SITE PLAN

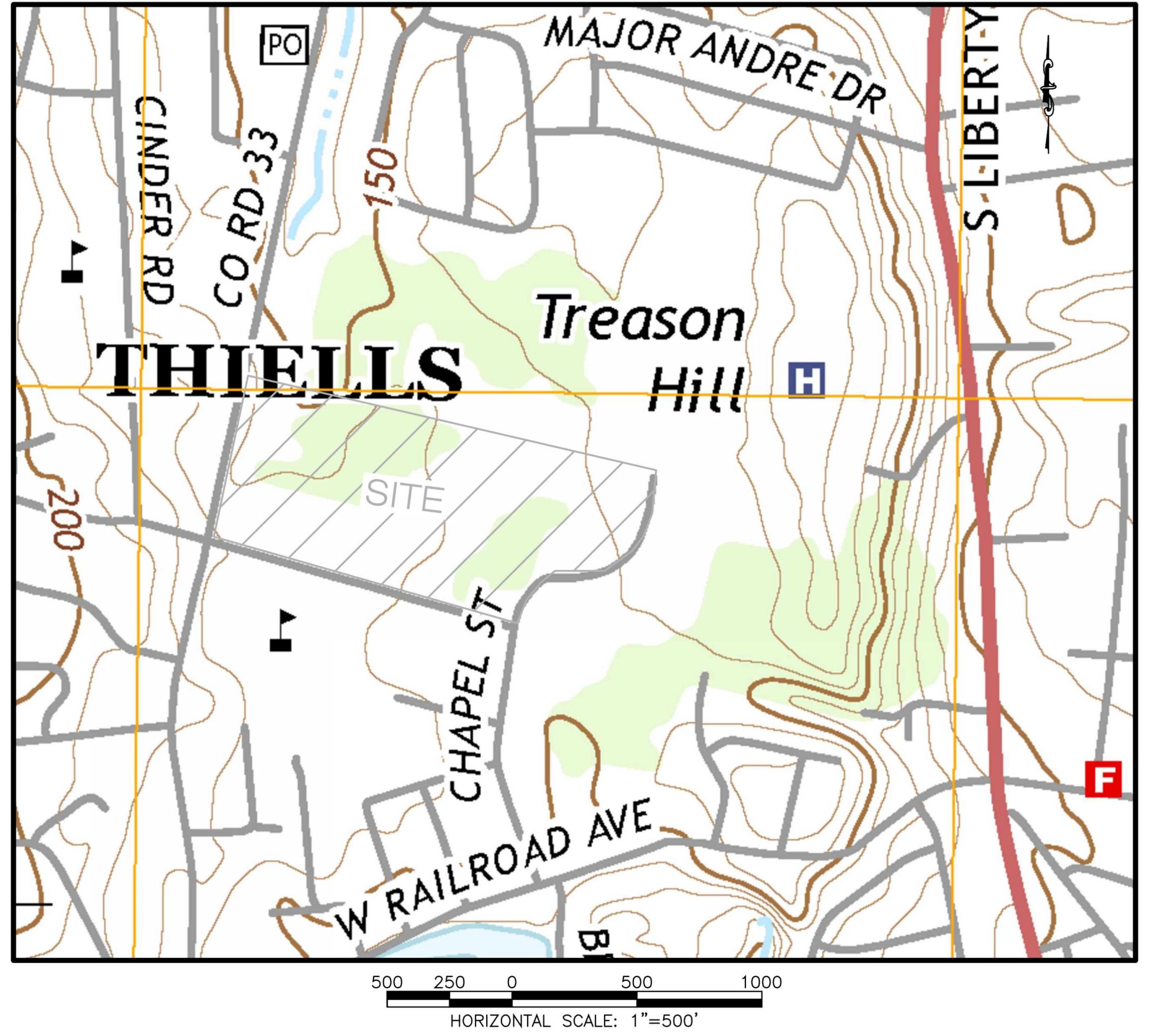
FOR

HAVERSTRAW RECREATION COMPLEX-PHASE 1

BLOCK 4, LOT 1.1, TAX MAP SHEET 20.14
TOWN OF HAVERSTRAW, ROCKLAND COUNTY, NEW YORK

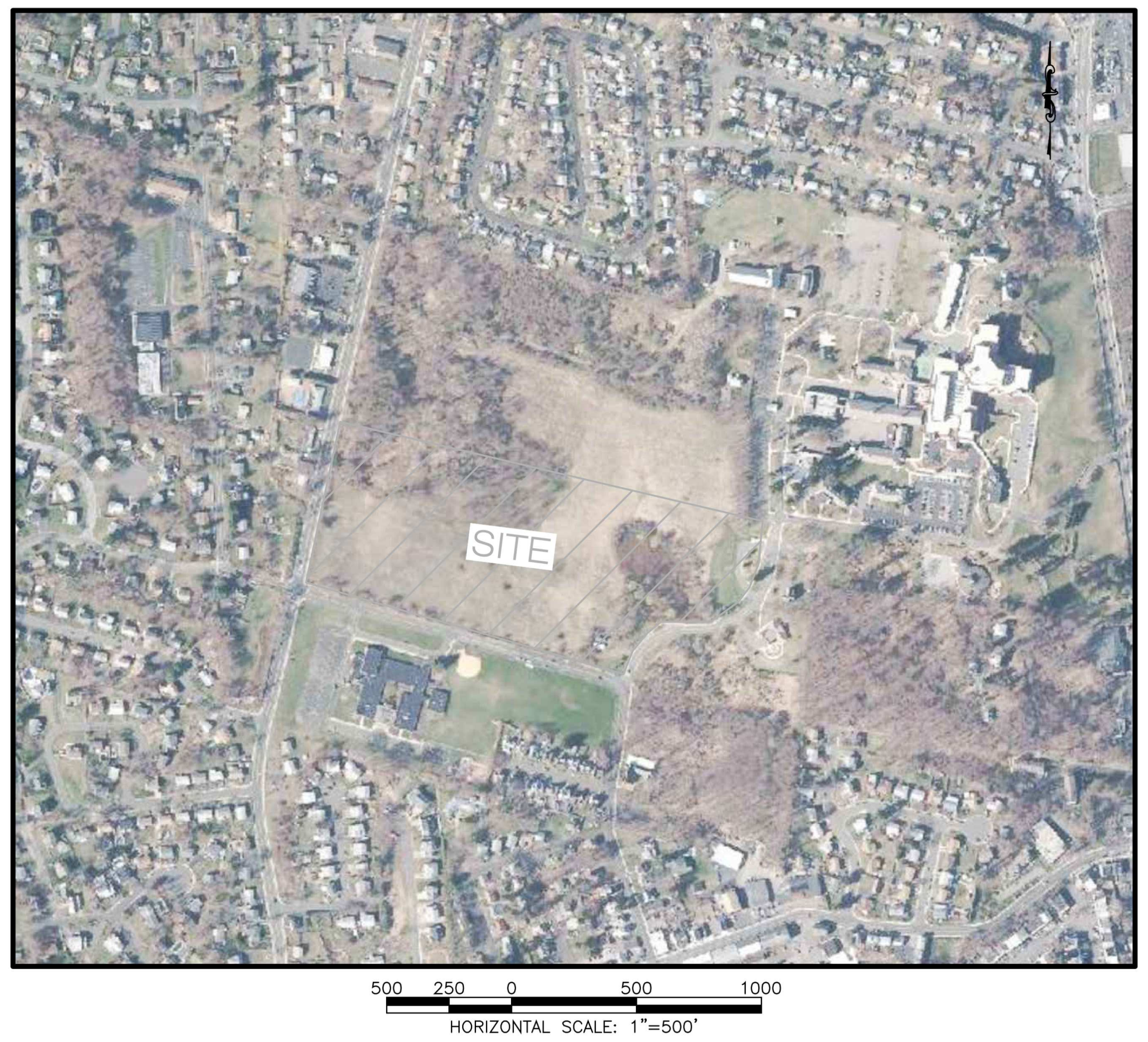
USGS MAP

SOURCE:2016 HAVERSTRAW QUADRANGLE NEW YORK 7.5-MINUTE SERIES



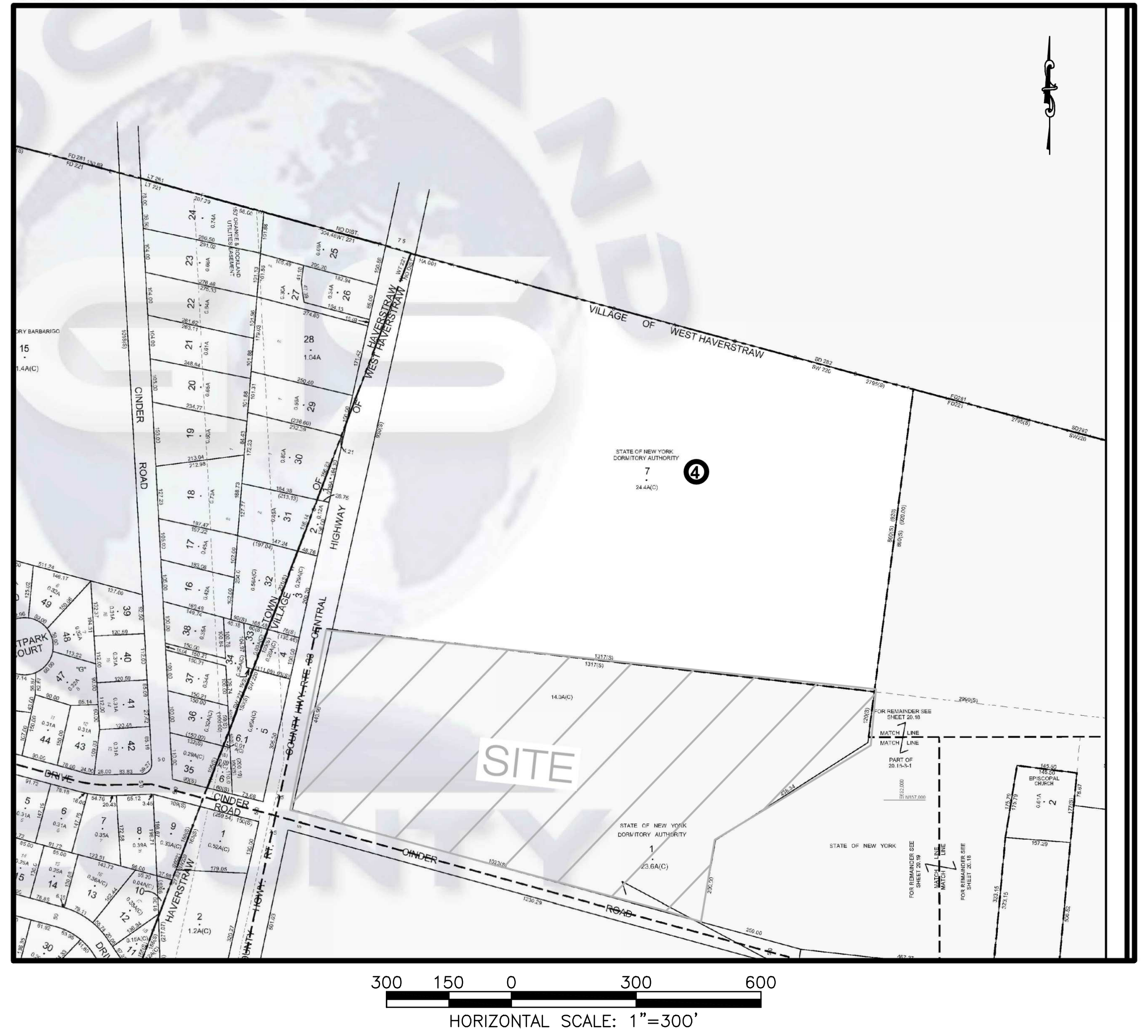
AERIAL MAP

SOURCE:ARCGIS NYS LATEST AERIAL PHOTOGRAPHY



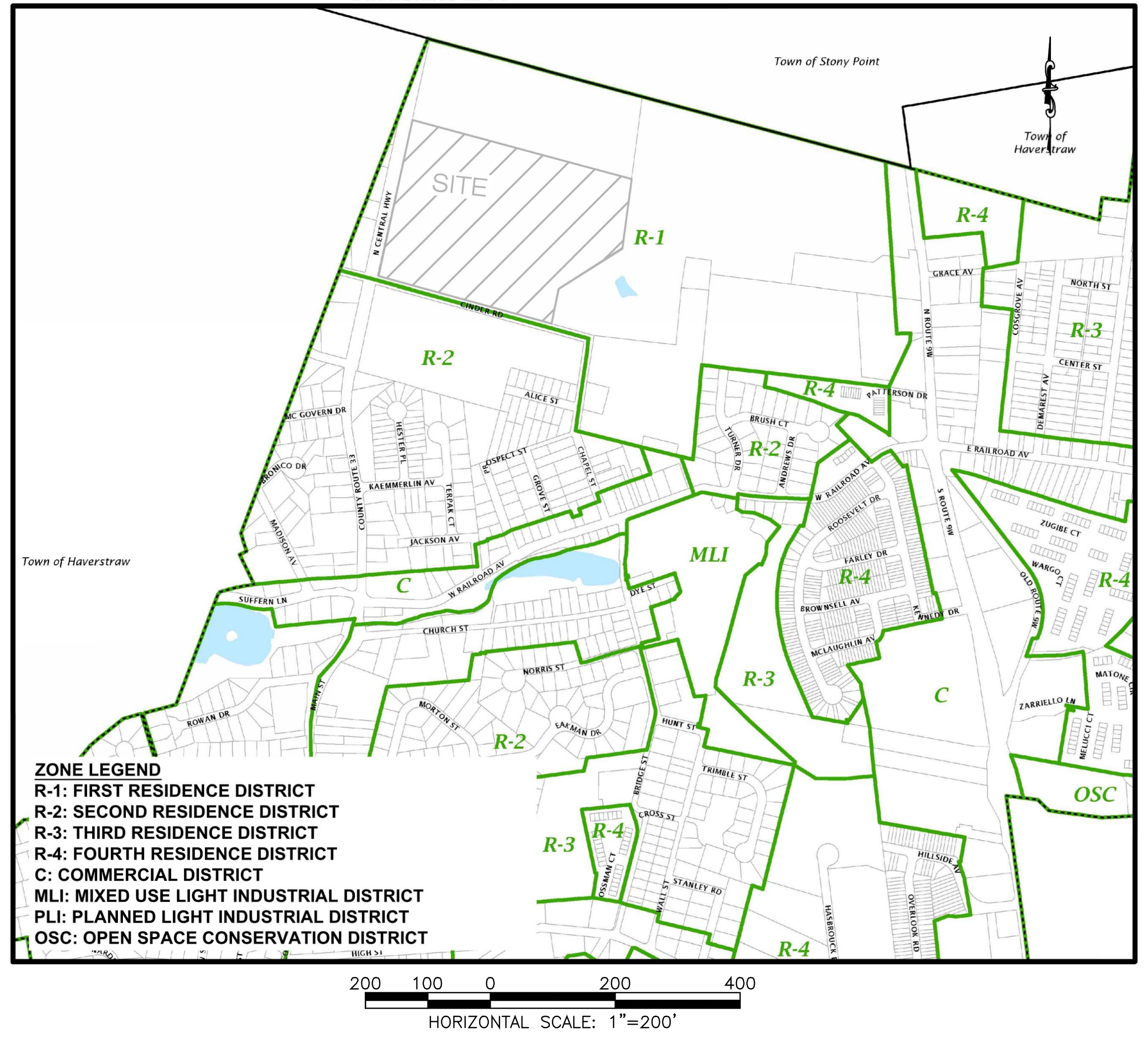
TAX MAP

SOURCE:VILLAGE OF HAVERSTRAW TAX MAP SHEET 20.14.



ZONING MAP

SOURCE:VILLAGE OF WEST HAVERSTRAW ZONING MAP.


Town of Stony Point
Town of Haverstraw
SITE
R-1
R-2
R-3
R-4
C
MLI
OSC
N CENTRAL HWY
CINDER RD
GRACE AV
NORTH ST
CENTER ST
PATTERSON DR
E RAILROAD AV
W RAILROAD AV
CHURCH ST
Town of Haverstraw
ZONE LEGEND
R-1: FIRST RESIDENCE DISTRICT
R-2: SECOND RESIDENCE DISTRICT
R-3: THIRD RESIDENCE DISTRICT
R-4: FOURTH RESIDENCE DISTRICT
C: COMMERCIAL DISTRICT
MLI: MIXED USE LIGHT INDUSTRIAL DISTRICT
PLI: PLANNED LIGHT INDUSTRIAL DISTRICT
OSC: OPEN SPACE CONSERVATION DISTRICT
200 100 0 200 400
HORIZONTAL SCALE: 1"=200'

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PUBLIC UTILITIES LIST

TELEPHONE	OPTIMUM
GAS	ORANGE & ROCKLAND UTILITIES
WATER	SUEZ
SEWER	JOINT REGIONAL SEWERAGE BOARD
ELECTRICITY	ORANGE & ROCKLAND UTILITIES
CABLE	OPTIMUM

NOTE:
PRIOR TO ANY EXCAVATION, CONTRACTOR MUST HAVE ALL UTILITIES MARKED OUT BY THE APPROPRIATE UTILITY COMPANIES -> 1-800-272-1000 OR 811.

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

CALL BEFORE YOU DIG - 811

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1

095020-1

DATE: 03/19/2021

NOTICE

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ELECTRONIC SUBMISSIONS NOT CONTAINING A VALID DIGITAL SEAL OR PAPER COPIES NOT CONTAINING A RAISED SEAL ARE NOT ORIGINALS AND MAY HAVE BEEN ALTERED.

DESCRIPTION	NO.	DATE:	BY:	CHK:
REV. PER ADDENDUM NO. 1	A	04/08/2021	KAK	RCG

REVISIONS

DRAWN BY:
KAK
03/19/2021

CHECKED BY:
ASH
03/19/2021

CHECKED BY:
RCG
03/19/2021

SUBURBAN
ENGINEERING

- Civil Engineers -
- Landscape Architects -
- Land Surveyors -

7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776

EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

COVER SHEET

PROJECT NUMBER:
SCE-9755.021

SCALE:
AS NOTED

SHEET 1 OF 47

REVISION A

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 1-2 COVER SHEET.dwg Thu, Apr 08, 2021 - 11:55am kkemper SUBURBAN CONSULTING ENGINEERS, INC.

GENERAL NOTES

1. SUBJECT PROPERTY IS KNOWN AS LOT 1.1 IN BLOCK 4. THE MUNICIPAL TAX MAP SHEET NUMBER 20.18. PROPOSED SITE CONTAINS 25 +/- ACRES.
2. EXISTING USE: VACANT LOT
   PROPOSED USE: RECREATIONAL
3. SUBJECT PROPERTY LIES ENTIRELY IN R-1 ZONE.
4. BOUNDARY AND TOPOGRAPHIC SURVEY DATA AS PER MAP ENTITLED, "HELEN HAYS PARK, CENTRAL HIGHWAY AND CINDER ROAD, VILLAGE OF WEST HAVERSTRAW, ROCKLAND CO., NY, TOPOGRAPHIC & BOUNDARY SURVEY", PREPARED BY PENNONI ENGINEERING & SURVEYING OF NEW YORK, P.C., DATED 11/01/2018 REVISED THROUGH 12/16/2019.
5. PROJECT DATUMS: HORIZONTAL: NAD 1983
   VERTICAL: NAVD 1988
6. SUBJECT PROPERTY IS LOCATED IN THE FLOOD ZONE X AS SHOWN ON THE LATEST VERSION OF FEMA PRELIMINARY FLOOD INSURANCE RATE MAP C6087C0103G, DATED 03/03/2014.
7. FRESHWATER WETLANDS LINE SHOWN AS DELINEATED PER FIELD OBSERVATIONS PERFORMED BY ACER CONSULTING SEPTEMBER, 2019.
8. THESE DOCUMENTS HAVE BEEN PREPARED FOR BIDDING PURPOSES AND SHALL NOT BE UTILIZED FOR ANY OTHER PURPOSE.
9. MODIFICATIONS TO THESE DOCUMENTS, COPYING OF THESE DOCUMENTS, OR USE OF THESE DOCUMENTS FOR ANY PURPOSE OTHER THAN THEIR INTENDED USE IS PROHIBITED WITHOUT THE WRITTEN PERMISSION OF SUBURBAN ENGINEERING.
10. THESE DOCUMENTS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES PRIOR TO BEING "ISSUED FOR CONSTRUCTION" AND/OR PRIOR TO SUBURBAN ENGINEERING COMPLETING A PRE-CONSTRUCTION PLAN REVIEW.
11. THESE DOCUMENTS CONTAIN INFORMATION RELATIVE TO THE SUBJECT PROPERTY OBTAINED DURING SUBURBAN ENGINEERING BEING ENGAGED BY CLIENT TO GENERATE SUCH INFORMATION. INFORMATION SHOWN HEREIN SHALL ONLY BE USED FOR THE SUBJECT TRACT AND SHALL NOT BE USED ON FUTURE PHASES NOR ON OTHER PROJECTS.

PRE-CONSTRUCTION MEETING NOTES

1. A PRE-CONSTRUCTION MEETING SHOULD BE HELD WITH THE TOWN ENGINEER, PROJECT ENGINEER AND OWNER PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.

