PANEL. DEPENDING ON WIRE QUANTITY OR COMPLEXITY, PROVIDE CONDUITS BETWEEN PANELS OR WIRING THROUGH WITH CONDUIT STUDS ABOVE ALL ASSOCIATED PANELS.
- REMOTELY MOUNTED FIELD DEVICES SUCH AS RELAYS, CONTROL TRANSFORMERS, ETC., SHALL BE HOUSED IN AN ENCLOSURE PROVIDED BY THE TC CONTRACTOR.
- CONTROL TRANSFORMERS WHEN REQUIRED SHALL BE SIZED FOR 150% OF ACTUAL LOAD.
- FREEZE/STATS SHALL BE MOUNTED ON UPSTREAM FACE OF COOLING COILS. FREEZE/STAT QUANTITY SHALL BE ONE PER 20 SQ. FT. OF CROSS SECTIONAL AREA.
- CURRENT SWITCHES USED FOR OPERATIONAL STATUS SHALL HAVE CURRENT THRESHOLD SETPOINT ADJUSTED TO INDICATE BELT OR DRIVE FAILURE.
- ALL CONTROL VALVES, CONTROL DAMPERS AND ASSOCIATED CONTROL ACTUATORS IDENTIFIED ON TC DRAWINGS SHALL BE FURNISHED BY TC CONTRACTOR UNLESS OTHERWISE NOTED. DAMPER SIZE AND LOCATIONS ARE INDICATED ON MECHANICAL FLOOR PLAN DRAWINGS.
- ALL CONTROL VALVES AND DAMPERS FURNISHED BY THE TC CONTRACTOR SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. ALL PIPE PENETRATIONS AND BASIC FITTINGS REQUIRED FOR SENSOR INSTALLATIONS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR.
- DAMPER ACTUATORS SHALL BE INSTALLED BY TC CONTRACTOR WHEN FURNISHED BY TC CONTRACTOR.
- ALL INSTRUMENTATION TUBING REQUIRED FOR DPS AND DPT COMPONENT INSTALLATIONS SHALL BE PROVIDED BY TC CONTRACTOR.
- TC CONTRACTOR SHALL FIELD MOUNT ALL REQUIRED "SHIPPED LOOSE" PACKAGED CONTROL COMPONENTS FURNISHED BY EQUIPMENT SUPPLIERS WHERE INDICATED. ALL REQUIRED 24V AND 120V FIELD WIRING SHALL BE PROVIDED BY TC CONTRACTOR UNLESS NOTED OTHERWISE. TC CONTRACTOR SHALL COORDINATE SPECIFIC SYSTEM WIRING REQUIREMENTS WITH PACKAGED EQUIPMENT SUPPLIERS.



TC DEVICE STANDARD MOUNTING HEIGHTS DETAIL
NO SCALE



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PBA Project No.: 2023-0155.02