SITE & DEMOLITION NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES AND REGULATIONS GOVERNING THE WORK. THE CONTRACTOR SHALL COORDINATE DEMOLITION WITH APPLICABLE AGENCIES AND UTILITY COMPANIES.
2. SITE DISTURBANCE SHALL NOT PROCEED UNTIL EROSION CONTROL MEASURES HAVE BEEN INSTALLED, AND ALL GOVERNING AGENCIES HAVE BEEN NOTIFIED BY THE CONTRACTOR.
3. ALL PAVED WALKWAYS AND ROADS MUST BE KEPT CLEAN AND FREE OF DEBRIS FOR THE DURATION OF THE CONTRACT.
4. EXISTING CURB AND PAVEMENTS TO BE REMOVED SHALL BE SAWCUT AS REQUIRED TO A STRAIGHT LINE SECTION AS TO PROVIDE A CLEAN SMOOTH AND EVEN TRANSITION FOR NEW CURBS AND PAVEMENTS, PROVIDING POSITIVE DRAINAGE WITH NO TRIP HAZARDS.
5. STEP RISERS SHALL BE 4" MINIMUM, 7" MAXIMUM. BUILDING EGRESS DOOR SILLS SHALL HAVE A MAXIMUM 1/4" REVEAL (VERTICAL CHANGE). HANDICAP FLUSH CURB RAMPS SHALL ALSO HAVE A MAXIMUM 1/4" REVEAL AND BE CONSTRUCTED IN ACCORDANCE WITH FEDERAL ADA STANDARDS FOR ACCESSIBLE DESIGN.
6. ALL CURB SHALL HAVE 6" FACE UNLESS OTHERWISE NOTED.
7. ALL CONCRETE FOR THE SITE SHALL BE MADE WITH AIR-ENTRAINED PORTLAND CEMENT CONCRETE, NYSDOT CLASS A, HAVING COMPRESSIVE STRENGTH IN 28 DAYS OF 4,000 PSI OR BETTER.
8. ALL WORK TO BE CONDUCTED IN ACCORDANCE WITH FOLLOWING AGENCY STANDARDS AND CODES:
   A. TOWN OF HAVERSTRAW
   B. ROCKLAND COUNTY HIGHWAY DEPARTMENT
   C. NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
   D. JOINT REGIONAL SEWERAGE BOARD
   E. ORANGE & ROCKLAND UTILITIES
   F. SUEZ WATER COMPANY - NEW YORK

DRAINAGE & UTILITY NOTES

1. ALL PROPOSED WATER MAINS AND FIRE HYDRANTS SHALL BE TESTED IN ACCORDANCE WITH AWWA REQUIREMENTS. ALL PROPOSED WATER MAINS SHALL BE DISINFECTED BEFORE FINAL INSPECTION AND START OF SERVICE TO BUILDING.
2. THE PROPERTY OWNER SHALL OWN, OPERATE AND MAINTAIN ALL WATER AND SEWER LINES AND RESPECTIVE APPURTENANCES NOT LOCATED WITHIN THE RIGHT-OF-WAY.
3. MINIMUM DEPTH OF COVER FOR ALL STORM SEWER PIPES IS TWO (2) FEET OR AS SPECIFIED BY MANUFACTURER, WHICH EVER IS GREATER. ALL SANITARY SEWER AND WATER SERVICE PIPES SHALL HAVE THREE (3) FEET AND FOUR (4) FEET MINIMUM DEPTH OF COVER, RESPECTIVELY.
4. ALL STORM SEWERS AND STRUCTURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH MUNICIPAL STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND REVIEWING APPLICABLE MUNICIPAL REQUIREMENTS PRIOR TO THE START OF WORK.
5. ALL DRAINAGE PIPE SHALL BE N-12 (SOILTIGHT) HDPE OR CLASS III WALL B AND ALL SANITARY SEWER PIPE SHALL BE SDR-35 PVC UNLESS OTHERWISE NOTED. ALL WATER SERVICE PIPE SHALL BE CLASS 52 CEMENT-LINED DIP UNLESS OTHERWISE NOTED.
6. ALL UTILITY CONSTRUCTION TO BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES AND TOWN OF HAVERSTRAW AND SHALL CONFORM WITH THE REQUIREMENTS THEREOF.
7. CONCRETE ENCASEMENTS WILL BE REQUIRED AT UTILITY CROSSINGS WHERE VERTICAL AND/OR HORIZONTAL SEPARATION DOES NOT MEET APPLICABLE STANDARDS (18" OF CLEARANCE RECOMMENDED).
8. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL 811-DIG SAFELY NEW YORK AND THE APPROPRIATE UTILITY COMPANIES TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY/COST OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS IN A MANNER WHICH WILL NOT NEGATIVELY AFFECT ANY EXISTING USERS OF THESE UTILITIES.
9. THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, UTILITY LOCATIONS, AND INVERTS PRIOR TO CONSTRUCTION USING TEST PITS, GROUND-PENETRATING RADAR, ETC. ANY CONDITIONS FOUND TO DIFFER FROM THOSE SHOWN ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER.
10. ALL ON-SITE UTILITIES SHALL BE UNDERGROUND UNLESS NOTED OTHERWISE.
11. CONSTRUCTION MATERIALS AND METHODS NOT OTHERWISE SPECIFIED OR SHOWN HEREIN SHALL CONFORM TO NEW YORK STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (THE LATEST EDITION AND AMENDMENTS)
12. COMPACTION IN FILL AREAS BENEATH ALL PROPOSED UTILITIES AND STRUCTURES SHOULD MEET ALL MANUFACTURES AND TOWN REQUIREMENTS AND BE EQUAL TO THE MINIMUM 95% MODIFIED PROCTOR DENSITY. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING INDEPENDENT THIRD PARTY CERTIFIED TESTING AGENCY TO CONFIRM MINIMUM COMPACTION REQUIREMENTS ARE MET.
13. SEWERS CONVEYING SANITARY FLOW, COMBINED SANITARY AND STORMWATER FLOW, OR INDUSTRIAL FLOW SHALL BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST TEN (10) FEET HORIZONTALLY. IF SUCH A LATERAL SEPARATION IS NOT POSSIBLE, THE PIPES SHALL BE IN SEPARATE TRENCHES AT LEAST EIGHTEEN (18) INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER SEPARATION AS APPROVED BY THE DEPARTMENT.
14. WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER SHALL BE ENCASED IN CONCRETE, OR CONSTRUCTED OF DUCTILE IRON PIPE USING MECHANICAL OR SLIP-ON JOINTS FOR A DISTANCE OF AT LEAST TEN (10) FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER SHALL BE PROVIDED. THE DEPARTMENT MAY ALSO REQUIRE ADDITIONAL STRUCTURAL SUPPORT FOR STORM SEWERS OVER SEWER LINES.
15. PRIOR TO CONSTRUCTION A GEOTECHNICAL ENGINEER SHALL BE RETAINED FOR ON-SITE INSPECTIONS OF EXISTING SUBGRADE CONDITIONS, EXCAVATION AND CONTROLLED FILL OF POOR SUBGRADE AREAS, AND CERTIFICATION OF ALL SUBGRADE AREAS OF ANY PAVEMENT AND UNDERGROUND UTILITIES ON THE SUBJECT SITE. ADDITIONALLY, PRIOR TO THE COMMENCEMENT OF ANY SITE WORK, THE GEOTECHNICAL ENGINEER SHALL PROVIDE A SCOPE OF SERVICES TO THE TOWN OF HAVERSTRAW ENGINEER FOR REVIEW AND APPROVAL.
16. PRIOR TO CONSTRUCTION OF RETAINING WALLS, THE SITE GEOTECHNICAL ENGINEER SHALL CONFIRM THE SOIL TYPES AND PROPERTIES USING THE IN WALL DESIGN. THE GEOTECHNICAL ENGINEER SHALL BE ONSITE AT ALL TIMES DURING THE CONSTRUCTION OF THE PROPOSED RETAINING WALLS. THE EXCAVATED MATERIALS AND BASE FOUNDATIONS OF THE RETAINING WALLS SHOULD BE MONITORED BY THE GEOTECHNICAL ENGINEER DURING CONSTRUCTION TO VERIFY THAT THE ON-SITE MATERIAL, FOUNDATION AND GROUND WATER LEVELS ARE IN CONFORMITY WITH THE PROPOSED DESIGN ASSUMPTIONS, AND SO THAT RECOMMENDATIONS CAN READILY BE MADE FROM ANY DEVIATIONS FROM THE DESIGN ASSUMPTIONS.
17. NO STRUCTURAL RETAINING WALLS SHALL BE CONSTRUCTED WITHOUT THE PRIOR APPLICATION FOR AND ISSUANCE OF A PERMIT TO CONSTRUCT SUCH WALL. THE APPLICATION SHALL BE MADE TO THE CONSTRUCTION OR ZONING OFFICIAL.
18. ALL MAINTENANCE AND OWNERSHIP RESPONSIBILITIES FOR THE ON-SITE WATER AND SANITARY UTILITIES SHALL REMAIN THE RESPONSIBILITY OF THE PROPERTY OWNER.
19. FOR FACILITIES LOCATED WITHIN THE PUBLIC RIGHT OF WAY, ACCESSIBILITY SHALL BE IN ACCORDANCE WITH PUBLIC RIGHT OF WAY ACCESS ADVISORY COMMITTEE GUIDELINES (PROWAG).
20. FOR FACILITIES LOCATED OUTSIDE OF THE PUBLIC RIGHT OF WAY, ACCESSIBILITY SHALL BE IN ACCORDANCE WITH CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN.
21. ALL EXISTING STORMWATER MANAGEMENT FEATURES ON THE PROPERTY'S TRACT SHALL BE INSPECTED UNDER THE SUPERVISION OF THE TOWN OF HAVERSTRAW ENGINEER AND ENGINEER OF RECORD. IF EXISTING FEATURES REQUIRE CLEANING, REPAIR, OR REMOVAL/REPLACEMENT; SUCH ACTIONS SHALL BE PREFORMED IN ACCORDANCE WITH THE SUPERVISOR'S INSTRUCTIONS.

NYSDOT DRAINAGE STRUCTURE NOTES

1. DRAINAGE STRUCTURES SHALL BE CAST IN PLACE OR PRECAST UNITS. ROUND DRAINAGE STRUCTURES SHALL BE PRECAST ONLY. ALL CAST IN PLACE CONCRETE SHALL BE CLASS A. THE CONTRACTORS SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF ANY CHANGES TO THE STRUCTURES SHOWN ON THE STANDARD SHEETS OR CONTACT PLANS, OTHER THAN MINOR CHANGES APPROVED BY THE ENGINEER. USE OF FLAT SLAB TOPS ON ROUND PRE CAST UNITS SHALL REQUIRE SUBMISSION OF WORKING DRAWINGS.
2. SEE PLANS FOR ELEVATIONS, DRAINAGE STRUCTURE LOCATIONS, TYPE OF GRATE UTILIZED, LOCATION OF SCOOPS, FORMED INVERTS, SUMPS AND DRAINS.
3. REINFORCEMENT FOR RECTANGULAR DRAINAGE UNITS (CAST IN PLACE OR PRECAST) BAR REINFORCEMENT INDICATED FOR RECTANGULAR TOP SLABS, RISERS AND BASES SHALL BE GRADE 60. WIRE FABRIC FOR CONCRETE REINFORCEMENT SHALL MEET THE REQUIREMENTS OF ʃ709-02. RISER REINFORCEMENT SHALL BE PLACED SO IT WILL HAVE A MINIMUM COVER OF 2" BUT NO MORE THAN 4" FROM THE INSIDE FACE. THE REINFORCEMENT SHALL BE LAPPED AND TIED. BASE REINFORCEMENT SHALL BE PLACED ABOVE THE MIDPOINT OF SLAB AND SHALL HAVE A MINIMUM CONCRETE COVER OF 2".
4. ROUND ALTERNATIVE:
   WHEN SPECIFIED BY PAYMENT ITEM, THE CONTRACTOR MAY SUBSTITUTE ROUND, PRECAST DRAINAGE STRUCTURES IN PLACE OF RECTANGULAR STRUCTURES USING SIZES INDICATED IN THE "SELECTION TABLE FOR ALTERNATE ROUND DRAINAGE STRUCTURES" ON SHEET 4 OF 4 OF NYSDOT DRAINAGE STRUCTURE DETAILS. THE RISER, TOP SLAB, AND BOTTOM SLAB FOR THE ROUND ALTERNATE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE PROVISIONS OF ʃ706-04 OF THE STANDARD SPECIFICATIONS. WORKING DRAWINGS FOR THE ROUND ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL, UNLESS THE ROUND ALTERNATE PROPOSED HAS BEEN PREVIOUSLY APPROVED. FOR PREVIOUSLY APPROVED ROUND UNITS THE CONTRACTOR SHALL SUBMIT A COPY OF THE APPROVED DRAWINGS TO THE ENGINEER.
5. FORMED INVERTS:
   FORMED INVERTS, SCOOP AND SUMPS SHALL BE PROVIDED AND INCLUDED IN THE PRICES BUD FOR DRAINAGE STRUCTURES CALLED FOR IN THE CONTRACT DOCUMENTS. WHEN NON-CIRCULAR PIPES ARE USED, THE FORMED INVERT AND SUMP DETAILS SHALL BE MODIFIED TO FIT THE INVERTS.
6. GRATES:
   CAST FRAMES MAY HAVE EITHER RETICULINE OR PARALLEL BAR GRATES, AND WELDED FRAMES MAY HAVE EITHER RETICULINE OR RECTANGULAR GRATES. IF NO GRATE IS SPECIFIED IN THE CONTRACT DOCUMENT, THE CONTRACTOR MAY FURNISH EITHER TYPE. GRATE SHALL BE INSTALLED SO THAT THE LENGTH OF THE GRATE IS PARALLEL TO THE SURFACE FLOW.
7. WALL OPENINGS:
   RECTANGULAR DRAINAGE STRUCTURES SHOWN ON THESE STANDARD SHEETS SHOULD NEVER CORNER PIPE ENTRIES. IF PIPE ALIGNMENT WOULD REQUIRE A CORNER ENTRY, USE A ROUND DRAINAGE STRUCTURE OR USE A SPECIAL DRAINAGE STRUCTURE. ALL WALL OPENINGS SHALL BE FORMED COMPLETELY THROUGH THE WALL SECTION. CIRCULAR WALL OPENINGS SHALL BE FORMED FOR EACH CIRCULAR PIPE ENTERING PERPENDICULAR TO THE WALL. WHEN NON-CIRCULAR PIPES ARE SPECIFIED, OR ROUND PIPE ENTRIES ARE SKEWED, RECTANGULAR OPENINGS MAY BE USED. THE CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE OPENING SHALL BE AT LEAST 2" BUT NO MORE THAN 3". THIS CLEARANCE SHALL BE MEASURED BETWEEN THE OUTSIDE OF THE PIPE AND NEAREST POINT ON THE RECTANGULAR OPENING . IF A CORNER HAS PIPE ENTRIES ON BOTH SIDES, AND THERE IS LESS THAN 2" BETWEEN EITHER OPENING AND THE CORNER, THEN THAT SECTION OF THE DRAINAGE STRUCTURE MUST HAVE 8" THICK WALLS.
8. MONOLITHIC AND INTEGRAL BASES MAY HAVE A MAXIMUM VERTICAL DRAFT OF ½" ON ALL INTERIOR DIMENSIONS, TO FACILITATE FORM REMOVAL. FOR WALL OPENINGS THAT EXTEND THE FULL WIDTH OR LENGTH OF THE STRUCTURE, THE MINIMUM CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE WALL OPENING SHALL BE 1½".
9. FINISHING PIPE ENTRIES:

   THE BELLS OF CONCRETE PIPE SHALL BE CUT OFF AT EVERY PIPE ENTRY WHERE THE BELL ENTERS A STRUCTURE. CONNECTIONS BETWEEN THE STRUCTURE AND PIPE SHALL BE MADE BY EITHER USING A RESILIENT CONNECTOR MEETING THE REQUIREMENTS OF ASTM C1478 OR BY COMPLETELY FILLING THE SPACE AROUND EACH PIPE WITH CONCRETE GROUTING MATERIAL OR CONCRETE REPAIR MATERIAL. IN CASE OF LARGE SPACES AROUND PIPES, CONCRETE PAVERS, COMPLETELY BEDDED IN GROUT OR CONCRETE REPAIR MATERIAL, MAY BE USED.
10. TOP SLAB AND OR FRAME AND GRATE ADJUSTMENT:

    A MINIMUM OF ½" OF BEDDING SHALL BE PLACED BETWEEN RISERS AND PRECAST TOP SLABS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES FOR UP TO 2 ½" SHALL BE MADE WITH BEDDING MATERIAL MEETING THE REQUIREMENTS OR CONCRETE GROUTING MATERIALS OR CONCRETE REPAIR MATERIAL. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES FOR UP TO 6" SHALL BE MADE WITH A COMBINATION OF PRECAST CONCRETE PAVERS AND BEDDING MATERIALS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 1'-0" SHALL BE MADE WITH CAST-IN-PLACE CONCRETE OR A COMBINATION OF PRECAST CONCRETE ADJUSTMENT ELEMENTS AND BEDDING MATERIALS. ALTERNATELY, GRADE ADJUSTMENTS FOR FRAMES AND GRATES OF UP TO 2" MAY BE MADE WITH RECYCLED RUBBER ELEMENTS OR UP TO 3" WITH HDPE ELEMENTS. RECYCLED RUBBER AND HDPE ELEMENTS SHALL BE PRODUCTS APPROVED BY THE MATERIAL BUREAU AND SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
11. STEPS:
    MANHOLE STEPS SHALL BE REQUIRED IN ALL DRAINAGE STRUCTURES DEEPER THAN 4'-0".
12. CORBELED OR CONICAL RISER SECTIONS AND FLAT SLAB REDUCERS:
    ROUND PRECAST DRAINAGE STRUCTURES OR MANHOLES (WHEN ALLOWED OR SPECIFIED) MAY BE FITTED WITH CONCENTRIC OR ECCENTRIC CONICAL SECTIONS TO REDUCE THEIR DIAMETERS, PROVIDED THE USE OF SUCH DEVICES IS COMPATIBLE WITH THE DRAINAGE SYSTEM DESIGN. THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF FLAT SLAB REDUCERS FOR ROUND OR RECTANGULAR STRUCTURES. A WALL SECTION WITH A HEIGHT LESS THAN 6" BETWEEN THE TOP OF A FLAT SLAB REDUCER SHALL NOT BE PERMITTED.
13. WHEN PIPE LOCATIONS PROVIDE LESS THAN 8" BETWEEN THE TOP OF THE UPPERMOST PIPE AND THE TOP OF THE RISE AND THE STRUCTURE MAY BE SUBJECTED TO HIGHWAY LOADS, CONTACT STRUCTURES DIVISION FOR A SPECIAL DESIGN.
14. WHEN SITE CONDITIONS REQUIRE A DRAINAGE STRUCTURE TO BE INSTALLED TO A DEPTH GREATER THAN THAT SHOWN IN THE CONTRACT DOCUMENTS, AN INSTALLATION TOLERANCE OF 8" IS PERMITTED WITHOUT REQUIRING AN INCREASE IN WALL THICKNESS OR REINFORCING STEEL AS REQUIRED BY THE DRAINAGE STRUCTURE REINFORCEMENT TABLE.
15. THE PAY ITEMS FOR DRAINAGE STRUCTURES SPECIFY THE STRUCTURES AND FRAME. DRAINAGE STRUCTURE ITEM NUMBERS:
    15.1. RECTANGULAR DRAINAGE STRUCTURE ITEM 604.30XXYY
    15.2. RECTANGULAR DRAINAGE STRUCTURE WITH ROUND OPTION ITEM 604.31XXYY
    15.3. RECTANGULAR DRAINAGE STRUCTURE WITH CONCRETE CAP ITEM 604.32XXYY

NYSDOT ACCESSIBILITY NOTES

GENERAL NOTES:

1. THESE SHEETS ARE IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT (ADA), AND THE REQUIREMENTS OF THE 2011 PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT OF WAY (PROWAG.)
2. DIMENSIONS SHOWN IN THE DETAILS AS MINIMUMS AND MAXIMUMS ARE THE LIMITS FOR DESIGN AND FIELD LAYOUT. FACILITIES SHALL NOT BE CONSTRUCTED WITH VALUES OUTSIDE THE LIMITS FOR WORK ACCEPTANCE. SEE TABLE "DESIGN ELEMENT TOLERANCES" ON SHEET 1 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS. FURTHER INFORMATION IS PROVIDED ON "CRITICAL ELEMENTS FOR THE DESIGN, LAYOUT, AND ACCEPTANCE OF PEDESTRIAN FACILITIES" AVAILABLE ON THE NYSDOT HIGHWAY DESIGN MANUAL CHAPTER 18 WEBSITE.
3. NOT ALL FACILITIES CAN BE CONSTRUCTED TO MEET THE DESIGN STANDARDS. FACILITIES THAT CANNOT BE CONSTRUCTED TO MEET THE DESIGN STANDARDS SHALL BE CONSTRUCTED TO MEET THE STANDARDS TO THE GREATEST EXTENT PRACTICABLE. NONSTANDARD FEATURES SHALL BE JUSTIFIED PER HIGHWAY DESIGN MANUAL CHAPTER 2, EXHIBIT 2-15A.
4. TO CHECK FIELD LAYOUT AND TO VERIFY WORK ACCEPTANCE, ALL SLOPES AND GRADES WILL BE MEASURED WITH A 4 FOOT LONG DIGITAL LEVEL USING AT LEAST TWO READINGS. WHERE THE READINGS VARY, THE MEASUREMENTS WILL BE AVERAGED. GRADE (RUNNING SLOPE) WILL BE MEASURED ALONG THE CENTERLINE AND OFFSET 12" TO 18" FROM THE CENTERLINE. CROSS SLOPES WILL BE MEASURED PERPENDICULAR TO CENTERLINE AT 5' TO 10' INTERVALS.
5. GRADES (RUNNING SLOPES) ARE MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL. CROSS SLOPES ARE MEASURED PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL.
6. JOINTS BETWEEN SIDEWALKS, CURB RAMPS, TURNING SPACES AND ROADWAYS SHALL BE FLUSH AND FREE FROM ABRUPT VERTICAL CHANGES GREATER THAN , 1/4". VERTICAL SURFACE DISCONTINUITIES BETWEEN , 1/4" AND 1/2" SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE JOINT. SEE DETAIL ON SHEET 2 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS..
7. SIDEWALKS ARE CONNECTED TO ROADWAYS BY EITHER BLENDED TRANSITIONS OR CURB RAMPS. BLENDED TRANSITIONS ARE CONNECTIONS BETWEEN THE SIDEWALK LEVEL AND THE ROADWAY LEVEL THAT HAVE A MAXIMUM GRADE (RUNNING SLOPE) OF 5%, AND TRANSITIONS GREATER THAN 5% ARE CONSIDERED CURB RAMPS.
8. CURB RAMPS AND BLENDED TRANSITIONS MAY REQUIRE THE INSTALLATION OF DETECTABLE WARNINGS. SEE ADDITIONAL "DETECTABLE WARNING NOTES" ON THIS SHEET, AND DETAILS ON SHEET 2 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS FOR DIMENSIONS, ORIENTATION AND INSTALLATION.
9. VERTICAL ALIGNMENT SHALL BE GENERALLY PLANAR. GRADE BREAKS WITHIN THE PEDESTRIAN ACCESS ROUTE SHALL BE PERPENDICULAR TO THE DIRECTION OF TRAVEL AND SHALL NOT BE ROUNDED.
10. MATERIAL DEPTHS SHOWN ON THESE SHEETS ARE TYPICAL MINIMUM VALUES AND MAY BE DIFFERENT IN THE CONTRACT DOCUMENTS.
11. SIDEWALK GRADE (RUNNING SLOPE) SHALL NOT BE DESIGNED TO EXCEED 4.5%, EXCEPT WHEN MATCHING INTO EXISTING SIDEWALK OR WHEN THE HIGHWAY GRADE IS STEEPER. WHEN HIGHWAY GRADE IS GREATER THAN 5%, THE SIDEWALK GRADE SHALL NOT EXCEED THE HIGHWAY GRADE.
12. THE CROSS SLOPE OF PEDESTRIAN ACCESS ROUTES SHALL BE 1.5% MAXIMUM FOR DESIGN AND LAYOUT, AND 2% MAXIMUM FOR WORK ACCEPTANCE. THE FOLLOWING EXCEPTIONS ARE ALLOWED:
    a. WHERE PEDESTRIAN STREET CROSSINGS ARE PROVIDED AT INTERSECTIONS WITHOUT YIELD OR STOP CONTROL OR WHERE THERE IS ANY TRAFFIC SIGNAL WITHOUT A FLASHING RED, THE CROSS SLOPE OF A PEDESTRIAN ACCESS ROUTE CONTAINED WITHIN A STREET CROSSING SHALL BE 4.5% MAXIMUM FOR DESIGN AND LAYOUT, AND 5% MAXIMUM FOR WORK ACCEPTANCE.
    b. WHERE MIDBLOCK PEDESTRIAN STREET CROSSINGS ARE PROVIDED, THE CROSS SLOPE OF A PEDESTRIAN ACCESS ROUTE CONTAINED WITHIN A MIDBLOCK STREET CROSSING SHALL BE PERMITTED TO EQUAL THE STREET OR HIGHWAY GRADE.
13. THE MINIMUM CLEAR WIDTH FOR PEDESTRIAN ACCESS ROUTES IS 4'-0", EXCLUSIVE OF THE CURB. WHEN WALKWAY WIDTHS ARE LESS THAN 5'-0", 5'-0" x 5'-0" PASSING SPACES OR A FEATURE OF EQUAL OR GREATER DIMENSIONS (E.G., DRIVEWAYS) THAT MEET THE SLOPE CRITERIA, SHALL BE PROVIDED AT A MAXIMUM INTERVAL OF 200'. EXISTING DRIVEWAYS AND STREET CROSSING MAY ALSO SERVE AS PASSING SPACES.
14. THE BUFFER ZONE IS A PHYSICAL DISTANCE SEPARATING THE PEDESTRIAN ACCESS ROUTE FROM THE VEHICLE TRAVELED WAY. THE BUFFER ZONE MAY BE PLANTED OR PAVED. WHERE THE BUFFER ZONE WIDTH, EXCLUSIVE OF CURB, IS LESS THAN 3'-0" THE SURFACE SHOULD BE PAVED OR CONSTRUCTED WITH HARDSCAPE MATERIALS.
15. THE MAXIMUM RECOMMENDED CROSS SLOPE OF A TURF BUFFER ZONE OR SLOPE TRANSITION BEHIND SIDEWALK IS 25%. BUFFER ZONES WITH A CROSS SLOPE GREATER THAN 25% SHOULD BE PAVED, PLANTED OR CONSTRUCTED WITH HARDSCAPE MATERIALS.
16. WHEN CROSSING DRIVEWAYS, THE WORK SHALL BE IN CONFORMANCE WITH STANDARD SHEET 608-03.
17. FOR PEDESTRIAN SIGNALS AND PEDESTRIAN PUSH BUTTONS, REFER TO STANDARD SHEET 680-10 FOR DETAILS.
18. WHERE EXISTING ROADWAYS ARE SAWCUT TO INSTALL CURBING AND/OR SIDEWALK, THE ROADWAY SHOULD BE SAWCUT AT LEAST 2'-0" FROM THE PROPOSED CURB LINE TO ALLOW FOR ADEQUATE COMPACTION OF ASPHALT. IF SAWCUT IS LESS THAN 2'-0" FROM PROPOSED CURB LINE, THEN THE ROADWAY SHALL BE REBUILT USING CLASS C CONCRETE. SEE DETAILS ON SHEET 9 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS.

CURB RAMP NOTES:

19. THE MINIMUM WIDTH OF A CURB RAMP SHALL BE 4'-0".
20. THE GRADE (RUNNING SLOPE) OF A CURB RAMP SHALL BE A MINIMUM OF 5%. THE GRADE FOR DESIGN AND LAYOUT SHALL BE A MAXIMUM OF 7.5%. THE GRADE FOR ADA ACCESSIBILITY AND WORK ACCEPTANCE SHALL BE A MAXIMUM OF 8.3%.
21. WHERE EXISTING CONDITIONS DO NOT ALLOW THE CONSTRUCTION OF A CURB RAMP WITH A GRADE (RUNNING SLOPE) OF 8.3% OR LESS, THE RAMP LENGTH SHALL NOT BE REQUIRED TO EXCEED 15'-1" FOR DESIGN AND FIELD LAYOUT. THE RAMP LENGTH SHALL NOT BE REQUIRED TO EXCEED 15'-0" FOR WORK ACCEPTANCE.
22. THE CROSS SLOPE OF THE CURB RAMP SHALL BE AS FLAT AS POSSIBLE AND STILL PROVIDE POSITIVE DRAINAGE. THE CROSS SLOPE OF A CURB RAMP SHALL BE 1.5% MAXIMUM FOR DESIGN AND LAYOUT, AND 2% MAXIMUM FOR WORK ACCEPTANCE. SEE GENERAL NOTE 12 ABOVE FOR EXCEPTIONS. WHERE THE EXISTING ROADWAY GRADE EXCEEDS 2%, THE CURB RAMP MAY BE WARPED ACCORDING TO THE DETAIL ON SHEET 8 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS TO TIE INTO THE DROP CURB.
23. RAMP SIDE OPTIONS ARE DETAILED ON SHEET 3 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS FOR USE WITHIN THE BUFFER ZONE. WHERE A PEDESTRIAN CIRCULATION PATH CROSSES THE CURB RAMP, FLARED SIDES SHALL BE INSTALLED WITH A MAXIMUM SLOPE OF 9.5% FOR DESIGN AND LAYOUT, AND 10% MAXIMUM FOR WORK ACCEPTANCE. THE SLOPE OF FLARED SIDES IS MEASURED PARALLEL TO THE CURB LINE.
24. THE BACKSIDE OF A PARALLEL RAMP SHOULD BE GRADED TO A MAXIMUM SLOPE OF 25% TO MATCH EXISTING TERRAIN, UNLESS OTHERWISE SHOWN IN THE CONTRACT DOCUMENTS. WHERE GRADING IS NOT FEASIBLE DUE TO LIMITED ROW OR PHYSICAL CONSTRAINTS, A BACK CURB MAY BE INSTALLED.
25. DEPARTMENT PREFERENCE IS TO INSTALL TWO CURB RAMPS AT A STREET CORNER THAT SERVES BOTH CROSSINGS. WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT TWO CURB RAMPS FROM BEING INSTALLED AT A STREET CORNER THAT SERVES BOTH CROSSINGS, A SINGLE DIAGONAL CURB RAMP WILL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS.

TURNING SPACE AND CLEAR SPACE NOTES:

26. WHERE A CHANGE IN DIRECTION IS REQUIRED TO UTILIZE A CURB RAMP, A TURNING SPACE SHALL BE PROVIDED AT THE BASE OR THE TOP OF CURB RAMP AS APPLICABLE. TURNING SPACES SHALL BE PERMITTED TO OVERLAP CLEAR SPACES.
27. WHERE THERE ARE NO VERTICAL CONSTRAINTS AT THE BACK OF SIDEWALK, (E.G., VERTICAL CURB, BUILDINGS, FENCES) THE TURNING SPACE DIMENSIONS SHALL BE 4'-0" x 4'-0" MINIMUM. WHERE THE TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, THE TURNING SPACE SHALL BE 4'-0" X 5'-0" MINIMUM. THE 5'-0" DIMENSION SHALL BE PROVIDED PERPENDICULAR TO THE CONSTRAINT.
28. TURNING SPACES SHALL NOT BE DESIGNED WITH CROSS SLOPE GREATER THAN 1.5% IN ANY DIRECTION, WHILE PROVIDING POSITIVE DRAINAGE. THE MAXIMUM CROSS SLOPE FOR WORK ACCEPTANCE IS 2.0%. A NONSTANDARD FEATURE JUSTIFICATION IS REQUIRED WHERE TURNING SPACES EXCEED 2.0% IN ANY DIRECTION.
29. BEYOND THE BOTTOM GRADE BREAK, A CLEAR SPACE OF 4'-0" x 4'-0" MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE PEDESTRIAN CROSSWALK, AND OUTSIDE THE PARALLEL VEHICLE TRAVEL LANE. THE CLEAR SPACE MAY OVERLAP TURNING SPACES, DETECTABLE WARNING SURFACES, AND DROP CURBS.

DETECTABLE WARNING NOTES:

30. DETECTABLE WARNING SURFACES SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS ON PEDESTRIAN ACCESS ROUTES:
    a. CURB RAMPS AND BLENDED TRANSITIONS AT PEDESTRIAN STREET CROSSINGS.
    b. PEDESTRIAN REFUGE ISLANDS (WHERE THE LENGTH OF THE PEDESTRIAN ACCESS ROUTE ACROSS THE REFUGE ISLAND IS GREATER THAN OR EQUAL TO 6 FEET).
    c. PEDESTRIAN AT-GRADE RAIL CROSSINGS NOT LOCATED WITHIN A STREET OR HIGHWAY.
31. DETECTABLE WARNING SURFACES SHALL BE PROVIDED WHERE THE PEDESTRIAN ACCESS ROUTE CROSSES DRIVEWAYS WITH SIGNAL, YIELD OR STOP CONTROL. DETECTABLE WARNING SURFACES SHALL NOT BE PROVIDED AT CROSSINGS OF UNCONTROLLED DRIVEWAY APRONS.
32. SOME DETECTABLE WARNING PRODUCTS REQUIRE A CONCRETE BORDER FOR PROPER INSTALLATION. IF REQUIRED, THE BORDER SHALL NOT EXCEED 2". WHERE THE BACK OF CURB EDGE IS TOOLED TO PROVIDE A RADIUS, THE BORDER DIMENSION SHALL BE MEASURED FROM THE INSIDE EDGE OF THE CURB RADIUS.
33. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING UNIT IS FOR ILLUSTRATION ONLY. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 24” MINIMUM IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUDING ANY FLARED SIDES. THE WIDTH OF THE DETECTABLE WARNING FIELD INCLUDES A CONCRETE BORDER, IF PROVIDED.
34. ON SLOPES OF 5% OR GREATER, THE ROWS OF DOMES SHALL BE ALIGNED TO BE PERPENDICULAR OR RADIAL TO THE LOWER GRADE BREAK ON THE RAMP RUN. WHERE DOMES ARE ARRAYED RADIALLY THEY MAY DIFFER IN DOME DIAMETER AND CENTER-TO-CENTER SPACING WITHIN THE RANGES SPECIFIED ON SHEET 2 OF 9 OF SIDEWALK AND CURB RAMP DETAILS FROM NYSDOT STANDARD SHEETS. ON SLOPES LESS THAN 5% DOMES ORIENTATION IS LESS CRITICAL AND MAY DIFFER FROM PERPENDICULAR OR RADIAL ALIGNMENT TO THE GRADE BREAK.
35. THE DETECTABLE WARNING FIELD SHALL BE THE COLOR SPECIFIED IN THE CONTRACT DOCUMENTS OR MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT GUTTER, STREET OR HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT.

PHASING NOTES

1. CONTRACTOR IS ADVISED THE HAVERSTRAW RECREATION COMPLEX PROJECT SHALL BE COMPLETED IN PHASES AND THE WORK DEPICTED WITHIN THESE PLANS IS EXCLUSIVELY FOR PHASE 1, UNLESS OTHERWISE INDICATED.
2. WORK FOR FUTURE PHASES IS GRAPHICALLY DISTINGUISHED FROM PHASE 1 WORK IN THE PLANS AND CALLED OUT AS SUCH.
3. FUTURE PHASE AREAS TO BE DEVELOPED SHALL BE ROUGH-GRADED BY CONTRACTOR WITH PROPER DRAINAGE TO ALL DRAINAGE STRUCTURES INSTALLED AS PART OF PHASE 1 AS SHOWN ON SITE GRADING & DRAINAGE PLANS, SHEETS 8-12 AND RECEIVE TEMPORARY SEEDING/SODDING AS INDICATED ON SITE LANDSCAPE PLANS, SHEETS 23-24.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING UTILITIES TO WITHIN 6' OF FUTURE PHASE BUILDINGS AND CONDUIT AND ANY OTHER NECESSARY ELECTRICAL FOR FUTURE PHASE LIGHTING AS PART OF PHASE 1 WORK.

COOPERATIVE PURCHASING NOTES

1. CONTRACTOR TO BE ADVISED THAT CERTAIN PROJECT SCOPE ITEMS, IDENTIFIED BELOW AND WITHIN THE PROJECT DOCUMENTS, SHALL BE PURCHASED BY THE TOWN THROUGH SOURCEWELL COOPERATIVE PURCHASING AND SHALL BE SUPPLIED AND INSTALLED BY OTHERS.
2. ITEMS TO BE SUPPLIED AND INSTALLED THROUGH COOPERATIVE PURCHASING PROGRAM SHALL BE INDICATED AS "BY OTHERS" WITHIN THE PROJECT DOCUMENTS.
3. PRIOR TO THE COMMENCEMENT OF ALL SITE WORK, A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH PARTIES RESPONSIBLE FOR WORK "BY OTHERS", CONTRACTOR, TOWN ENGINEER AND PROJECT ENGINEER FOR COORDINATION OF ALL WORK.
4. MULTIPURPOSE & CHALLENGER FIELDS:

   CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING AND PREPARATION OF THE FIELD SUBGRADE AND SUPPLY AND INSTALLATION OF UTILITY SERVICE TO SPORTS LIGHTING, ELECTRONIC SCOREBOARD AND ANNOUNCER'S BOOTH WITH FINAL CONNECTION BY OTHERS. ALL TURF, TURF BASE AND TURF DRAINAGE, FIELD FENCING AND CURB, FIELD APPURTENANCES, DUGOUT SHELTERS, BACKSTOP, BULLPEN AREAS, BALL SAFETY NETTING, ELECTRONIC SCOREBOARDS, BLEACHERS, TEAM BENCHES AND SPORTS LIGHTING SHALL BE SUPPLIED AND INSTALLED BY OTHERS.
5. BUILDING 4 (MAINTENANCE BUILDING):

   CONTRACTOR SHALL BE RESPONSIBLE FOR GRADING AND PREPARATION OF BUILDING PAD SUBGRADE, AS WELL AS FURNISHING AND INSTALLING ADJACENT HMA PAVEMENT, CURBS, FENCING, DRAINAGE, SIGNAGE & STRIPING, LANDSCAPING, AS WELL AS ALL UTILITY INSTALLATION TO WITHIN 6' OF THE BUILDING FOOTPRINT. BUILDING FOUNDATIONS, STONE BASE, DOWN SPOUTS AND ROOF LEADERS, METAL WALL AND ROOF SYSTEM, EXTERIOR WALL MOUNTED LIGHTS, AS WELL AS ALL CONTENTS AND UTILITIES WITHIN THE BUILDING FOOTPRINT SHALL BE SUPPLIED AND INSTALLED BY OTHERS.

CONTRACT 1 - GENERAL SITE CONSTRUCTION - BASE BID ITEMS

ITEM NO.	DESCRIPTION	BID QUANTITY	UNIT
1	MOBILIZATION	1	LS
2	SOIL EROSION AND SEDIMENT CONTROL	1	LS
3	SITE CLEARING	1	LS
4	GRADING AND EARTHWORK	1	LS
5	ROCK EXCAVATION IN PIPE TRENCHES (IF AND WHERE DIRECTED)	20	CY
6	ROCK EXCAVATION FOR INSTALLATION OF UNDERGROUND STRUCTURES (IF AND WHERE DIRECT	25	CY
7	EXCAVATION AND DISPOSAL OF CONTAMINATED SOIL	1,100	TONS
8	EXCAVATION AND DISPOSAL OF DEBRIS	1	ALLOW
9	TEMPORARY STORAGE FOR DEWATERING (UP TO 40,000 GALLONS)	1	LS
10	OFF-SITE TRANSPORTATION AND DISPOSAL OF NON-HAZARDOUS WATER	40,000	GAL
11	OFF-SITE TRANSPORTATION AND DISPOSAL OF HAZARDOUS WATER CONTAINING LEAD	40,000	GAL
12	HOT MIX ASPHALT PAVEMENT, 2" SURFACE COURSE (PARKING/DRIVE LANES)	1,300	TONS
13	HOT MIX ASPHALT PAVEMENT, 4" BASE COURSE (PARKING/DRIVE LANES)	3,100	TONS
14	HOT MIX ASPHALT PAVEMENT, 1.5" SURFACE COURSE (PEDESTRIAN AREAS)	615	TONS
15	HOT MIX ASPHALT PAVEMENT, 3.5" BASE COURSE (PEDESTRIAN AREAS)	1,450	TONS
16	HOT MIX ASPHALT PAVEMENT, DENSE GRADED AGGREGATE	22,175	SY
17	PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK, REINFORCED	155	SY
18	GRANITE BLOCK CURB	4,073	LF
19	SLOPED GRANITE BLOCK CURB	186	LF
20	SEGMENTAL BLOCK RETAINING WALL	115	SFF
21	LARGE SCALE SEGMENTAL BLOCK RETAINING WALL	6,000	SFF
22	CHAIN-LINK FENCE, 8' HIGH (INCLUDING GATES)	3,300	LF
23	DECORATIVE FENCE, 8' HIGH (INCLUDING GATES)	875	LF
24	DECORATIVE FENCE, 4' HIGH (INCLUDING GATES)	710	LF
25	SUBSURFACE STORM VAULT (PARKING AREA)	1	LS
26	TYPE E INLET	16	UNIT
27	TYPE B INLET	21	UNIT
28	STORM MANHOLE STRUCTURE	17	UNIT
29	HEADWALL STRUCTURE	2	UNIT
30	OUTLET CONTROL STRUCTURE	2	UNIT
31	6" PERFORATED HDPE PIPE	220	LF
32	6" HDPE PIPE	60	LF
33	12" HDPE PIPE	39	LF
34	15" HDPE PIPE	901	LF
35	18" HDPE PIPE	12	LF
36	24" HDPE PIPE	377	LF
37	30" HDPE PIPE	1,035	LF
38	36" HDPE PIPE	139	LF
39	42" HDPE PIPE	170	LF
40	15" RCP PIPE	236	LF
41	18" RCP PIPE	232	LF
42	24" RCP PIPE	457	LF
43	18" RCP PIPE CLASS IV	135	LF
44	24" RCP PIPE CLASS IV	108	LF
45	PEDESTRIAN BRIDGE - 60' SPAN	1	LS
46	ANNOUNCER'S BOOTH (CHALLENGER FIELD)	1	LS
47	TRAFFIC SIGNAGE & STRIPING	1	LS
48	DECIDUOUS TREES	117	UNIT
49	ORNAMENTAL TREES	33	UNIT
50	EVERGREEN TREES	149	UNIT
51	SHRUBS	424	UNIT
52	GROUND COVERS	1,539	UNIT
53	TOPSOILING, FERTILIZING, SEEDING AND MULCHING	28,445	SY
54	SODDING	16,560	SY
55	WATER SERVICE (WATER LINES, BACKFLOW PREVENTERS, METERS, ETC)	1	LS
56	SANITARY SERVICE (PIPING, MANHOLES, CLEANOUTS, LIFT STATION, ETC)	1	LS
57	FLAG POLE - 55' HT.	1	LS
58	TOWN SEAL GRAPHIC ON CONCRETE SIDEWALK, 6" THICK, REINFORCED	1	LS
59	PRE-FABRICATED CONCRETE BUILDING 2 (GATEHOUSE)	1	LS
60	PRE-FABRICATED CONCRETE BUILDING 3 (RESTROOMS/CHANGING ROOMS/STORAGE)	1	LS
61	PRE-FABRICATED CONCRETE BUILDING 5 (RESTROOM/CONCESSION)	1	LS
62	DOG PARK (INCLUDING APPURTENANCES, SURFACING, FENCING, SEATING)	1	LS
63	SITE FURNISHINGS (BENCHES, PICNIC TABLES AND WASTE RECEPTACLES)	1	LS
64	IRRIGATION	188,000	SF

CONTRACT 2 - ELECTRICAL CONSTRUCTION - BASE BID ITEMS

ITEM NO.	DESCRIPTION	BID QUANTITY	UNIT
2-1	MOBILIZATION	1	LS
2-2	SITE LIGHTING	1	LS
2-3	ELECTRIC SERVICE (ELECTRIC LINES, CONDUITS, ELECTRIC PANELS, ETC)	1	LS

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

NOTICE

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SUBURBAN ENGINEERING

ELECTRONIC SUBMISSIONS NOT CONTAINING A VALID DIGITAL SEAL OR PAPER COPIES NOT CONTAINING A RAISED SEAL ARE NOT ORIGINALS AND MAY HAVE BEEN ALTERED.

DESCRIPTION	NO.	DATE:	BY:	CHK:
REV. PER ADDENDUM NO. 1	A	04/08/2021	KAK	RCG

REVISIONS

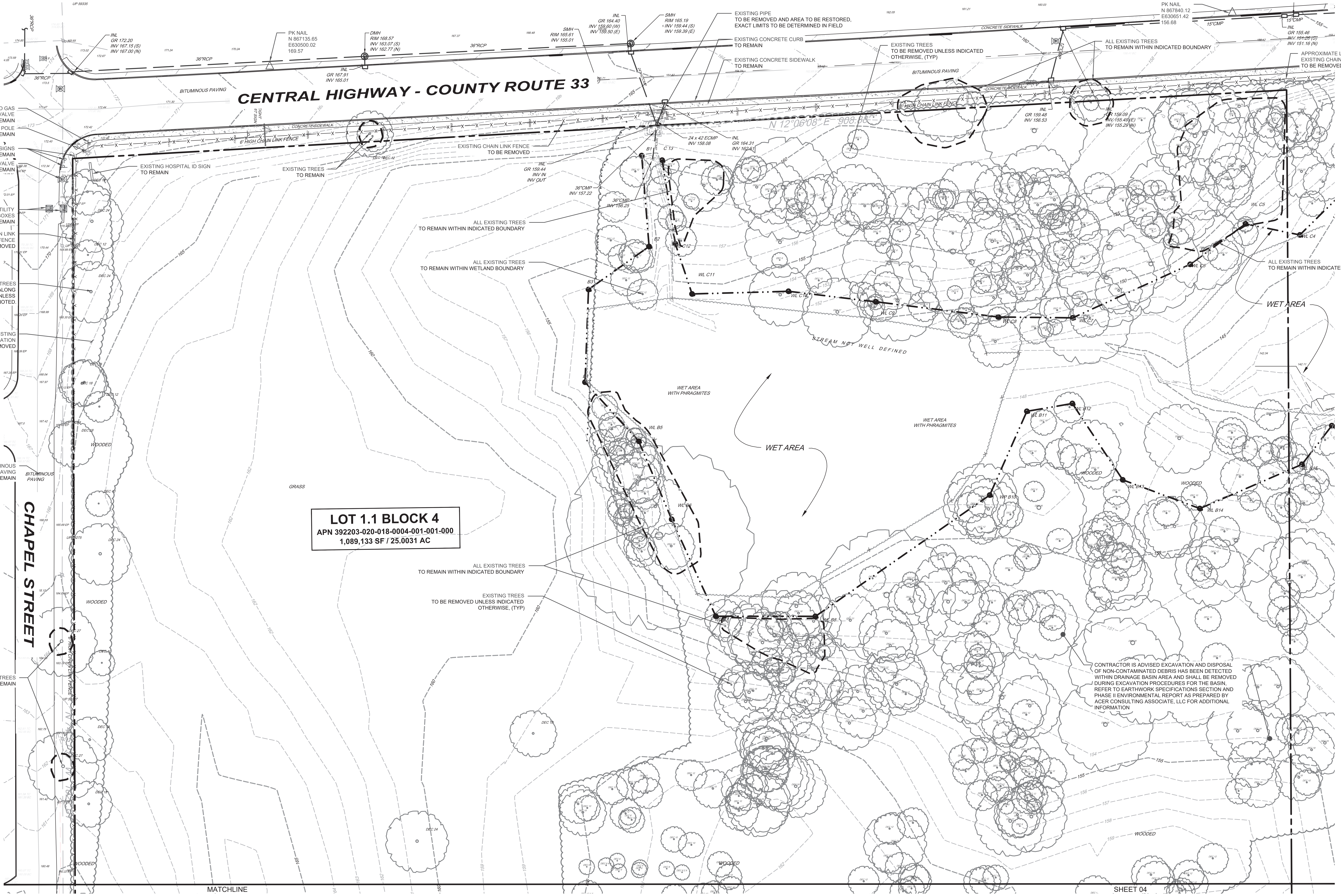
DRAWN BY:
KAK
03/19/2021
CHECKED BY:
ASH
03/19/2021
CHECKED BY:
RCG
03/19/2021