PROJECT TITLE

**Athens High School
Athletic Fields
Bid Package No. 02B**

Troy School District
Troy, Michigan

DRAWING TITLE

**TEMPERATURE CONTROL
STANDARDS AND
GENERAL NOTES**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE: ISSUED FOR:

DRAWN: MEP

CHECKED: MEP

APPROVED: SVM

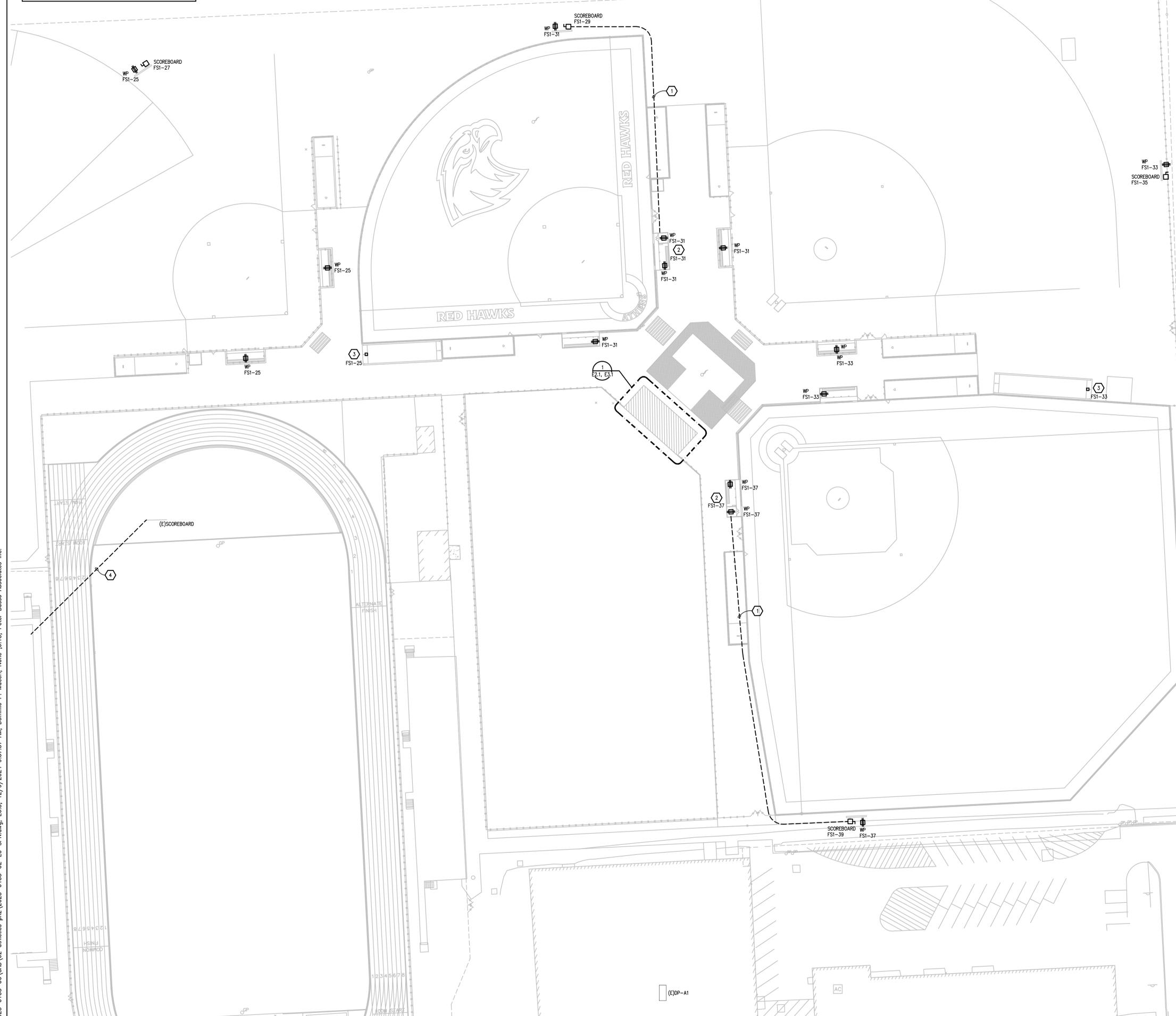
PROJECT NO.

22103D

DRAWING NO.

M8.1

THE FOLLOWING DIMENSION EQUALS ONE INCH WHEN PRINTED TO SCALE.



ELECTRICAL NEW WORK SITE PLAN
SCALE: 1" = 30'

SITE PLAN GENERAL NOTES:

1. THESE NOTES ARE GENERIC GUIDELINES ONLY. ELECTRICAL CONTRACTOR'S PERSONNEL ON SITE SHALL BE THOROUGHLY FAMILIAR WITH THE PUBLISHED SPECIFICATIONS FOR EXACT DESCRIPTIONS OF SCOPE, METHODS, AND MATERIAL.
2. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
3. CONDUCT A SURVEY TO IDENTIFY ALL UNDERGROUND UTILITIES. CALL 811 PRIOR TO EXCAVATION.
4. UTILITIES SHOWN ON THESE DRAWINGS ARE FOR REFERENCE ONLY. COORDINATE EXACT LOCATION OF ALL EXISTING UTILITIES, AND ROUTING OF ALL NEW UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
5. DEWATER TRENCHES PRIOR TO INSTALLATION OF CONDUITS. PROVIDE WATER TIGHT FITTINGS ON ALL UNDERGROUND CONDUITS.
6. COORDINATE DEMOLITION WORK, AND ELECTRICAL AND TELEPHONE SERVICES TO THE SITE, WITH THE RESPECTIVE LOCAL UTILITY COMPANY REPRESENTATIVES PRIOR TO COMMENCEMENT OF WORK. INCLUDE ALL ASSOCIATED COSTS/FEES BY THE UTILITY COMPANIES IN THE BID PRICE.
7. INSTALL UNDERGROUND CONDUITS 42" BELOW FINISHED GRADE, MINIMUM, UNLESS NOTED OTHERWISE.
8. COORDINATE SERVICE SHUT-DOWNS WITH ALL TRADES INVOLVED ON SITE AND OBTAIN WRITTEN AUTHORIZATION FROM OWNER 72 HOURS PRIOR TO ANY ELECTRICAL AND/OR TELEPHONE SHUT-DOWN.
9. REMOVE ALL DE-ENERGIZED CONDUCTORS FROM SITE AT COMPLETION OF THE PROJECT.
10. SPARE CONDUITS SHALL INCLUDE PULL STRING AND SHALL BE TERMINATED WITH A CAP.
11. EXCAVATE THE ENTIRE LENGTH OF TRENCH TO PROPERLY SET DUCT ELEVATIONS.

CONSTRUCTION KEY NOTES:

1. (2)2" C. WITH PULL STRING FROM SCOREBOARD TO HOME DUGOUT STORAGE.
2. PROVIDE LIGHT FIXTURE L2 IN STORAGE ROOM ADJACENT TO DUGOUT WITH AUTOMATIC ON/OFF CONTROL VIA OCCUPANCY SENSORS.
3. OUTDOOR POWER PEDESTAL.
4. (2)2" C. WITH PULL STRING FROM SCOREBOARD TO UNDERSIDE OF BLEACHERS. COORDINATE FINAL LOCATION WITH OWNER.



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PBA Project No: 2023-0155-02

PROJECT TITLE
**Athens High School
Athletic Fields
Bid Package No. 02B**

Troy School District
Troy, Michigan

DRAWING TITLE
**ELECTRICAL NEW WORK
SITE PLAN**

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

DATE:	ISSUED FOR:
DRAWN: ZDB	
CHECKED: ZDB	
APPROVED: STP	

PROJECT NO.
22103D

DRAWING NO.
E0.3



**Know what's below.
Call before you dig.**

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PROJECT TITLE

Athens High School
 Athletic Fields
 Bid Package No. 02B

Troy School District
 Troy, Michigan

DRAWING TITLE

ONE LINE DIAGRAM AND
 PANEL SCHEDULES

ISSUE DATES

12-10-2024 CONSTRUCTION DOCUMENTS

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DRAWING NO.

E5.1

DIAGRAM GENERAL NOTES:

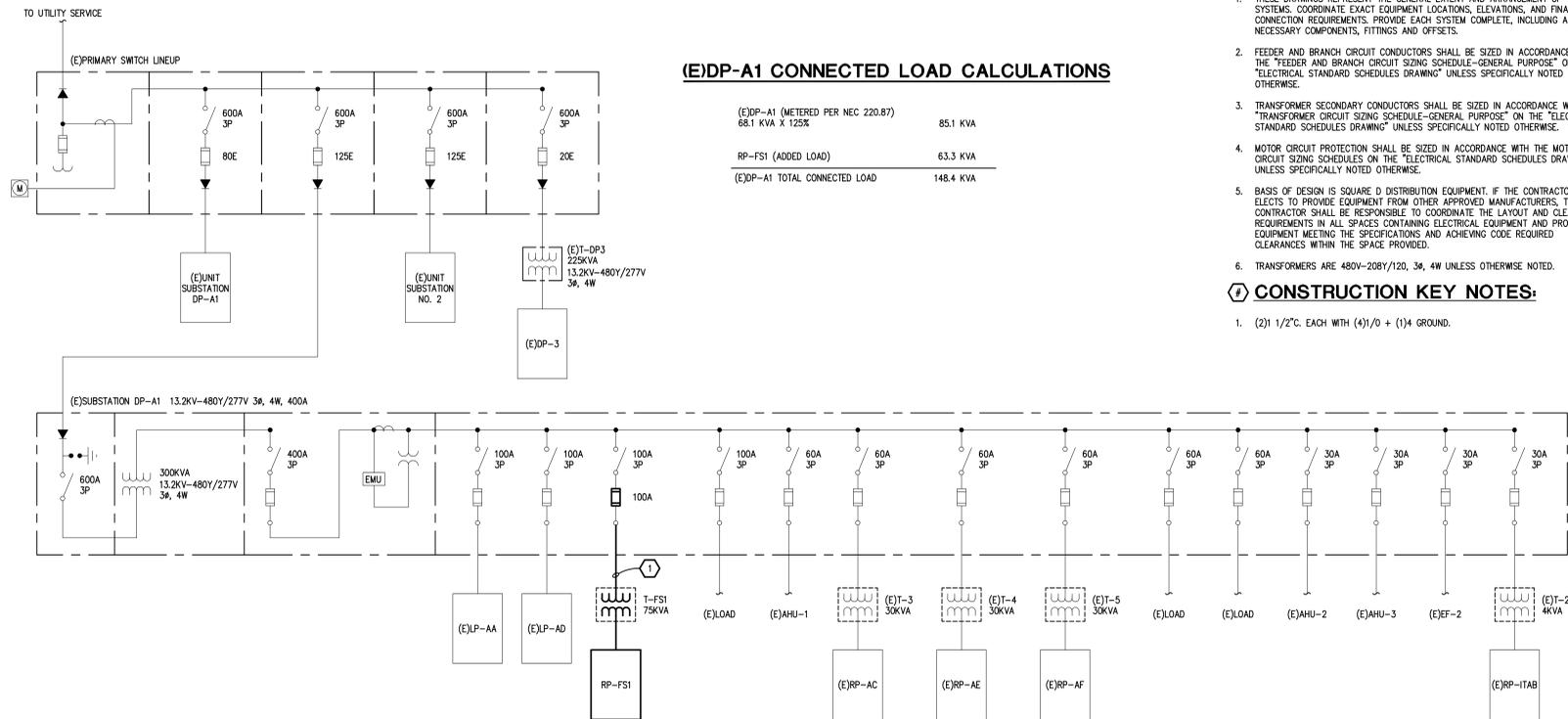
- THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS. COORDINATE EXACT EQUIPMENT LOCATIONS, ELEVATIONS, AND FINAL CONNECTION REQUIREMENTS. PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS AND OFFSETS.
- FEEDER AND BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE-GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
- TRANSFORMER SECONDARY CONDUCTORS SHALL BE SIZED IN ACCORDANCE WITH THE "TRANSFORMER CIRCUIT SIZING SCHEDULE-GENERAL PURPOSE" ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
- MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH THE MOTOR CIRCUIT SIZING SCHEDULES ON THE "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS SPECIFICALLY NOTED OTHERWISE.
- BASIS OF DESIGN IS SQUARE D DISTRIBUTION EQUIPMENT. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT FROM OTHER APPROVED MANUFACTURERS, THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE THE LAYOUT AND CLEARANCE REQUIREMENTS IN ALL SPACES CONTAINING ELECTRICAL EQUIPMENT AND PROVIDE EQUIPMENT MEETING THE SPECIFICATIONS AND ACHIEVING CODE REQUIRED CLEARANCES WITHIN THE SPACE PROVIDED.
- TRANSFORMERS ARE 480V-208Y/120, 3ø, 4W UNLESS OTHERWISE NOTED.

CONSTRUCTION KEY NOTES:

- (2) 1/2"Ø. EACH WITH (4)1/0 + (1)4 GROUND.

(E)DP-A1 CONNECTED LOAD CALCULATIONS

(E)DP-A1 (METERED PER NEC 220.87) 68.1 KVA X 125%	85.1 KVA
RP-FS1 (ADDED LOAD)	63.3 KVA
(E)DP-A1 TOTAL CONNECTED LOAD	148.4 KVA