SUBURBAN
ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

PLAN NOTES

PROJECT NUMBER:
SCE-9755.021
SCALE:
N.T.S.
SHEET 2 OF 47
REVISION A

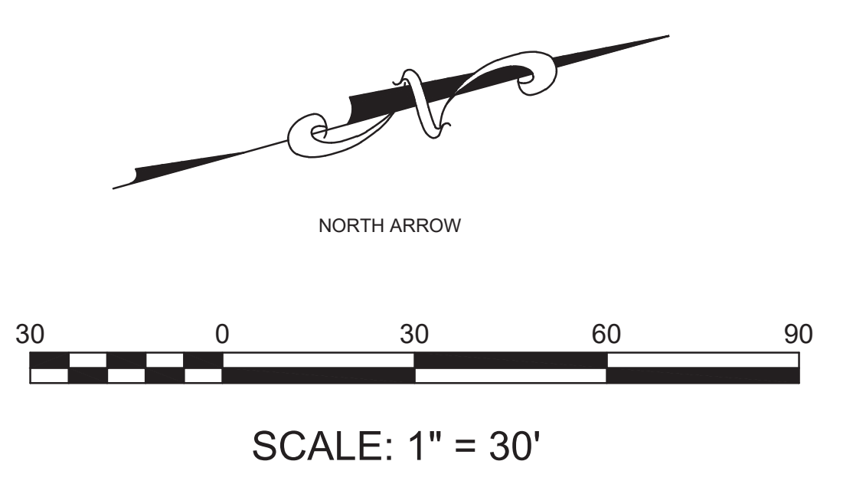

CENTRAL HIGHWAY - COUNTY ROUTE 33
CHAPEL STREET
LOT 1.1 BLOCK 4
APN 392203-020-018-0004-001-001-000
1,089,133 SF / 25.0031 AC
EXISTING SIGN AND GAS VALVE TO REMAIN
EXISTING UTILITY POLE TO REMAIN
EXISTING TRAFFIC SIGNS TO REMAIN
EXISTING WATER VALVE TO REMAIN
EXISTING UTILITY BOXES TO REMAIN
EXISTING CHAIN LINK FENCE TO BE REMOVED
ALL EXISTING TREES TO BE REMOVED ALONG CHAPEL AVE, UNLESS OTHERWISE NOTED.
EXISTING BRUSH/VEGETATION TO BE REMOVED
EXISTING BITUMINOUS PAVING TO REMAIN
EXISTING TREES TO REMAIN
EXISTING HOSPITAL ID SIGN TO REMAIN
EXISTING TREES TO REMAIN
EXISTING CHAIN LINK FENCE TO BE REMOVED
ALL EXISTING TREES TO REMAIN WITHIN INDICATED BOUNDARY
ALL EXISTING TREES TO REMAIN WITHIN WETLAND BOUNDARY
ALL EXISTING TREES TO REMAIN WITHIN INDICATED BOUNDARY
EXISTING TREES TO BE REMOVED UNLESS INDICATED OTHERWISE, (TYP)
PK NAIL N 867135.65 E630500.02 169.57
INL GR 172.20 INV 167.15 (S) INV 167.00 (N)
DMH RIM 168.57 INV 163.07 (S) INV 162.77 (N)
INL GR 167.91 INV 165.01
SMH RIM 165.61 INV 155.01
INL GR 164.40 INV 159.60 (W) INV 159.50 (E)
SMH RIM 165.19 INV 159.44 (S) INV 159.39 (E)
INL GR 159.44 INV IN INV OUT
36"CMP INV 157.22
36"CMP INV 156.25
24 x 42 ECMP INV 158.08
INL GR 164.31 INV 162.61
EXISTING PIPE TO BE REMOVED AND AREA TO BE RESTORED, EXACT LIMITS TO BE DETERMINED IN FIELD
EXISTING CONCRETE CURB TO REMAIN
EXISTING CONCRETE SIDEWALK TO REMAIN
EXISTING TREES TO BE REMOVED UNLESS INDICATED OTHERWISE, (TYP)
ALL EXISTING TREES TO REMAIN WITHIN INDICATED BOUNDARY
PK NAIL N 867840.12 E630651.42 156.68
INL GR 155.46 INV 151.26 (S) INV 151.16 (N)
APPROXIMATE LIMIT OF EXISTING CHAIN LINK FENCE TO BE REMOVED
INL GR 159.48 INV 156.53
INL GR 159.09 INV 155.49 (E) INV 155.29 (N)
ALL EXISTING TREES TO REMAIN WITHIN INDICATED BOUNDARY
N 12°06'08" E 908.88'
36"RCP
15"CMP
BITUMINOUS PAVING
CONCRETE SIDEWALK
6' HIGH CHAIN LINK FENCE
GRASS
WOODED
WET AREA
WET AREA WITH PHRAGMITES
STREAM NOT WELL DEFINED
CONTRACTOR IS ADVISED EXCAVATION AND DISPOSAL OF NON-CONTAMINATED DEBRIS HAS BEEN DETECTED WITHIN DRAINAGE BASIN AREA AND SHALL BE REMOVED DURING EXCAVATION PROCEDURES FOR THE BASIN, REFER TO EARTHWORK SPECIFICATIONS SECTION AND PHASE II ENVIRONMENTAL REPORT AS PREPARED BY ACER CONSULTING ASSOCIATE, LLC FOR ADDITIONAL INFORMATION
MATCHLINE
SHEET 04

NOTE:

1. CONTRACTOR SHALL HAVE LANDSCAPE ARCHITECT PRESENT TO TAG INDIVIDUAL TREES IN AREAS WHERE INDICATED TO REMAIN.
2. TREES WITHIN WETLAND BOUNDARIES TO REMAIN (TYP.)

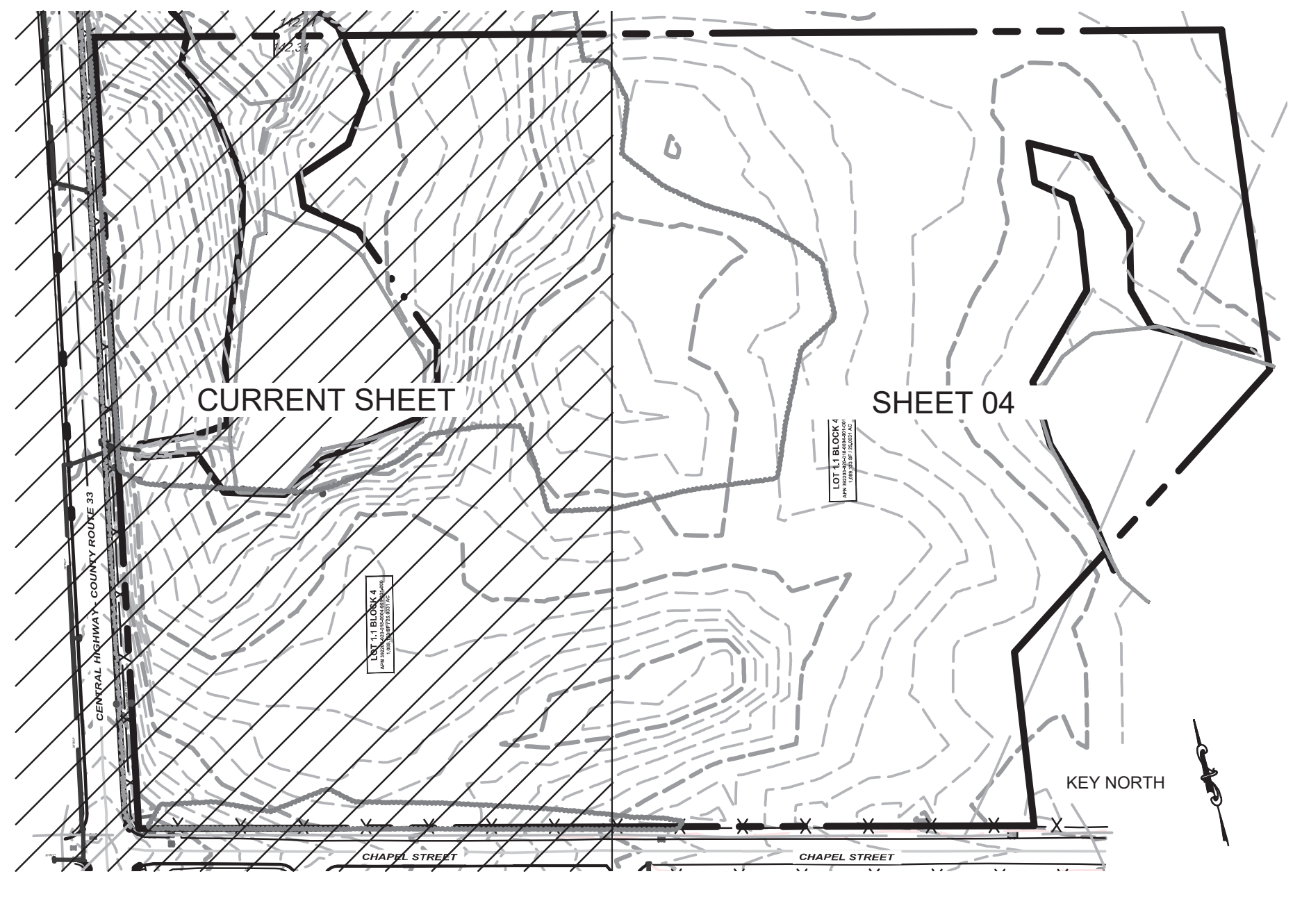
REFERENCES:

1. EXISTING CONDITIONS SURVEY - "HELEN HAYS PARK TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY PENNONI ENGINEERING & SURVEYING OF NEW YORK, PC, DATED NOVEMBER 01, 2018 AND LAST REVISED DECEMBER 16, 2019.



SCALE: 1" = 30'

KEY PLAN



LEGEND

- PROPERTY LINE
- WETLAND BOUNDARY
- FENCE
- CURB
- DEPRESSED CURB
- 46.34 x SPOT ELEVATION
- LIGHT
- ● BOLLARD
- SIGN
- 50 CONTOUR
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- (G) GAS VALVE
- Ⓢ SANITARY MANHOLE
- Ⓓ STORM DRAIN MANHOLE
- ▭ STORM DRAIN INLET
- FIRE HYDRANT
- UTILITY POLE
- (WV) WATER VALVE
- TREE LINE
- BRUSH / PHRAGMITES LINE
- DECIDUOUS TREE

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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57$74$#0 ')+0''4+0)

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‰ &23<5,*+7 SUBURBAN ENGINEERING

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

EXISTING CONDITIONS AND DEMOLITION PLAN WEST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 3 OF 47

REVISION -

'">5%'>*CXGTUVTCY>'' *CXGTUVTCY>5JGGVU>'' Ä 'ZKUVKPI %QPFKVKQPU CPF &GOQNKVKQP 2NCP FYI 6WG /CT ' Ä " CO MMGORGT 57$74$#0 %1057.6+0) '0)+0''45 +0%

ALL EXISTING TREES
TO BE REMOVED ALONG CHAPEL AVE, UNLESS OTHERWISE NOTED.

EXISTING BRUSH/VEGETATION
TO BE REMOVED

EXISTING WATER VALVE
TO REMAIN

EXISTING TREE
TO REMAIN

EXISTING CHAIN LINK FENCE
TO BE REMOVED

EXISTING CHAIN LINK FENCE
TO BE REMOVED

EXISTING BITUMINOUS PAVING
TO REMAIN

EXISTING UTILITY POLE
TO BE REMOVED AND RELOCATED, COORDINATE WITH POWER COMPANY TO REROUTE OVERHEAD WIRE.

EXISTING CONCRETE PAD
TO REMAIN

EXISTING CHAIN LINK FENCE
LIMIT OF REMOVAL AT CORNER OF PROPERTY LINE

EXISTING TREES
TO BE REMOVED UNLESS INDICATED OTHERWISE, (TYP)

LOT 1.1 BLOCK 4
APN 392203-020-018-0004-001-001-000
1,089,133 SF / 25.0031 AC

CONTRACTOR IS ADVISED EXCAVATION AND DISPOSAL OF CONTAMINATED DEBRIS IS REQUIRED IN THIS APPROXIMATE LOCATION, REFER TO EARTHWORK SPECIFICATIONS SECTION AND PHASE II ENVIRONMENTAL REPORT AS PREPARED BY ACER CONSULTING ASSOCIATE, LLC FOR ADDITIONAL INFORMATION

LEGEND

- PROPERTY LINE
- WETLAND BOUNDARY
- FENCE
- CURB
- DEPRESSED CURB
- 46.34 x SPOT ELEVATION
- ☼ LIGHT
- ● BOLLARD
- SIGN
- 50 CONTOUR
- WATER LINE
- SANITARY SEWER
- STORM SEWER
- OVERHEAD ELECTRIC
- UNDERGROUND ELECTRIC
- G GAS VALVE
- Ⓢ SANITARY MANHOLE
- Ⓓ STORM DRAIN MANHOLE
- ▭ STORM DRAIN INLET
- FIRE HYDRANT
- UTILITY POLE
- WV WATER VALVE
- TREE LINE
- BRUSH / PHRAGMITES LINE
- DECIDUOUS TREE

SCALE: 1" = 30'

REFERENCES:

1. ***EXISTING CONDITIONS SURVEY*** - *"HELEN HAYS PARK TOPOGRAPHIC & BOUNDARY SURVEY" PREPARED BY PENNONI ENGINEERING & SURVEYING OF NEW YORK, PC, DATED NOVEMBER 01, 2018 AND LAST REVISED DECEMBER 16, 2019.*

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

EXISTING CONDITIONS AND DEMOLITION PLAN EAST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 4 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 03-04 Existing Conditions and Demolition Plan.dwg Tue, Mar 16, 2021 - 11:41am kkemper SUBURBAN CONSULTING ENGINEERS, INC.

10' WIDE HOT MIX ASPHALT PERIMETER PATHWAY - APPROXIATELY ¾ MI. IN LENGTH
FUTURE PHASE MULTI-PURPOSE FIELD (N.I.C.)
CHALLENGER LEAGUE FIELD - INCLUDING SURFACING, TURF STONE BASE, TURF DRAINAGE SYSTEM, CONCRETE CURB, CHAIN LINK FENCING, BACKSTOP, DUGOUTS SHELTERS, BULLPEN AREAS, TEAM BENCHES, FIELD APPURTENANCES, AND ELECTRONIC SCOREBOARDS, BY OTHERS, SEE SHEET 47.
FUTURE PHASE SENSORY/POLLINATOR GARDEN (N.I.C.)
FUTURE PHASE HOT MIX ASPHALT WALKING CIRCUIT (N.I.C.)
FUTURE PHASE RETAINING WALL & 4' HT. DECORATIVE FENCING (N.I.C.)
WETLAND BOUNDARY (TYP.)
BASIN AREA (TYP.)
BUILDING 5 (10955B) - RESTROOMS/CONCESSION, SEE SHEET 40
FUTURE PHASE FITNESS COURSE AREA (N.I.C.)
FUTURE PHASE 5-12 AGE GROUP PLAY EQUIPMENT AREA (TYP.) (N.I.C.)
FUTURE PHASE ARBOR STRUCTURE (N.I.C.)
FUTURE PHASE 2-5 AGE GROUP PLAY EQUIPMENT AREA (TYP.) (N.I.C.)
FUTURE PHASE SPLASH PAD AREA (N.I.C.)
FUTURE PHASE PICKLEBALL COURTS (N.I.C.)
FUTURE PHASE PEDESTRIAN BRIDGE AND WALKWAYS (N.I.C.)
BASIN AREA (TYP.)
FUTURE PHASE BUILDING 1 (10955A) - RESTROOMS/MECHANICAL (N.I.C.)
252 SEAT BLEACHER VISITOR SIDE, BY OTHERS, SEE SHEET 45
250' X 410' MULTI-PURPOSE FIELD, INCLUDING SYNTHETIC TURF, TURF BASE AND TURF DRAINAGE SYSTEM, CONCRETE CURB AND FENCING, BALL NETTING, TEAM BENCHES AND APPURTENANCES, BY OTHERS, SEE SHEETS 42- 44
10
20
30
40
50
CENTRAL HIGHWAY - COUNTY ROUTE 33
FUTURE PHASE RECREATION BUILDING (N.I.C.)
1,500 SEAT HOME BLEACHER UNIT, BY OTHERS, SEE SHEET 45 (TYP.)
BUILDING 3 (10955C) - RESTROOM/CHANGING ROOM/STORAGE, SEE SHEET 40
DOG RUN - LARGE DOG AREA, SEE PLAN ENLARGEMENT ON SHEET 32
DOG RUN - SMALL DOG AREA, SEE PLAN ENLARGEMENT ON SHEET 32
SANITARY LIFT STATION, SEE SHEET 15
STOP
STOP
CHAPEL STREET
CHAPEL STREET
FUTURE PHASE FITNESS STATIONS (TYP.) (N.I.C.)
BUILDING 2(10955D) - GATE HOUSE, SEE SHEET 40
BUILDING 4 - MAINTENANCE, BY OTHERS, SEE SHEET 41
NORTH ARROW

40 0 40 80 120

SCALE: 1" = 40'

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1

095020-1

DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

OVERALL SITE LAYOUT PLAN

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=40'

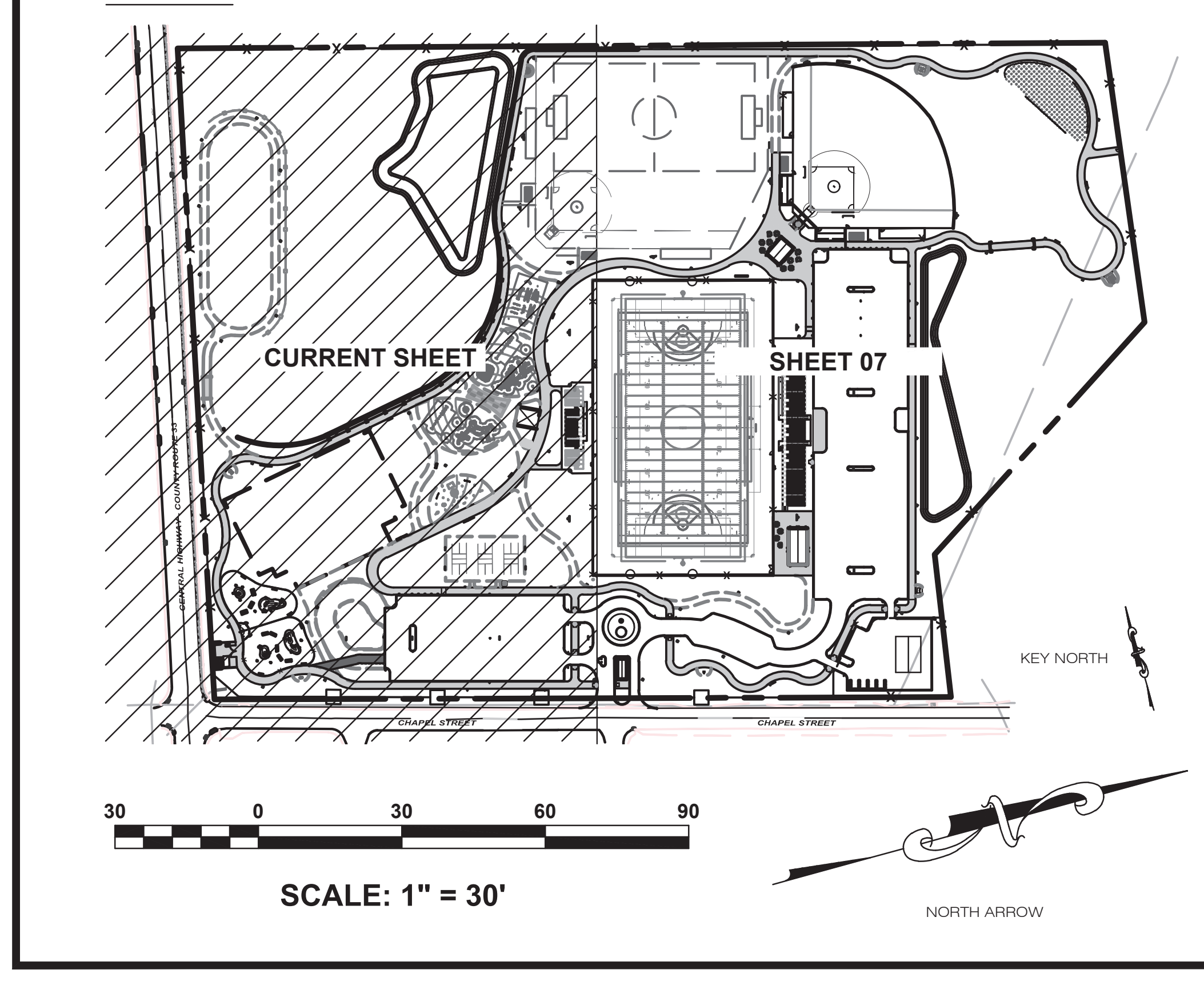
SHEET 5 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 05 Overall Site Layout Plan.dwg Wed. Mar 17, 2021 - 9:00am kkemper SUBURBAN CONSULTING ENGINEERS, INC.

CENTRAL HIGHWAY - COUNTY ROUTE 33
CHAPEL STREET
LIMIT OF CHAIN-LINK FENCE, 8' HIGH
SEGMENTAL BLOCK RETAINING WALL, SEE SHEET 33
SANITARY LIFT STATION & GENERATOR PAD, SEE SHEETS 13 & 15
CHAIN-LINK FENCE, 8' HIGH. FENCE AT LIFT STATION SHALL RECIEVE HEDGELINK PRIVACY SLATS BY PEXCO OR APPROVED EQUAL.
CHAIN-LINK SWING GATE, 8' HIGH X 16' WIDE. SEE SHEET 36. GATE SHALL RECEIVE HEDGELINK PRIVACY SLATS BY PEXCO OR APPROVED EQUAL.
DOG RUN - SMALL DOG AREA, SEE PLAN ENLARGEMENT ON SHEET 32 (TYP.)
12' WIDE DGA PATHWAY FOR SANITARY LIFT STATION ACCESS, SEE SHEET 33
TRANSITION HOT MIX ASPHALT PATHWAY TO 12' WIDE BEGINNING AT THIS POINT, MAINTAIN 12' WIDTH UNTIL NORTH SIDE OF LIFT STATION FENCE
SAFETY BOLLARD, SEE DETAIL ON SHEET 37
GRANITE BLOCK CURB. CURB SHALL BE FLUSH AT ENTRANCE TO 12' WIDE DGA ACCESS PATHWAY
MEET EXISTING EDGE OF PAVEMENT
DECORATIVE FENCE, 8' HIGH, SEE SHEET 36 (TYP.)
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK, SEE SHEET 33 (TYP.)
CHAIN-LINK FENCE, 8' HIGH, SEE SHEET 36 (TYP.)
FUTURE PHASE FITNESS STATION ON PORTLAND CEMENT CONCRETE SIDEWALK, 4" THICK (N.I.C.) (TYP.)
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK, SEE SHEET 33 (TYP.)
DOG RUN - LARGE DOG AREA, SEE PLAN ENLARGEMENT ON SHEET 32 (TYP.)
FUTURE PHASE PEDESTRIAN BRIDGE - 30' SPAN (N.I.C.)
FUTURE PHASE 10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK, (N.I.C.) (TYP.)
FUTURE PHASE LARGE-SCALE SEGMENTAL BLOCK RETAINING WALL (N.I.C.) (TYP.)
FUTURE PHASE DECORATIVE FENCE, 4' HIGH (N.I.C.) (TYP.)
SEEDED AREA - SEE LANDSCAPE PLAN WEST, SEE SHEET 23 (TYP.)
SITE LIGHTING - SEE LIGHTING PLAN WEST, SHEET 17 (TYP.)
SEE LANDSCAPE PLAN WEST, SHEET 23 (TYP.)
FUTURE PHASE RECREATION BUILDING (N.I.C.)
LAWN - SEE LANDSCAPE PLAN WEST, SHEET 23 (TYP.)
FUTURE PHASE HOT MIX ASPHALT PAVEMENT
GRANITE BLOCK CURB, SEE SHEET 33 (TYP.)
VAN ACCESSIBLE ADA SPACE - SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
HOT MIX ASPHALT PATHWAY WIDTH RETURNS TO 10' AT THIS POINT
GRANITE BLOCK CURBS SHALL BE FLUSH AT ACCESSIBLE SPACES AND CURB RAMPS (TYP.)
ADA PARKING SIGNAGE - SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
CURB RAMP CONFIGURATION TYPE 9, SEE SHEET 34 (TYP.)
WETLAND BOUNDARY (TYP.)
BASIN AREA (TYP.)
FUTURE PHASE SPLASH PAD AREA (N.I.C.)
FUTURE PHASE 2-5 AGE GROUP PLAY EQUIPMENT AREA (N.I.C.)
LARGE-SCALE SEGMENTAL BLOCK RETAINING WALL, SEE SHEET 33 (TYP.)
DECORATIVE FENCE, 4' HIGH, SEE SHEET 36 (TYP.)
FUTURE PHASE ARBOR STRUCTURE (N.I.C.)
FUTURE PHASE 5-12 AGE GROUP PLAY EQUIPMENT AREA (N.I.C.)
FUTURE PHASE FITNESS COURSE AREA (N.I.C.)
FUTURE PHASE PLAYGROUND SAFETY SURFACE (N.I.C.) (TYP)
LAWN - SEE LANDSCAPE PLAN WEST, SHEET 21 (TYP.)
PAVEMENT MARKING - SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
HOT MIX ASPHALT PAVEMENT, 6" THICK, SEE SHEET 33 (TYP.)
CURB RAMP TYPE 1 (TYP.)
SEEDED, UNTIL FUTURE PHASE CONSTRUCTION - SEE LANDSCAPE PLAN, SHEET 23 (TYP.)
FUTURE PHASE PICKLE BALL COURTS (N.I.C.)
FUTURE PHASE BUILDING 1 (10955A) - RESTROOMS/MECHANICAL (N.I.C.)
CROSSWALK LINE STRIPING, SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
252 SEAT BLEACHER VISITOR SIDE, BY OTHERS, SEE SHEET 45
CONCRETE BLEACHER PAD, BY OTHERS (TYP.)
FUTURE BLEACHER EXPANSION (N.I.C.) - 206 ADDITIONAL SEATS, SEE SHEET 45
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK, SEE SHEET 33 (TYP.)
6' BACKED BENCH (TYP.) MOUNTED TO PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK PAD, SEE SHEET 37.
SPORTS LIGHTING, SEE SHEETS 17 & 21 (TYP.)
LAWN - SEE LANDSCAPE PLAN WEST, SHEET 23 (TYP)
FUTURE PHASE DUGOUT (N.I.C.) (TYP)
FUTURE PHASE 5 ROW ALUMINUM BLEACHER (N.I.C.) (TYP)
HOT MIX ASPHALT PATHWAY WIDTH INCREASES TO 15' AT THIS POINT
FUTURE PHASE MULTI-PURPOSE FIELD (N.I.C.)
FUTURE PHASE BULL PEN AREA (N.I.C.) (TYP)
SEEDED, UNTIL FUTURE PHASE CONSTRUCTION - SEE LANDSCAPE PLAN WEST, SHEET 23 (TYP.)
MATCHLINE
SHEET 07
R80'
R50'
R91'
R63'
R42'
R78'
R50'
R20'
R90'
R160'
R40'
R22'
R6'
R4'
R4'
R8'
R74'
R350'
R175'
R114.75'
R200.5'
R198.5'
R110'
R100'
R10'
R9'
R15.5'
R11.5'
R24'
R25'
R39.5'
R3'
36.5'
31'
41'
7.5'
12'
24'
24'
120'
10'
12'
10'
15'
13.5'
19.5'
10'
41.17'
43.33'
6'
5'
13.5'
15'
10'
3'

KEY PLAN



SCALE: 1" = 30'

PAVEMENT MATERIAL LEGEND

◬	PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK, REINFORCED
▩	HOT MIX ASPHALT PAVEMENT, 5" THICK
▨	$\frac{3}{8}$" ROUNDED PEA GRAVEL

PERIMETER FENCING NOTES:

1. CONTRACTOR TO PROVIDE A TOTAL OF (8) 5'-0" WIDE CHAIN LINK FENCE GATES ALONG PERIMETER FENCE, LOCATIONS TO BE DETERMINED IN FIELD BY OWNER. CONTRACTOR TO COORDINATE WITH TOWN OF HAVERSTRAW.
2. CONTRACTOR SHALL PROVIDE HEDGELINK PRIVACY SLATS IN 8' HT CHAIN-LINK PERIMETER FENCE AROUND MAINTENANCE BUILDING.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
DATE: 03/19/2021

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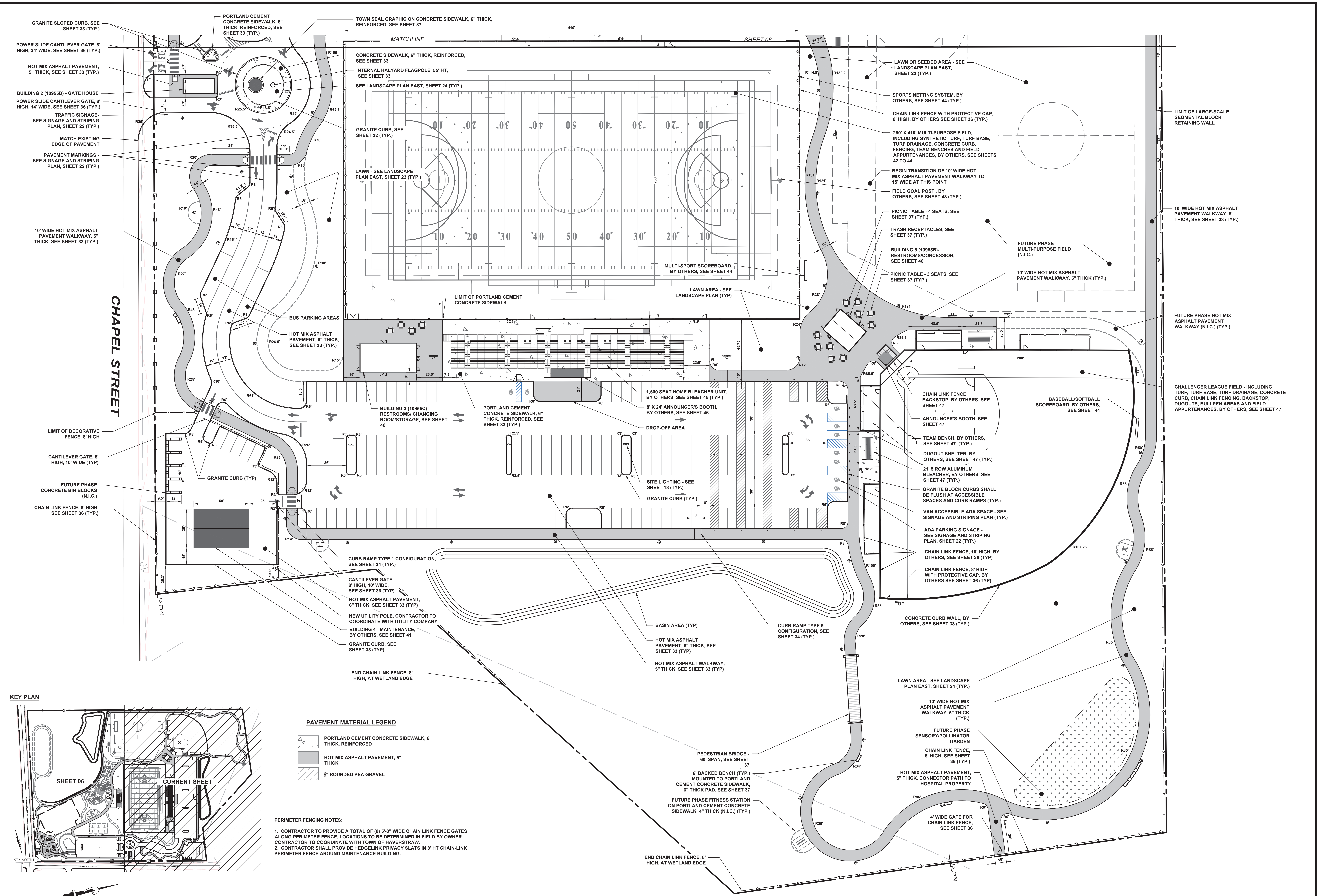
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE LAYOUT PLAN WEST

PROJECT NUMBER: SCE-9755.021
SCALE: 1"=30'
SHEET 6 OF 47
REVISION -


GRANITE SLOPED CURB, SEE SHEET 33 (TYP.)
PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK, REINFORCED, SEE SHEET 33 (TYP.)
TOWN SEAL GRAPHIC ON CONCRETE SIDEWALK, 6" THICK, REINFORCED, SEE SHEET 37
410'
MATCHLINE
SHEET 06
14.75'
POWER SLIDE CANTILEVER GATE, 8' HIGH, 24' WIDE, SEE SHEET 36 (TYP.)
HOT MIX ASPHALT PAVEMENT, 5" THICK, SEE SHEET 33 (TYP.)
BUILDING 2 (10955D) - GATE HOUSE
POWER SLIDE CANTILEVER GATE, 8' HIGH, 14' WIDE, SEE SHEET 36 (TYP.)
TRAFFIC SIGNAGE- SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
MATCH EXISTING EDGE OF PAVEMENT
PAVEMENT MARKINGS - SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK, SEE SHEET 33 (TYP.)
CHAPEL STREET
STOP
CONCRETE SIDEWALK, 6" THICK, REINFORCED, SEE SHEET 33
INTERNAL HALYARD FLAGPOLE, 55' HT, SEE SHEET 33
SEE LANDSCAPE PLAN EAST, SHEET 24 (TYP.)
GRANITE CURB, SEE SHEET 32 (TYP.)
LAWN - SEE LANDSCAPE PLAN EAST, SHEET 23 (TYP.)
R105
R3'
R25.5'
R18.5'
R42'
R62.5'
R35.5'
R24.5'
R70'
R26'
R20'
34'
11'
R16'
R6'
R10'
R48'
R151'
R90'
R27'
R48'
R26.5'
R15'
R25'
R10'
R61'
10'
12'
12.5'
9.8'
10 20 30 40 50 40 30 20 10
255'
90'
LIMIT OF PORTLAND CEMENT CONCRETE SIDEWALK
BUS PARKING AREAS
HOT MIX ASPHALT PAVEMENT, 6" THICK, SEE SHEET 33 (TYP.)
MULTI-SPORT SCOREBOARD, BY OTHERS, SEE SHEET 44
LAWN AREA - SEE LANDSCAPE PLAN (TYP)
LAWN OR SEEDED AREA - SEE LANDSCAPE PLAN EAST, SHEET 23 (TYP.)
R114.8'
R132.2'
R131'
R121'
SPORTS NETTING SYSTEM, BY OTHERS, SEE SHEET 44 (TYP.)
CHAIN LINK FENCE WITH PROTECTIVE CAP, 8' HIGH, BY OTHERS SEE SHEET 36 (TYP.)
250' X 410' MULTI-PURPOSE FIELD, INCLUDING SYNTHETIC TURF, TURF BASE, TURF DRAINAGE, CONCRETE CURB, FENCING, TEAM BENCHES AND FIELD APPURTENANCES, BY OTHERS, SEE SHEETS 42 TO 44
BEGIN TRANSITION OF 10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY TO 15' WIDE AT THIS POINT
FIELD GOAL POST , BY OTHERS, SEE SHEET 43 (TYP.)
PICNIC TABLE - 4 SEATS, SEE SHEET 37 (TYP.)
TRASH RECEPTACLES, SEE SHEET 37 (TYP.)
BUILDING 5 (10955B)- RESTROOMS/CONCESSION, SEE SHEET 40
PICNIC TABLE - 3 SEATS, SEE SHEET 37 (TYP.)
LIMIT OF LARGE-SCALE SEGMENTAL BLOCK RETAINING WALL
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK, SEE SHEET 33 (TYP.)
FUTURE PHASE MULTI-PURPOSE FIELD (N.I.C.)
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK (TYP.)
FUTURE PHASE HOT MIX ASPHALT PAVEMENT WALKWAY (N.I.C.) (TYP.)
R38'
R24'
R121'
48.5'
31.5'
28.5'
200'
R85.5'
R6'
R12'
R8'
45.75'
23.5'
15'
23.5'
7.5'
18.5'
21'
BUILDING 3 (10955C) - RESTROOMS/ CHANGING ROOM/STORAGE, SEE SHEET 40
PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK, REINFORCED, SEE SHEET 33 (TYP.)
1,500 SEAT HOME BLEACHER UNIT, BY OTHERS, SEE SHEET 45 (TYP.)
8' X 24' ANNOUNCER'S BOOTH, BY OTHERS, SEE SHEET 46
DROP-OFF AREA
CHALLENGER LEAGUE FIELD - INCLUDING TURF, TURF BASE, TURF DRAINAGE, CONCRETE CURB, CHAIN LINK FENCING, BACKSTOP, DUGOUTS, BULLPEN AREAS AND FIELD APPURTENANCES, BY OTHERS, SEE SHEET 47
BASEBALL/SOFTBALL SCOREBOARD, BY OTHERS, SEE SHEET 44
CHAIN LINK FENCE BACKSTOP, BY OTHERS, SEE SHEET 47
ANNOUNCER'S BOOTH, SEE SHEET 47
TEAM BENCH, BY OTHERS, SEE SHEET 47 (TYP.)
DUGOUT SHELTER, BY OTHERS, SEE SHEET 47 (TYP.)
21' 5 ROW ALUMINUM BLEACHER, BY OTHERS, SEE SHEET 47 (TYP.)
GRANITE BLOCK CURBS SHALL BE FLUSH AT ACCESSIBLE SPACES AND CURB RAMPS (TYP.)
VAN ACCESSIBLE ADA SPACE - SEE SIGNAGE AND STRIPING PLAN (TYP.)
ADA PARKING SIGNAGE - SEE SIGNAGE AND STRIPING PLAN, SHEET 22 (TYP.)
CHAIN LINK FENCE, 10' HIGH, BY OTHERS, SEE SHEET 36 (TYP)
CHAIN LINK FENCE, 8' HIGH WITH PROTECTIVE CAP, BY OTHERS SEE SHEET 36 (TYP)
R50'
R55'
R167.25'
R100'
R35'
R20'
R3'
R2.5'
35'
30'
8'
9'
LIMIT OF DECORATIVE FENCE, 8' HIGH
CANTILEVER GATE, 8' HIGH, 10' WIDE (TYP)
GRANITE CURB (TYP)
FUTURE PHASE CONCRETE BIN BLOCKS (N.I.C.)
CHAIN LINK FENCE, 8' HIGH, SEE SHEET 36 (TYP.)
R8'
R5'
R26'
R25'
R12'
R14'
36'
10'
9.5'
12'
50'
25'
38'
15'
25.3'
13.5'
1.5' (TYP.)
SITE LIGHTING - SEE SHEET 18 (TYP.)
GRANITE CURB (TYP.)
CURB RAMP TYPE 1 CONFIGURATION, SEE SHEET 34 (TYP.)
CANTILEVER GATE, 8' HIGH, 10' WIDE, SEE SHEET 36 (TYP)
HOT MIX ASPHALT PAVEMENT, 6" THICK, SEE SHEET 33 (TYP)
NEW UTILITY POLE, CONTRACTOR TO COORDINATE WITH UTILITY COMPANY
BUILDING 4 - MAINTENANCE, BY OTHERS, SEE SHEET 41
GRANITE CURB, SEE SHEET 33 (TYP)
BASIN AREA (TYP)
HOT MIX ASPHALT PAVEMENT, 6" THICK, SEE SHEET 33 (TYP)
HOT MIX ASPHALT WALKWAY, 5" THICK, SEE SHEET 33 (TYP)
CURB RAMP TYPE 9 CONFIGURATION, SEE SHEET 34 (TYP.)
CONCRETE CURB WALL, BY OTHERS, SEE SHEET 33 (TYP.)
END CHAIN LINK FENCE, 8' HIGH, AT WETLAND EDGE
R85'
LAWN AREA - SEE LANDSCAPE PLAN EAST, SHEET 24 (TYP.)
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK (TYP.)
FUTURE PHASE SENSORY/POLLINATOR GARDEN
CHAIN LINK FENCE, 8' HIGH, SEE SHEET 36 (TYP.)
HOT MIX ASPHALT PAVEMENT, 5" THICK, CONNECTOR PATH TO HOSPITAL PROPERTY
4' WIDE GATE FOR CHAIN LINK FENCE, SEE SHEET 36
PEDESTRIAN BRIDGE - 60' SPAN, SEE SHEET 37
6' BACKED BENCH (TYP.) MOUNTED TO PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK PAD, SEE SHEET 37
FUTURE PHASE FITNESS STATION ON PORTLAND CEMENT CONCRETE SIDEWALK, 4" THICK (N.I.C.) (TYP.)
END CHAIN LINK FENCE, 8' HIGH, AT WETLAND EDGE
R34'
R35'
R85'
R6'
10'
1.5' (TYP.)
KEY PLAN
SHEET 06
CURRENT SHEET
KEY NORTH
CHAPEL STREET
NORTH ARROW
30 0 30 60 90

SCALE: 1" = 30'

PAVEMENT MATERIAL LEGEND

▨	PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK, REINFORCED
■	HOT MIX ASPHALT PAVEMENT, 5" THICK
▨	¾" ROUNDED PEA GRAVEL

PERIMETER FENCING NOTES:

1. CONTRACTOR TO PROVIDE A TOTAL OF (8) 5'-0" WIDE CHAIN LINK FENCE GATES ALONG PERIMETER FENCE, LOCATIONS TO BE DETERMINED IN FIELD BY OWNER. CONTRACTOR TO COORDINATE WITH TOWN OF HAVERSTRAW.
2. CONTRACTOR SHALL PROVIDE HEDGELINK PRIVACY SLATS IN 8' HT CHAIN-LINK PERIMETER FENCE AROUND MAINTENANCE BUILDING.

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095021-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE LAYOUT PLAN EAST

PROJECT NUMBER: SCE-9755.021
SCALE: 1"=30'
SHEET 7 OF 47
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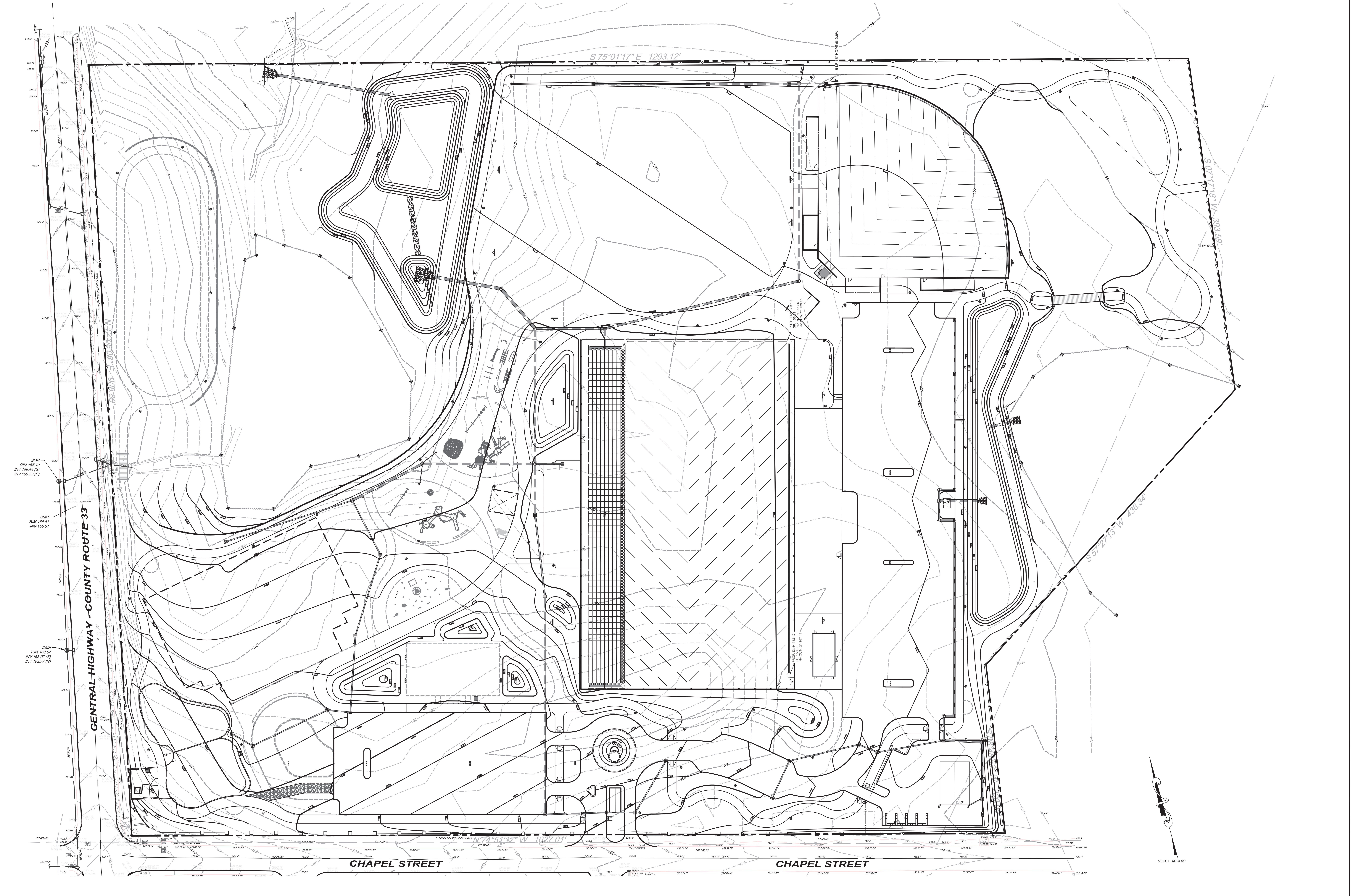

40 0 40 80 120

SCALE: 1" = 40'