SHORT-CIRCUIT CALCULATIONS

FAULT POINT	PANEL/ TRANSFORMER	SOURCE FAULT POINT	SOURCE I _{sc}	CONDUIT TYPE	CONDUCTOR MATERIAL	CONDUCTOR OR BUS SIZE	"C" VALUE	E (V)	L (FT)	X _{FMR} KVA	X _{FMR} %Z	f	M	I _{sc}
1	(E)SUBSTATION DP-A1							480		300	5.42			6,658
2	T-FS1(PRIMARY)	1	6,658	NM	CU	2 SETS OF 1/0	9317	480	500.0			0.645	0.61	4,948
3	T-FS1(SECONDARY)	2	4,048	M	CU			208	75	3.61	1.618	0.38		3,568
4	RP-FS1	3	3,568	M	CU	1 SET OF 4/0	15082	208	10.0			0.020	0.98	3,499

THE FOLLOWING THREE PHASE CALCULATIONS ARE BASED ON THE "POINT-BY-POINT" METHOD WHERE:

$I_{sc} = I_{sc} \times M$
 $M = 1/(1+f)$
 $f = \frac{L^2 \times 100,000}{C \times n \times E}$
 $I_{sc} = I_{sc} \times \frac{100,000}{E \times 1.732 \times \sqrt{3}}$
 $f = \frac{I_{sc}(sc) \times E_p \times 1.73 \times \sqrt{3}}{100,000 \times kVA}$
 $I_{sc} = E_p \times M \times I_{sc}(sc)$
 $L = \text{LENGTH (ft) OF CONDUCTOR, C = CONSTANT FROM TABLE, n = NUMBER OF CONDUCTORS PER PHASE}$
 $I_{sc} = \text{AVAILABLE SHORT CIRCUIT (A), E = VOLTAGE OF CIRCUIT}$

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RP-FS1

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	NC				3960	8160			4200			ECUH-1	E	2
3	NC	DWH-1		40	3960	8160			4200	50			E	4
5	NC				3960	1200		5160	20			HAND DRYER	NC	6
7	M	OP-1		15	250	1450			1200	20		HAND DRYER	NC	8
9	R	RECEPTACLES		20	1080		1580		300	20	GFCI	EW	NC	10
11	R	RECEPTACLES		20	1080			2280	1200	20		HAND DRYER	NC	12
13	NC	HEAT TRACE	GFEP	20	250	1450			1200	20		HAND DRYER	NC	14
15	E	ECUH-1		60	5000		9200		4200	50		ECUH-2	E	16
17	E				5000			9200	4200				E	18
19	E	ECUH-2		60	5000	5180			180	20		EXTERIOR LIGHTING	L	20
21	E				5000		5510		510	20			L	22
23	M	EF-1		15	280			400	120	20		CONTACTOR C-FS	NC	24
25	R	RECEPTACLES		20	1080	1080				20		SPARE		26
27	NC	SCOREBOARD		20	500		500			20		SPARE		28
29	NC	SCOREBOARD		20	500			500		20		SPARE		30
31	R	RECEPTACLES		20	900					20		SPARE		32
33	R	RECEPTACLES		20	1080		1080			20		SPARE		34
35	NC	SCOREBOARD		20	500			500		20		SPARE		36
37	R	RECEPTACLES		20	540	540				20		SPARE		38
39	NC	SCOREBOARD		20	500		500			20		SPARE		40
41	SPARE			20						20		SPARE		42

PANELBOARD INFORMATION		BRANCH CIRCUIT CONNECTED LOAD		DEMAND FACTOR		FEEDER AND OVERCURRENT		NOTES
VOLTAGE:	208Y/120	CONTINUOUS LOAD (C)	100%	LOAD	125%	SIZING		
BUS CAPACITY:	225A	ELECTRIC HEAT (E)	36800	100%	36800	100%	36800	
MAIN TYPE:	225A MCB	NON-CONTINUOUS LOAD (NC)	19550	100%	19550	100%	19550	
MINIMUM A.I.C.:	10,000	KITCHEN LOAD (K)		100%		100%		
MOUNTING:	SURFACE	RECEPTACLE BASE LOAD (R)	5760	100%	5760	100%	5760	
		RECEPTACLE DEMAND LOAD (R)	50%			100%		
		LIGHTING LOAD (L)	690	100%	690	100%	863	
		ADDITIONAL TRACK LIGHTING LOAD						
		MOTORS, HIGHEST LOAD (MH)		125%		100%		
		MOTORS, REMAINING LOAD (M)	530	100%	530	100%	530	
		TOTAL (KVA):	63.33					
		TOTAL (AMPS):	176				176	

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