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

OVERALL SITE GRADING PLAN

PROJECT NUMBER:
SCE-9755.021
SCALE:
1"=40'
SHEET 8 OF 47
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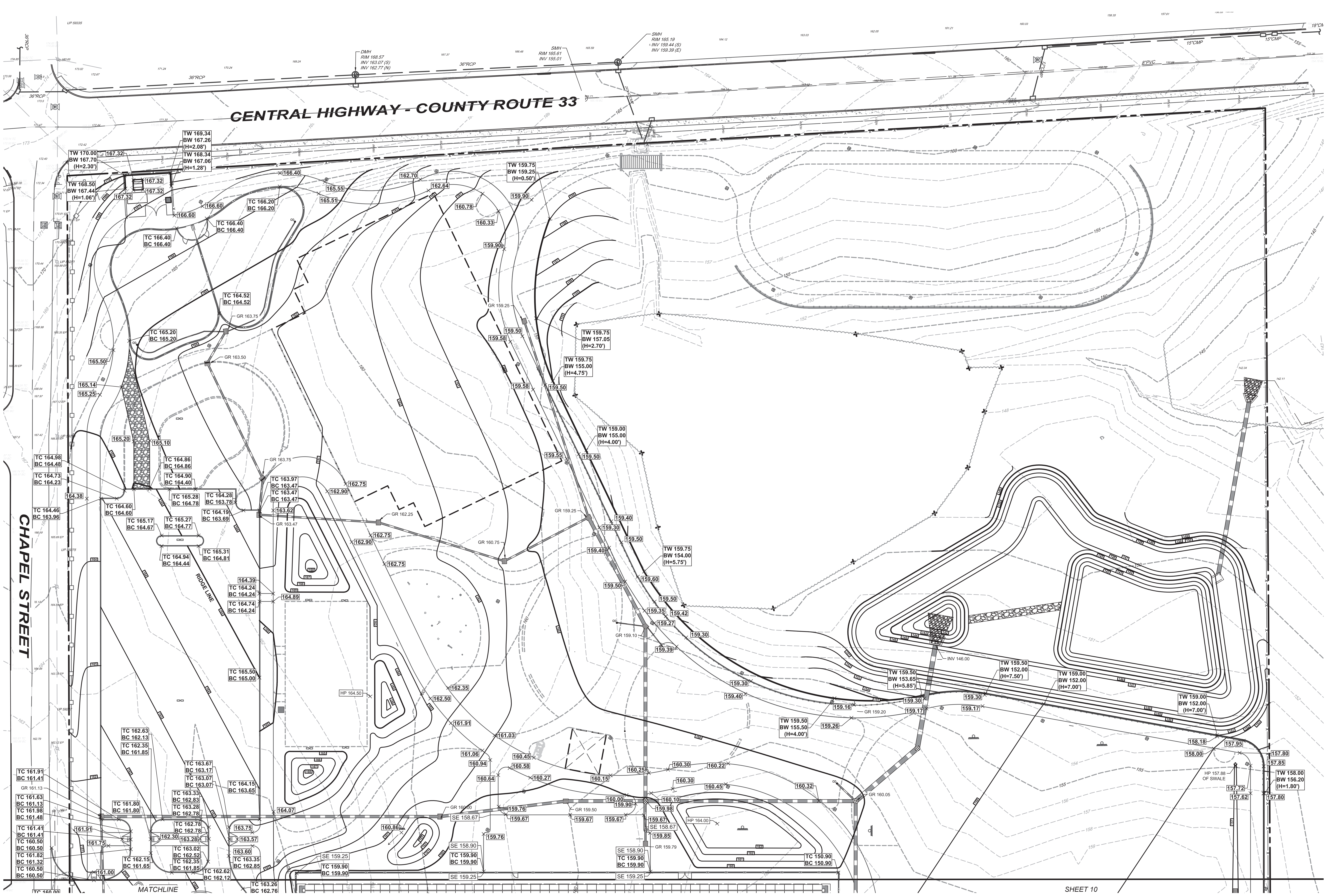
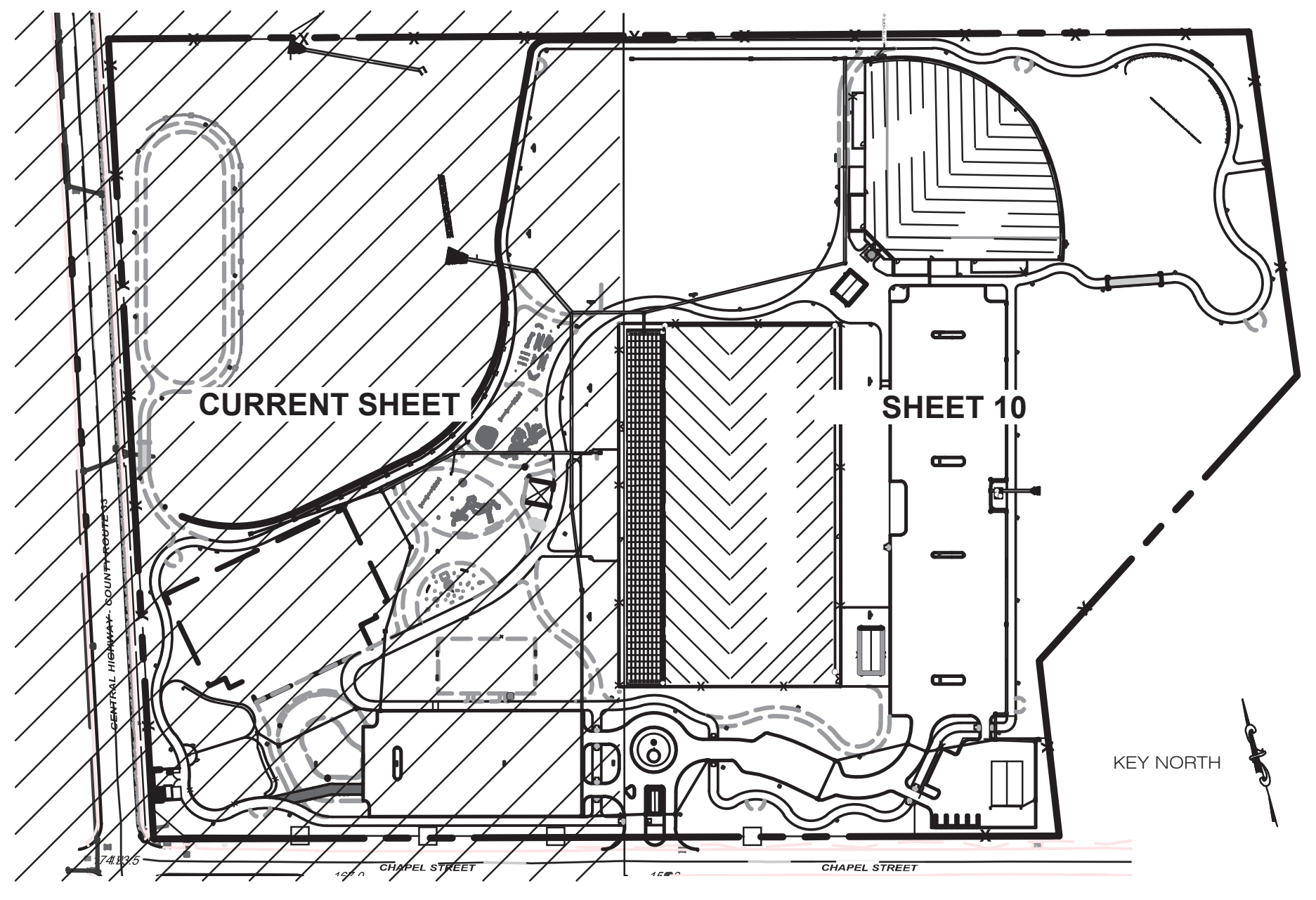


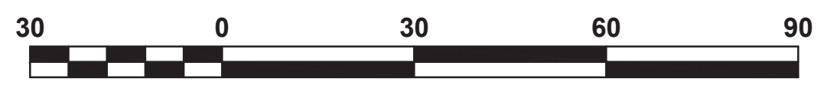
KEY PLAN



COOPERATIVE PURCHASING NOTE:

1. **SITE WORK CONTRACTOR IS TO PREPARE SUBGRADE FOR MULTIPURPOSE AND CHALLENGER FIELDS TO THE GRADES INDICATED *SE 159.XX'* FOR SUBGRADE ELEVATION. ALL CURBS, DRAINAGE WITHING THE FIELDS, TURF AND STONE BASE FOR TURF ARE TO BE FURNISHED AND INSTALLED BY OTHERS.**

2. **SITE WORK CONTRACTOR IS TO PREPARE SUBGRADE FOR CONCRETE PADS FOR VISITOR BLEACHERS, HOME BLEACHERS, 21' WIDE 5-ROW BLEACHERS AND DUGOUT TO GRADES INDICATED SE *159.XX'* FOR SUBGRADE ELEVATIONS. ALL STONE BASE AND CONCRETE PADS ARE TO BE FURNISHED AND INSTALLED BY OTHERS.**



SCALE: 1" = 30'

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE GRADING PLAN - WEST

PROJECT NUMBER:
SCE-9755.021
SCALE:
1"=30'
SHEET 9 OF 47
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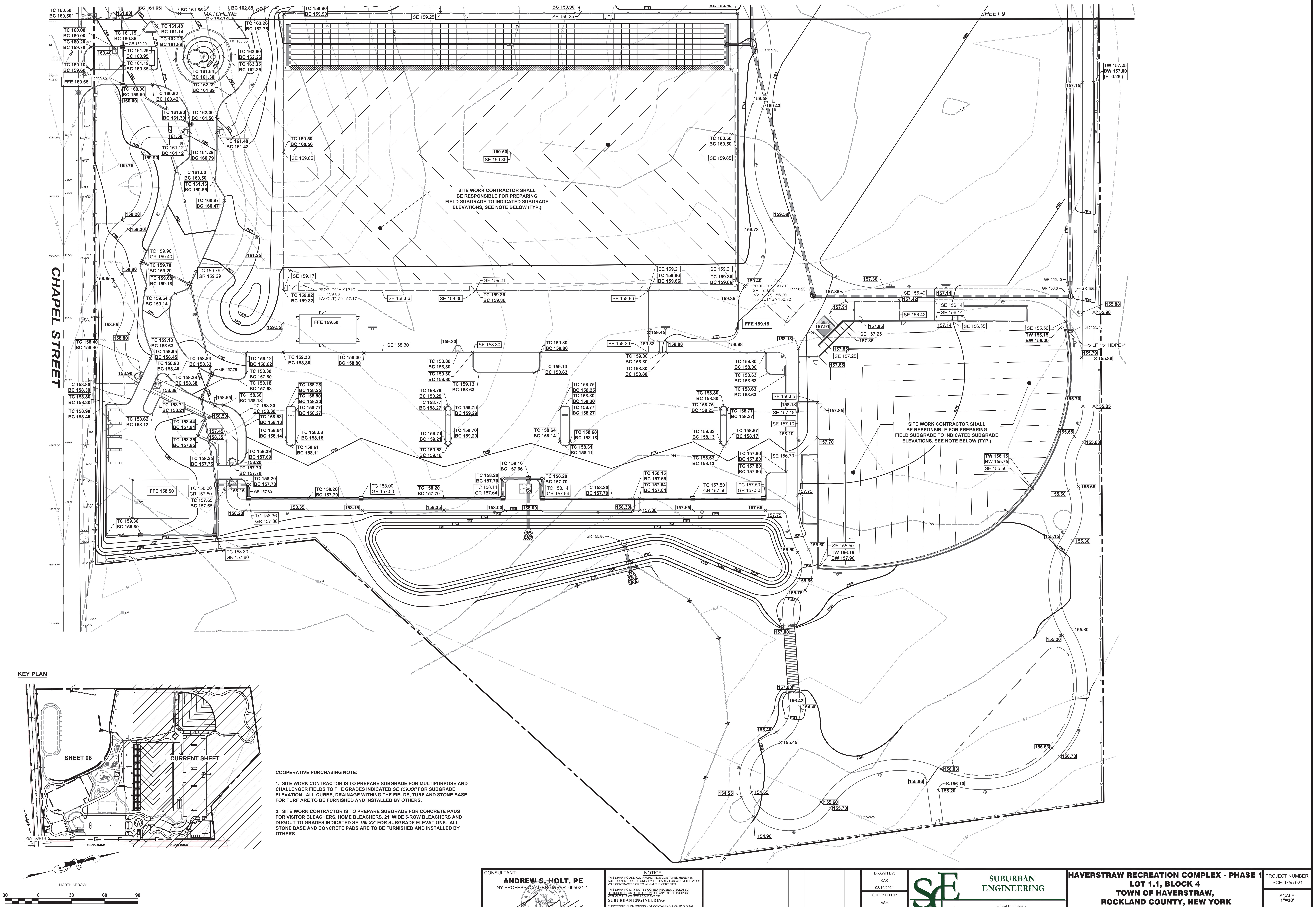
MATCHLINE
SHEET 9
CHAPEL STREET
SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING FIELD SUBGRADE TO INDICATED SUBGRADE ELEVATIONS, SEE NOTE BELOW (TYP.)
SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING FIELD SUBGRADE TO INDICATED SUBGRADE ELEVATIONS, SEE NOTE BELOW (TYP.)
FFE 160.65
FFE 159.50
FFE 159.15
FFE 158.50
160.50
SE 159.85
SE 159.25
TC 160.50 BC 160.50
TC 159.90 BC 159.90
TW 157.25 BW 157.00 (H=0.25')
PROP. DMH #121C GR. 159.63 INV OUT(12") 157.17
PROP. DMH #121B GR. 159.63 INV IN(12") 156.30 INV OUT(12") 156.30
TW 156.15 BW 156.00
TW 156.15 BW 155.75
TW 156.15 BW 157.90
SE 155.50
5 LF 15" HDPE @
HP 165.65
KEY PLAN
SHEET 08
CURRENT SHEET
KEY NORTH
CHAPEL STREET
NORTH ARROW
30
0
30
60
90
SCALE: 1" = 30'

COOPERATIVE PURCHASING NOTE:

1. SITE WORK CONTRACTOR IS TO PREPARE SUBGRADE FOR MULTIPURPOSE AND CHALLENGER FIELDS TO THE GRADES INDICATED *SE 159.XX'* FOR SUBGRADE ELEVATION. ALL CURBS, DRAINAGE WITHING THE FIELDS, TURF AND STONE BASE FOR TURF ARE TO BE FURNISHED AND INSTALLED BY OTHERS.

2. SITE WORK CONTRACTOR IS TO PREPARE SUBGRADE FOR CONCRETE PADS FOR VISITOR BLEACHERS, HOME BLEACHERS, 21' WIDE 5-ROW BLEACHERS AND DUGOUT TO GRADES INDICATED SE *159.XX'* FOR SUBGRADE ELEVATIONS. ALL STONE BASE AND CONCRETE PADS ARE TO BE FURNISHED AND INSTALLED BY OTHERS.

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE GRADING PLAN - EAST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 10 OF 47

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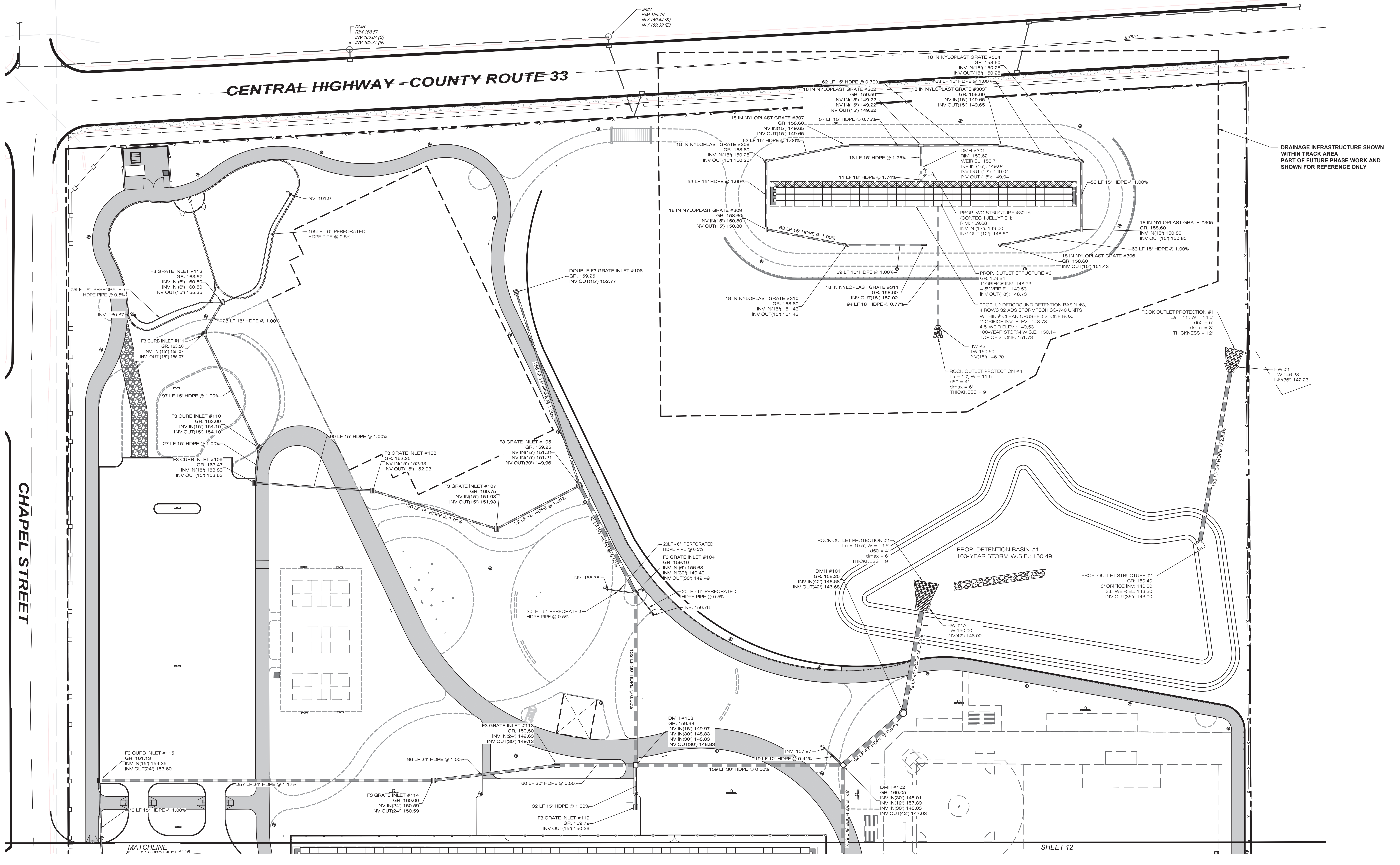
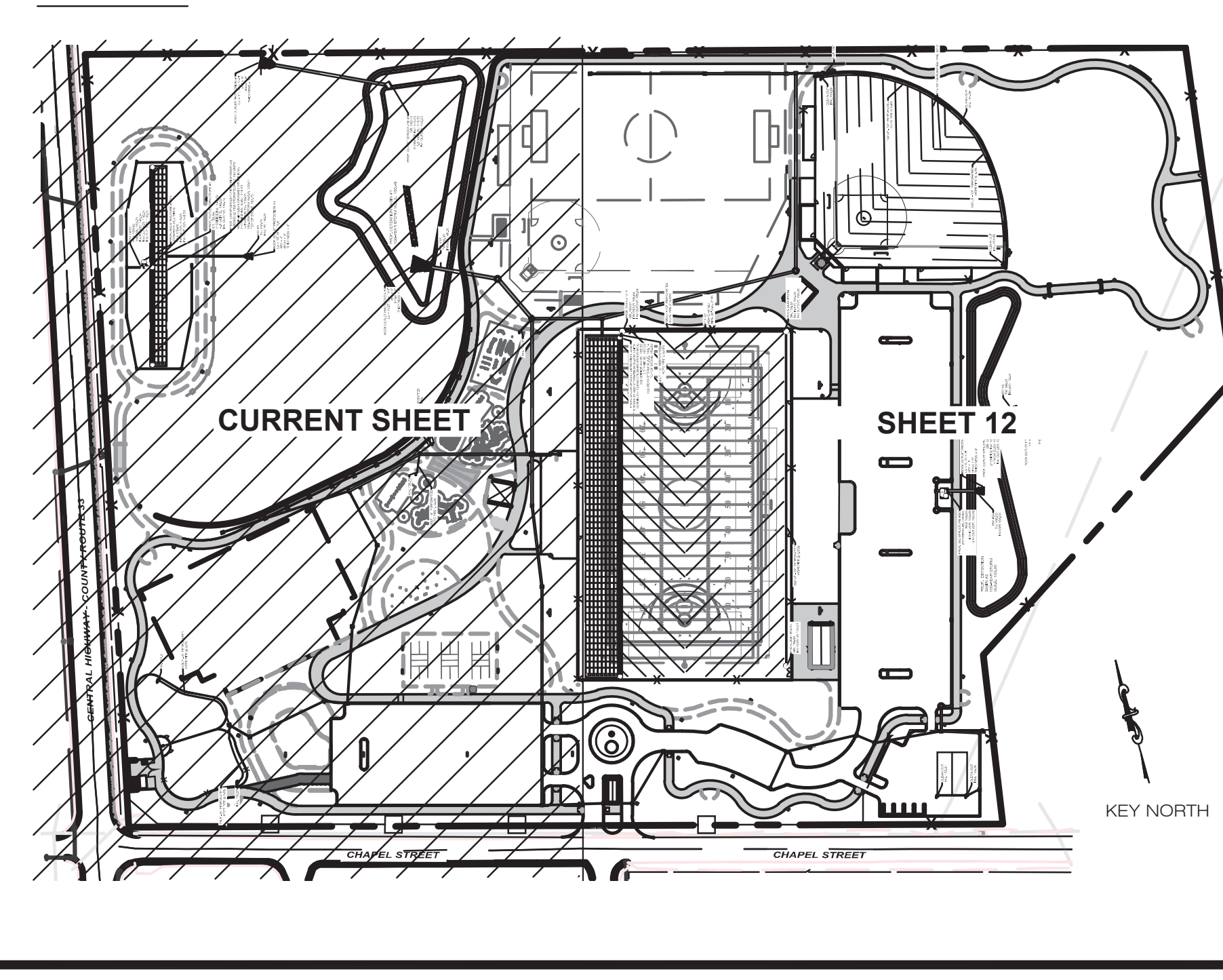
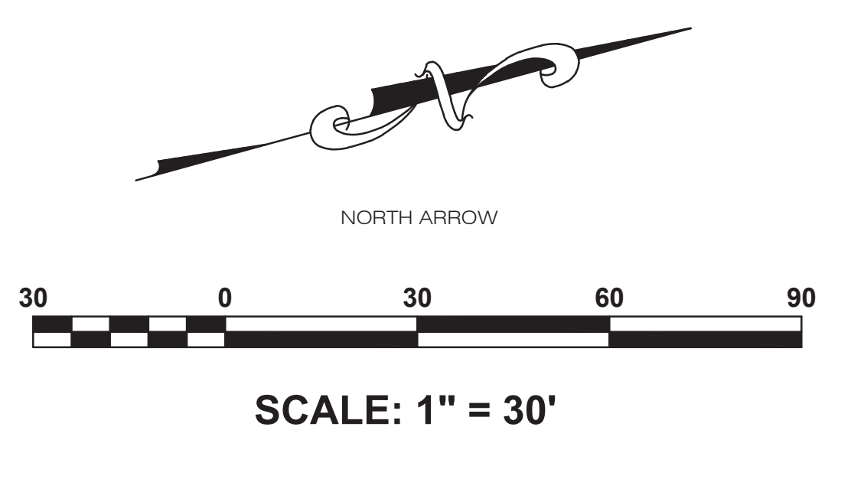


KEY PLAN





SCALE: 1" = 30'

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE DRAINAGE PLAN - WEST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 11 OF 47

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE DRAINAGE PLAN - EAST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 12 OF 47

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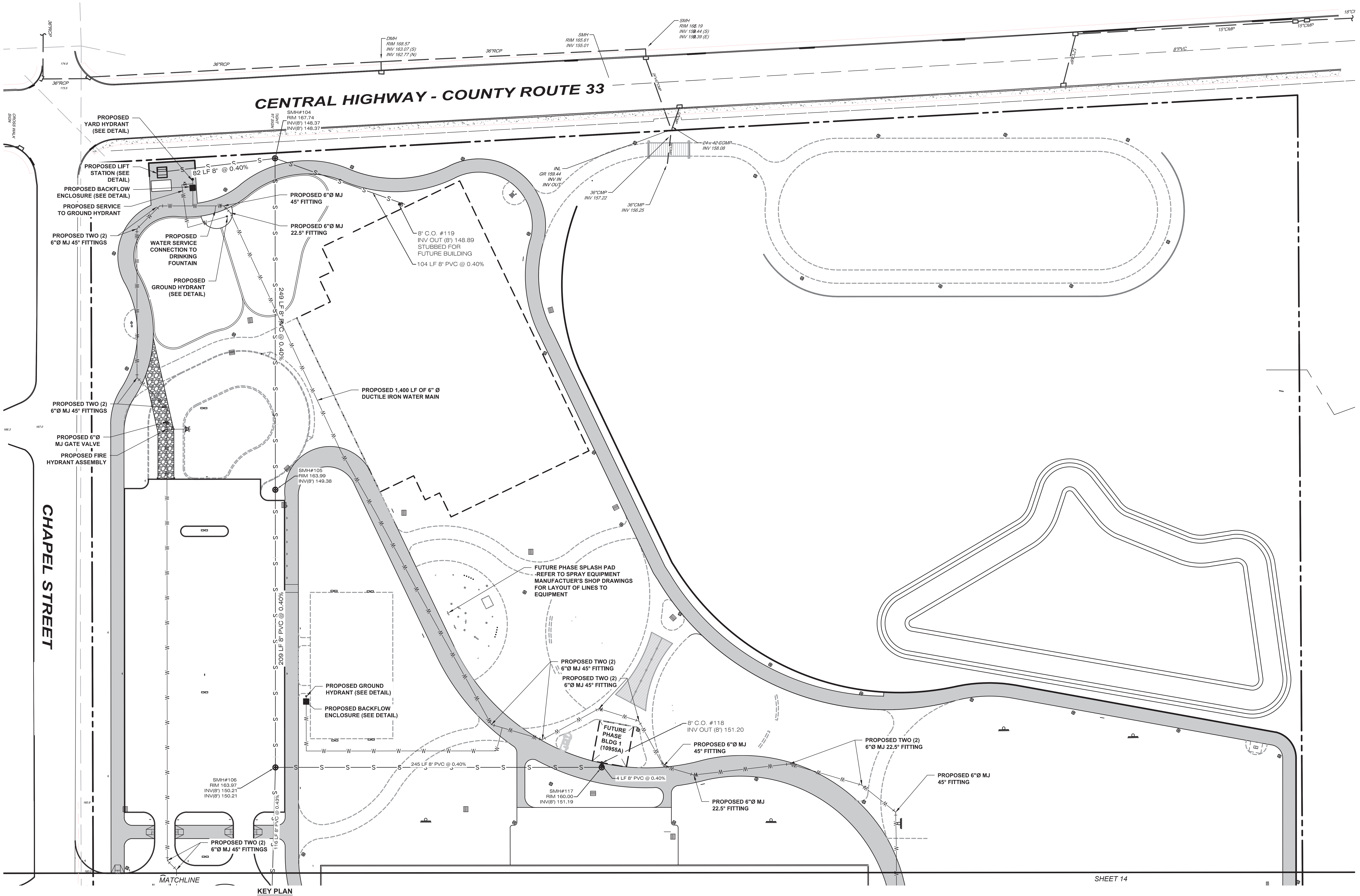
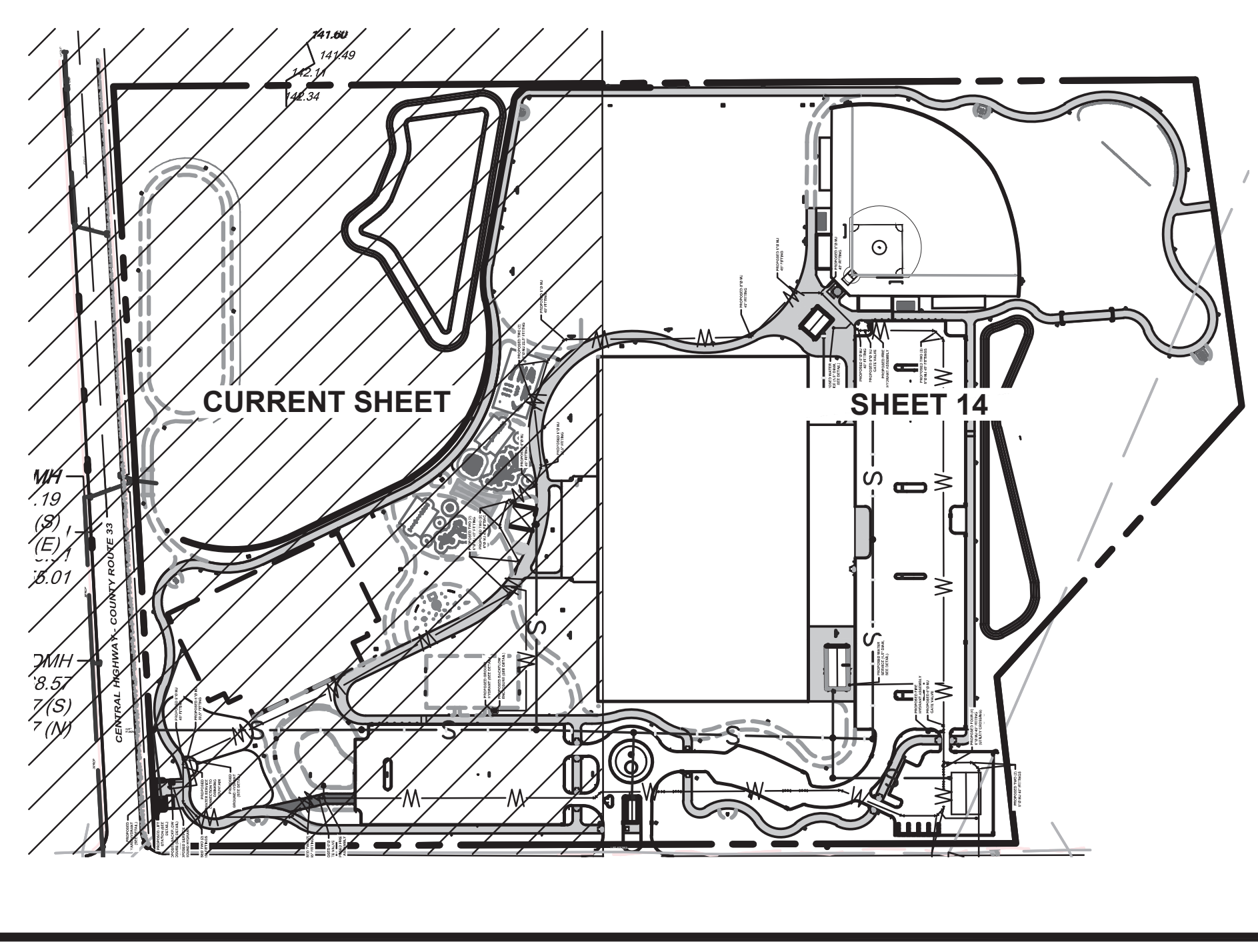

CENTRAL HIGHWAY - COUNTY ROUTE 33
CHAPEL STREET
36"RCP
36"RCP
36"RCP
36"RCP
174.9
173.5
CROSS WALK SIGN
DMH
RIM 168.57
INV 163.07 (S)
INV 162.77 (N)
SMH
RIM 165.61
INV 155.01
SMH
RIM 165.19
INV 159.44 (S)
INV 159.39 (E)
24"x42"CMP
12"CMP
12"CMP
15"CMP
15"CMP
8"PVC
18"CI
24 x 42 ECMP
INV 158.08
INL
GR 159.44
INV IN
INV OUT
36"CMP
INV 157.22
36"CMP
INV 156.25
PROPOSED YARD HYDRANT (SEE DETAIL)
SMH#104
RIM 167.74
INV(8") 148.37
INV(8") 148.37
PROPOSED LIFT STATION (SEE DETAIL)
82 LF 8" @ 0.40%
PROPOSED BACKFLOW ENCLOSURE (SEE DETAIL)
PROPOSED SERVICE TO GROUND HYDRANT
PROPOSED TWO (2) 6"Ø MJ 45° FITTINGS
PROPOSED 6"Ø MJ 45° FITTING
PROPOSED 6"Ø MJ 22.5° FITTING
PROPOSED WATER SERVICE CONNECTION TO DRINKING FOUNTAIN
PROPOSED GROUND HYDRANT (SEE DETAIL)
8" C.O. #119
INV OUT (8") 148.89
STUBBED FOR FUTURE BUILDING
104 LF 8" PVC @ 0.40%
249 LF 8" PVC @ 0.40%
PROPOSED 1,400 LF OF 6" Ø DUCTILE IRON WATER MAIN
PROPOSED TWO (2) 6"Ø MJ 45° FITTINGS
PROPOSED 6"Ø MJ GATE VALVE
PROPOSED FIRE HYDRANT ASSEMBLY
166.3
167.0
SMH#105
RIM 163.99
INV(8") 149.38
FUTURE PHASE SPLASH PAD -REFER TO SPRAY EQUIPMENT MANUFACTUER'S SHOP DRAWINGS FOR LAYOUT OF LINES TO EQUIPMENT
209 LF 8" PVC @ 0.40%
PROPOSED GROUND HYDRANT (SEE DETAIL)
PROPOSED BACKFLOW ENCLOSURE (SEE DETAIL)
PROPOSED TWO (2) 6"Ø MJ 45° FITTING
PROPOSED TWO (2) 6"Ø MJ 45° FITTING
FUTURE PHASE BLDG 1 (10955A)
8" C.O. #118
INV OUT (8") 151.20
PROPOSED 6"Ø MJ 45° FITTING
PROPOSED TWO (2) 6"Ø MJ 22.5° FITTING
PROPOSED 6"Ø MJ 45° FITTING
PROPOSED 6"Ø MJ 22.5° FITTING
SMH#106
RIM 163.97
INV(8") 150.21
INV(8") 150.21
245 LF 8" PVC @ 0.40%
4 LF 8" PVC @ 0.40%
SMH#117
RIM 160.00
INV(8") 151.19
116 LF 8" PVC @ 0.43%
PROPOSED TWO (2) 6"Ø MJ 45° FITTINGS
160.9
160.0
MATCHLINE
SHEET 14

KEY PLAN



NORTH ARROW

30 0 30 60 90

SCALE: 1" = 30'

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NY PROFESSIONAL ENGINEER: 095021-1

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LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW, ROCKLAND COUNTY, NEW YORK

SITE UTILITY PLAN - WEST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 13 OF 47

REVISION -

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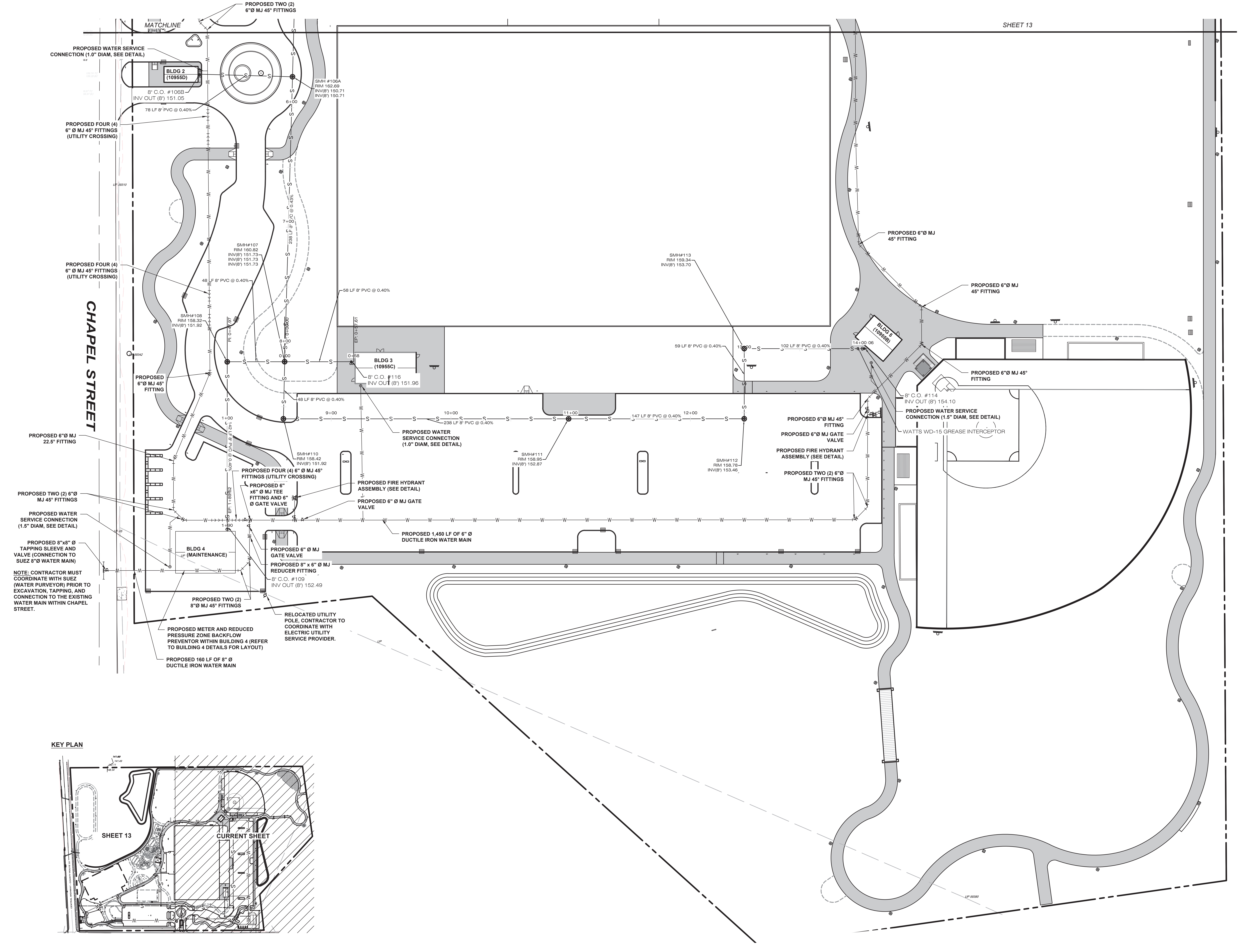
MATCHLINE
SHEET 13
CHAPEL STREET
PROPOSED TWO (2) 6"Ø MJ 45° FITTINGS
PROPOSED WATER SERVICE CONNECTION (1.0" DIAM, SEE DETAIL)
BLDG 2 (10955D)
8" C.O. #106B INV OUT (8") 151.05
SMH #106A RIM 162.69 INV(8") 150.71 INV(8") 150.71
78 LF 8" PVC @ 0.40%
6+00
PROPOSED FOUR (4) 6" Ø MJ 45° FITTINGS (UTILITY CROSSING)
UP 59310
7+00
238 LF 8" PVC @ 0.43%
SMH#107 RIM 160.82 INV(8") 151.73 INV(8") 151.73 INV(8") 151.73
48 LF 8" PVC @ 0.40%
PROPOSED FOUR (4) 6" Ø MJ 45° FITTINGS (UTILITY CROSSING)
58 LF 8" PVC @ 0.40%
SMH#108 RIM 158.32 INV(8") 151.92
PI: 0+47.97
8+00
0+00
EP: 0+57.61
0+58
BLDG 3 (10955C)
8" C.O. #116 INV OUT (8") 151.96
UP 59342
PROPOSED 6"Ø MJ 45° FITTING
48 LF 8" PVC @ 0.40%
9+00
10+00
238 LF 8" PVC @ 0.40%
11+00
147 LF 8" PVC @ 0.40%
12+00
1+00
142 LF 8" PVC @ 0.40%
PROPOSED WATER SERVICE CONNECTION (1.0" DIAM, SEE DETAIL)
PROPOSED 6"Ø MJ 22.5° FITTING
SMH#110 RIM 158.42 INV(8") 151.92
SMH#111 RIM 158.95 INV(8") 152.87
PROPOSED FOUR (4) 6" Ø MJ 45° FITTINGS (UTILITY CROSSING)
PROPOSED 6" x6" Ø MJ TEE FITTING AND 6" Ø GATE VALVE
PROPOSED FIRE HYDRANT ASSEMBLY (SEE DETAIL)
PROPOSED 6" Ø MJ GATE VALVE
PROPOSED TWO (2) 6"Ø MJ 45° FITTINGS
PROPOSED WATER SERVICE CONNECTION (1.5" DIAM, SEE DETAIL)
EP: 1+89.62
1+90
PROPOSED 1,450 LF OF 6" Ø DUCTILE IRON WATER MAIN
BLDG 4 (MAINTENANCE)
UP
PROPOSED 6" Ø MJ GATE VALVE
PROPOSED 8" x 6" Ø MJ REDUCER FITTING
8" C.O. #109 INV OUT (8") 152.49
PROPOSED 8"x8" Ø TAPPING SLEEVE AND VALVE (CONNECTION TO SUEZ 8"Ø WATER MAIN)
NOTE: CONTRACTOR MUST COORDINATE WITH SUEZ (WATER PURVEYOR) PRIOR TO EXCAVATION, TAPPING, AND CONNECTION TO THE EXISTING WATER MAIN WITHIN CHAPEL STREET.
PROPOSED TWO (2) 8"Ø MJ 45° FITTINGS
RELOCATED UTILITY POLE, CONTRACTOR TO COORDINATE WITH ELECTRIC UTILITY SERVICE PROVIDER.
PROPOSED METER AND REDUCED PRESSURE ZONE BACKFLOW PREVENTOR WITHIN BUILDING 4 (REFER TO BUILDING 4 DETAILS FOR LAYOUT)
PROPOSED 160 LF OF 8" Ø DUCTILE IRON WATER MAIN
SMH#113 RIM 159.34 INV(8") 153.70
59 LF 8" PVC @ 0.40%
13+00
102 LF 8" PVC @ 0.40%
14+00.06
BLDG 5 (10955B)
PROPOSED 6"Ø MJ 45° FITTING
PROPOSED 6"Ø MJ 45° FITTING
PROPOSED 6"Ø MJ 45° FITTING
8" C.O. #114 INV OUT (8") 154.10
PROPOSED WATER SERVICE CONNECTION (1.5" DIAM, SEE DETAIL)
WATTS WD-15 GREASE INTERCEPTOR
PROPOSED 6"Ø MJ 45° FITTING
PROPOSED 6"Ø MJ GATE VALVE
PROPOSED FIRE HYDRANT ASSEMBLY (SEE DETAIL)
PROPOSED TWO (2) 6"Ø MJ 45° FITTINGS
SMH#112 RIM 158.78 INV(8") 153.46
UP
UP 59360
KEY PLAN
SHEET 13
CURRENT SHEET

30 0 30 60 90

SCALE: 1" = 30'

NORTH ARROW

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1

DATE: 03/19/2021

NOTICE

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SUBURBAN ENGINEERING

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DESCRIPTION	NO.	DATE:	BY:	CHK:
REVISIONS				

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KAK
03/19/2021
CHECKED BY:
ASH
03/19/2021
CHECKED BY:
RCG
03/19/2021

SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE UTILITY PLAN - EAST

PROJECT NUMBER: SCE-9755.021

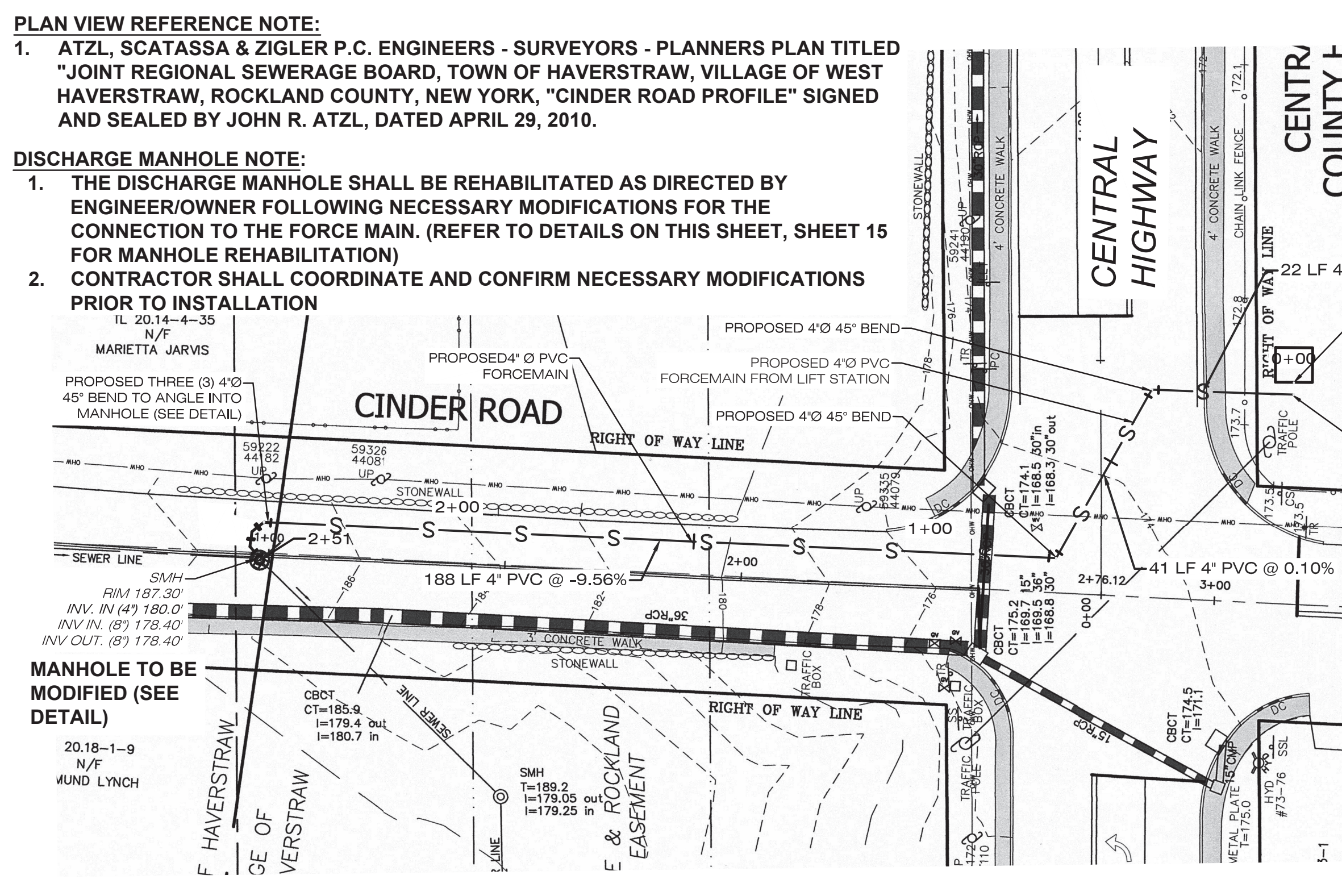
SCALE: 1"=30'

SHEET 14 OF 47

REVISION -

PLAN VIEW REFERENCE NOTE:
1. ATZL, SCATASSA & ZIGLER P.C. ENGINEERS - SURVEYORS - PLANNERS PLAN TITLED "JOINT REGIONAL SEWERAGE BOARD, TOWN OF HAVERSTRAW, VILLAGE OF WEST HAVERSTRAW, ROCKLAND COUNTY, NEW YORK, "CINDER ROAD PROFILE" SIGNED AND SEALED BY JOHN R. ATZL, DATED APRIL 29, 2010.

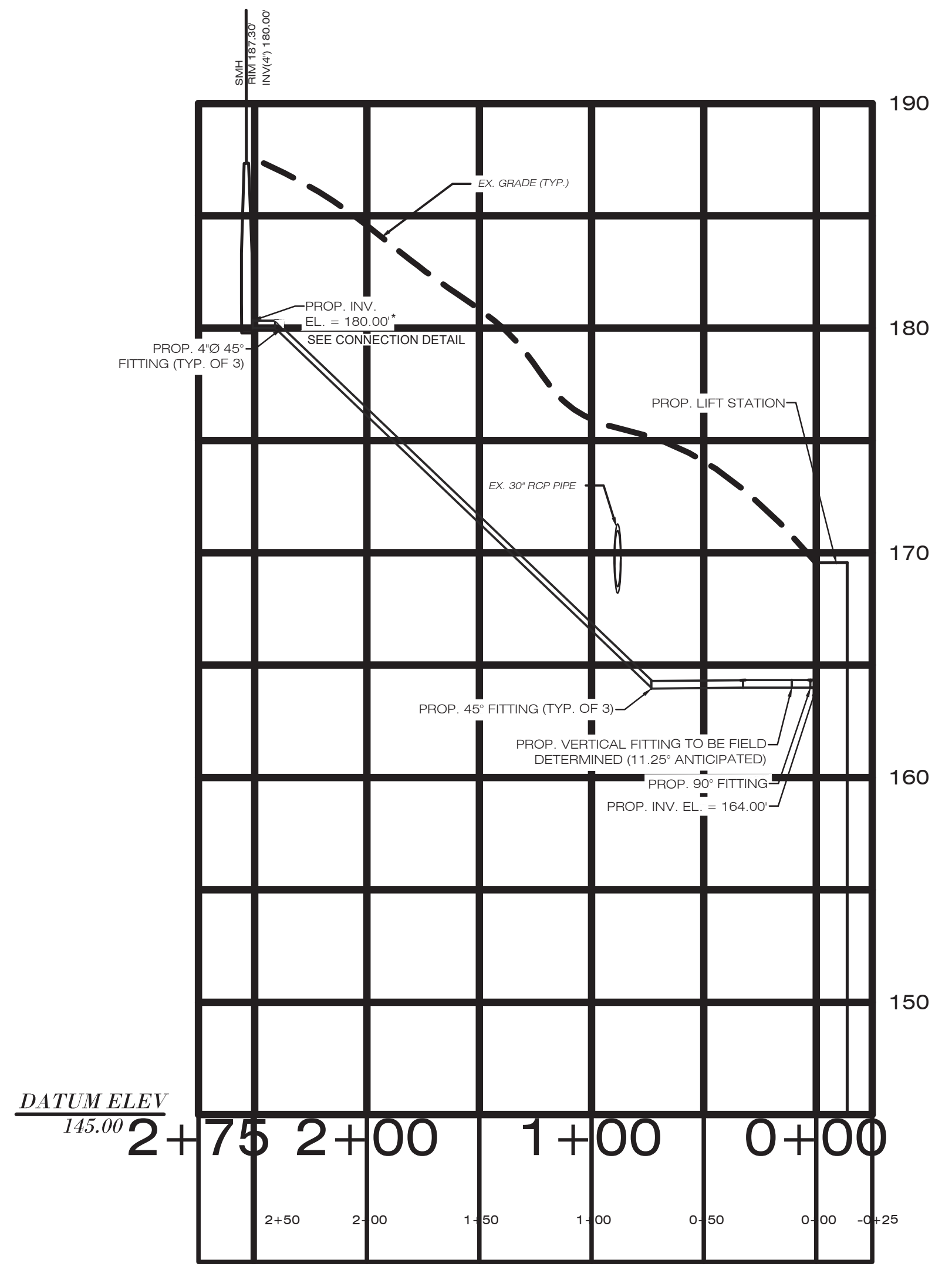
DISCHARGE MANHOLE NOTE:
1. THE DISCHARGE MANHOLE SHALL BE REHABILITATED AS DIRECTED BY ENGINEER/OWNER FOLLOWING NECESSARY MODIFICATIONS FOR THE CONNECTION TO THE FORCE MAIN. (REFER TO DETAILS ON THIS SHEET, SHEET 15 FOR MANHOLE REHABILITATION)
2. CONTRACTOR SHALL COORDINATE AND CONFIRM NECESSARY MODIFICATIONS PRIOR TO INSTALLATION


CINDER ROAD
CHAPEL STREET
CENTRAL HIGHWAY
RIGHT OF WAY LINE
STONEWALL
IL 20.14-4-35
N/F
MARIETTA JARVIS
PROPOSED THREE (3) 4"Ø 45° BEND TO ANGLE INTO MANHOLE (SEE DETAIL)
PROPOSED4" Ø PVC FORCEMAIN
PROPOSED 4"Ø PVC FORCEMAIN FROM LIFT STATION
PROPOSED 4"Ø 45° BEND
PROPOSED 90° BEND
PROPOSED LIFT STATION REFER TO SITE LAYOUT AND UTILITY SHEETS FOR ADDITIONAL INFORMATION AND PLAN VIEW OF LIFT STATION
22 LF 4" PVC @ 0.00%
188 LF 4" PVC @ -9.56%
41 LF 4" PVC @ 0.10%
MANHOLE TO BE MODIFIED (SEE DETAIL)
2+51
2+00
1+00
0+00

PROPOSED FORCEMAIN PLAN VIEW
SCALE: 1" = 30'

30 0 30 60 90

SCALE: 1"=30'



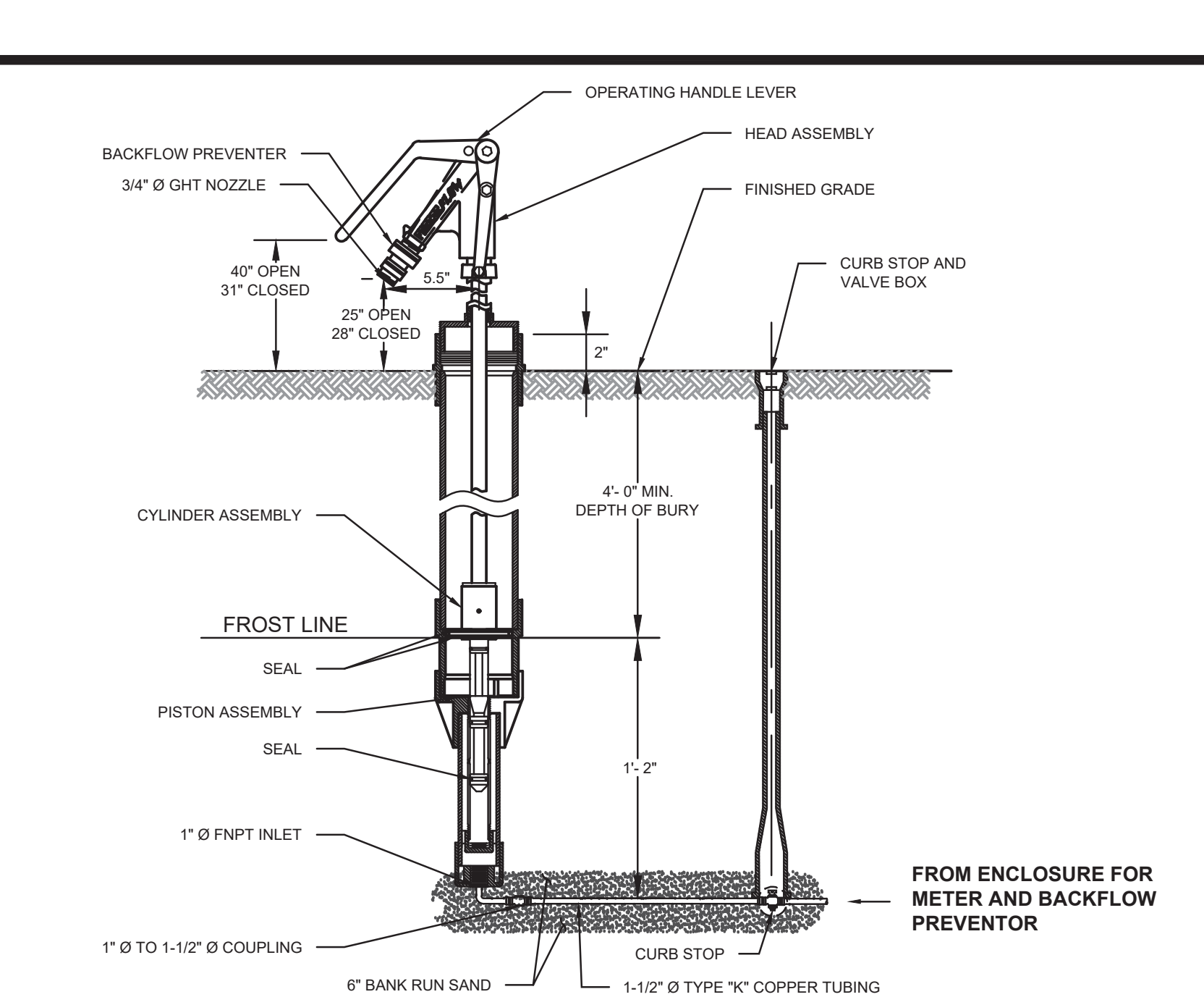
PROPOSED FORCEMAIN ALIGNMENT
HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 4'

40 0 40 80 120

HORIZ. SCALE: 1"=40'

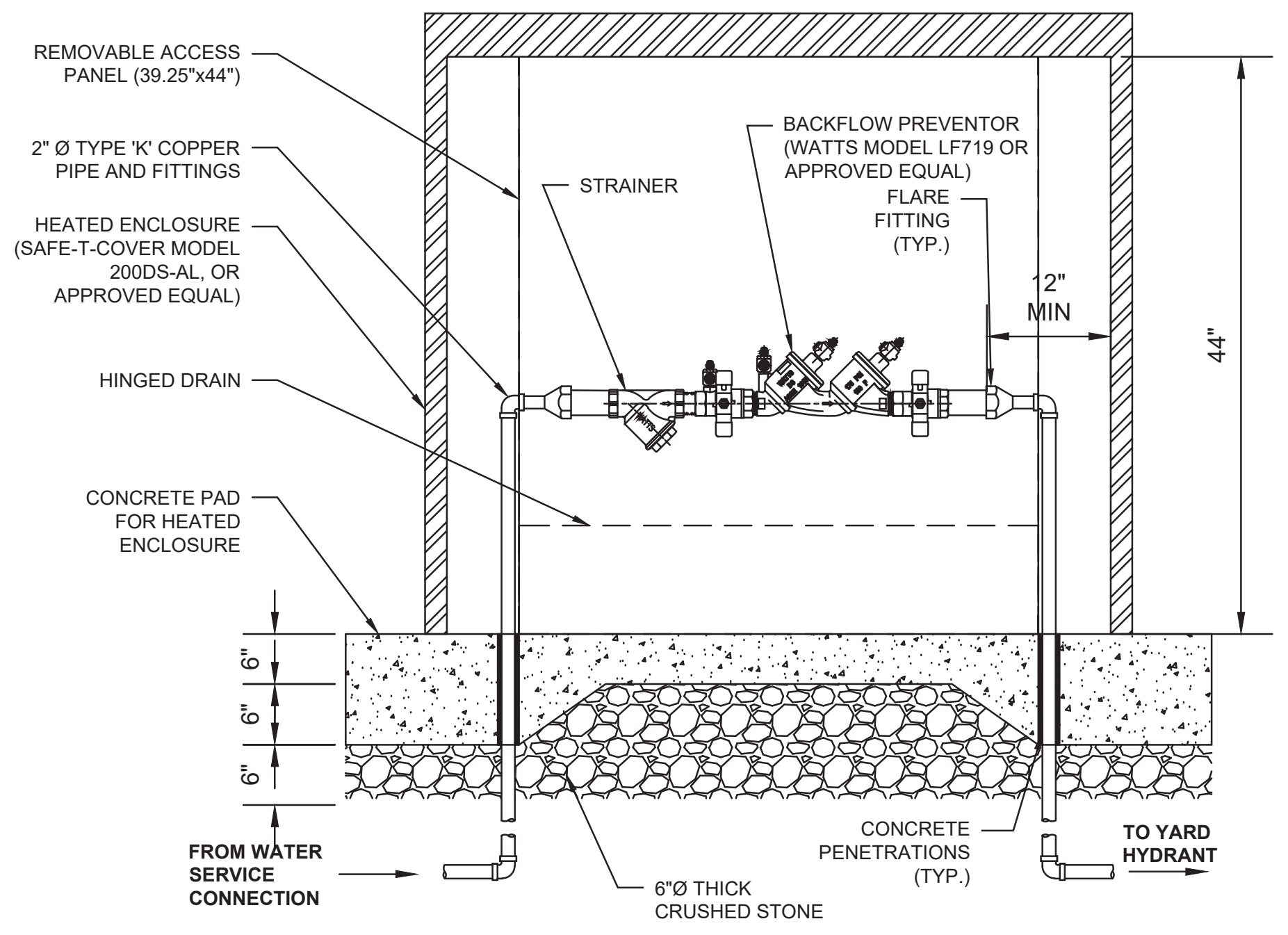
4 0 4 8 12

VERT. SCALE: 1"=4'

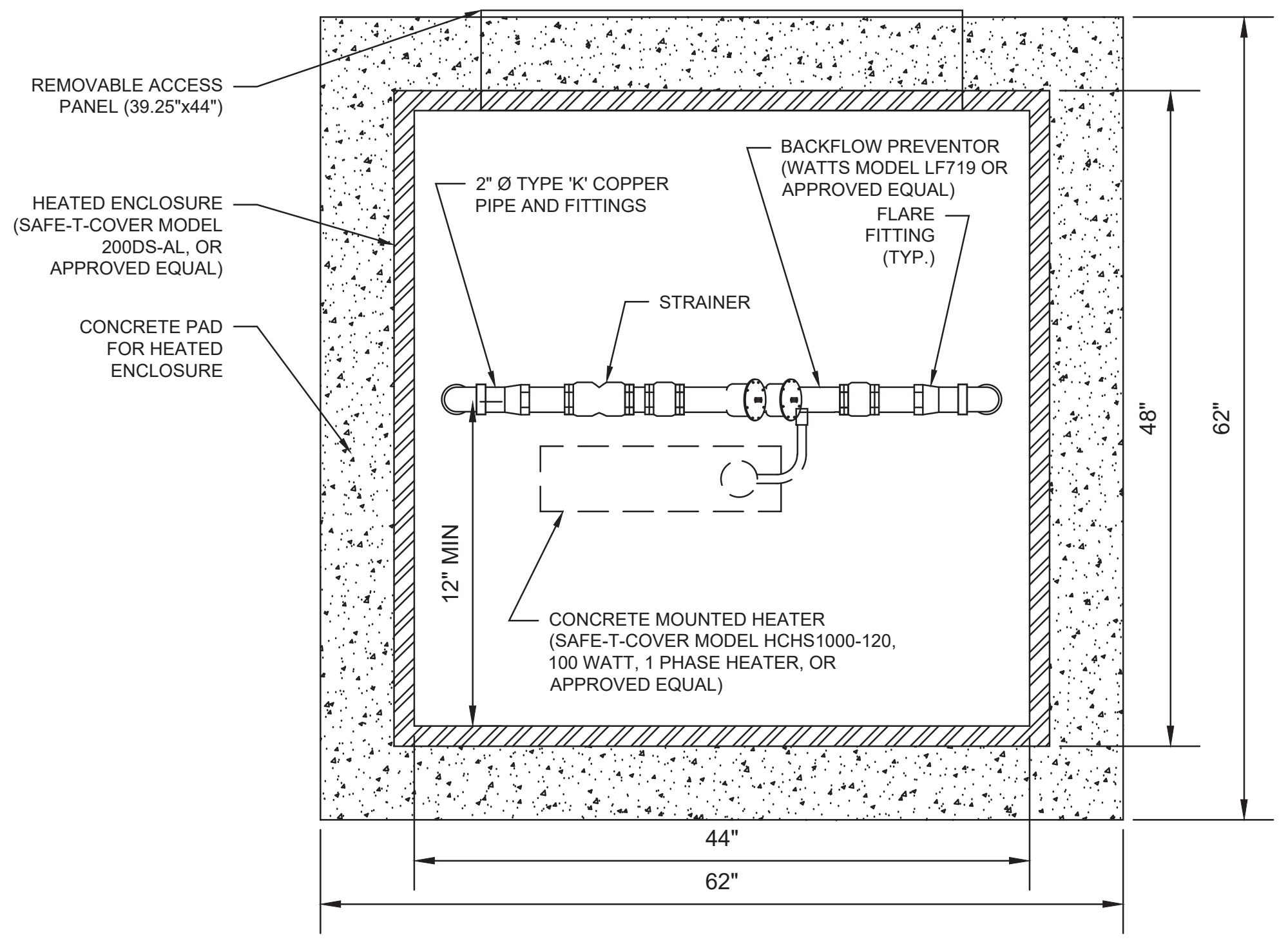


NOTES:
1. YARD HYDRANT SHALL BE FREEZE FLOW SANITARY YARD HYDRANT MODEL 2134 E, MANUFACTURED BY HOEPTNER PERFECTED PRODUCTS, FREEZE FLOW PRODUCTS, OR APPROVED EQUAL.
2. CONTRACTOR SHALL INSTALL NECESSARY REDUCER COUPLINGS AS REQUIRED, DUE TO THE SIZE OF THE WATER MAIN WITHIN THE AREA.

YARD HYDRANT
N.T.S.


REMOVABLE ACCESS PANEL (39.25"x44")
2" Ø TYPE 'K' COPPER PIPE AND FITTINGS
HEATED ENCLOSURE (SAFE-T-COVER MODEL 200DS-AL OR APPROVED EQUAL)
STRAINER
BACKFLOW PREVENTOR (WATTS MODEL LF719 OR APPROVED EQUAL)
FLARE FITTING (TYP.)
12" MIN
44"
HINGED DRAIN
CONCRETE PAD FOR HEATED ENCLOSURE
FROM WATER SERVICE CONNECTION
6"Ø THICK CRUSHED STONE
CONCRETE PENETRATIONS (TYP.)
TO YARD HYDRANT

SECTION VIEW

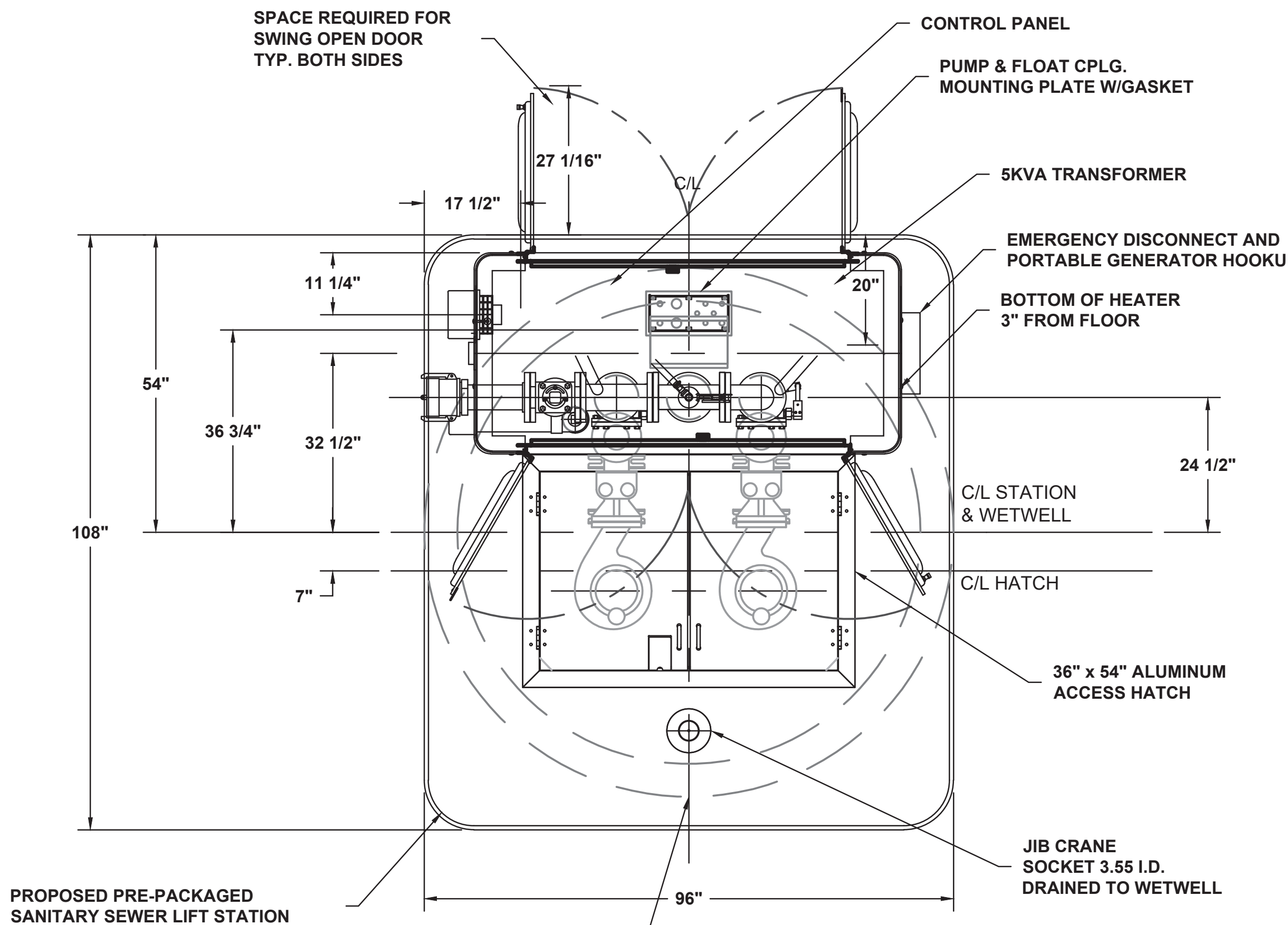

REMOVABLE ACCESS PANEL (39.25"x44")
HEATED ENCLOSURE (SAFE-T-COVER MODEL 200DS-AL OR APPROVED EQUAL)
2" Ø TYPE 'K' COPPER PIPE AND FITTINGS
BACKFLOW PREVENTOR (WATTS MODEL LF719 OR APPROVED EQUAL)
FLARE FITTING (TYP.)
STRAINER
CONCRETE PAD FOR HEATED ENCLOSURE
12" MIN
CONCRETE MOUNTED HEATER (SAFE-T-COVER MODEL HCHS1000-120, 100 WATT, 1 PHASE HEATER, OR APPROVED EQUAL)
48"
62"
44"
62"

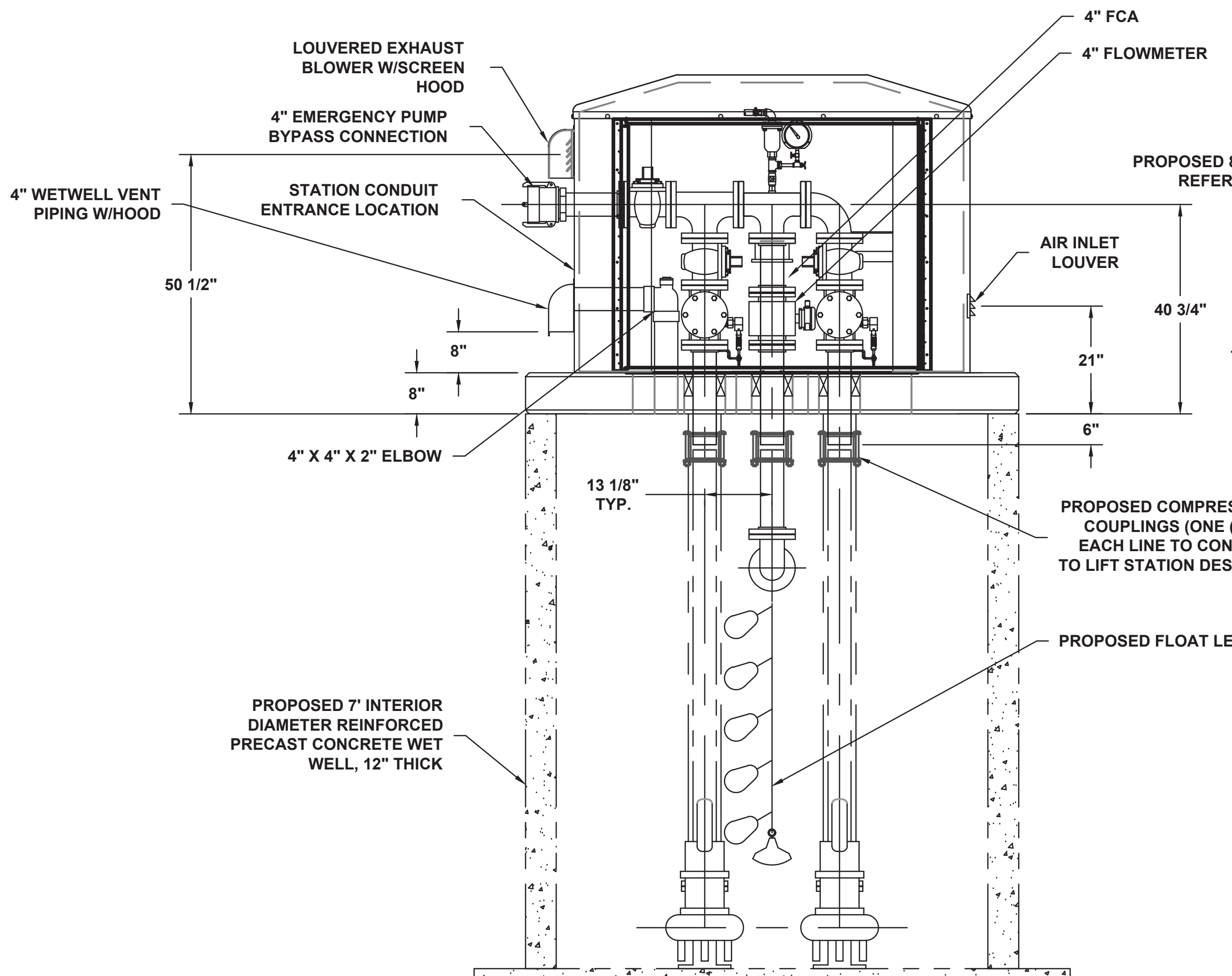
PLAN VIEW

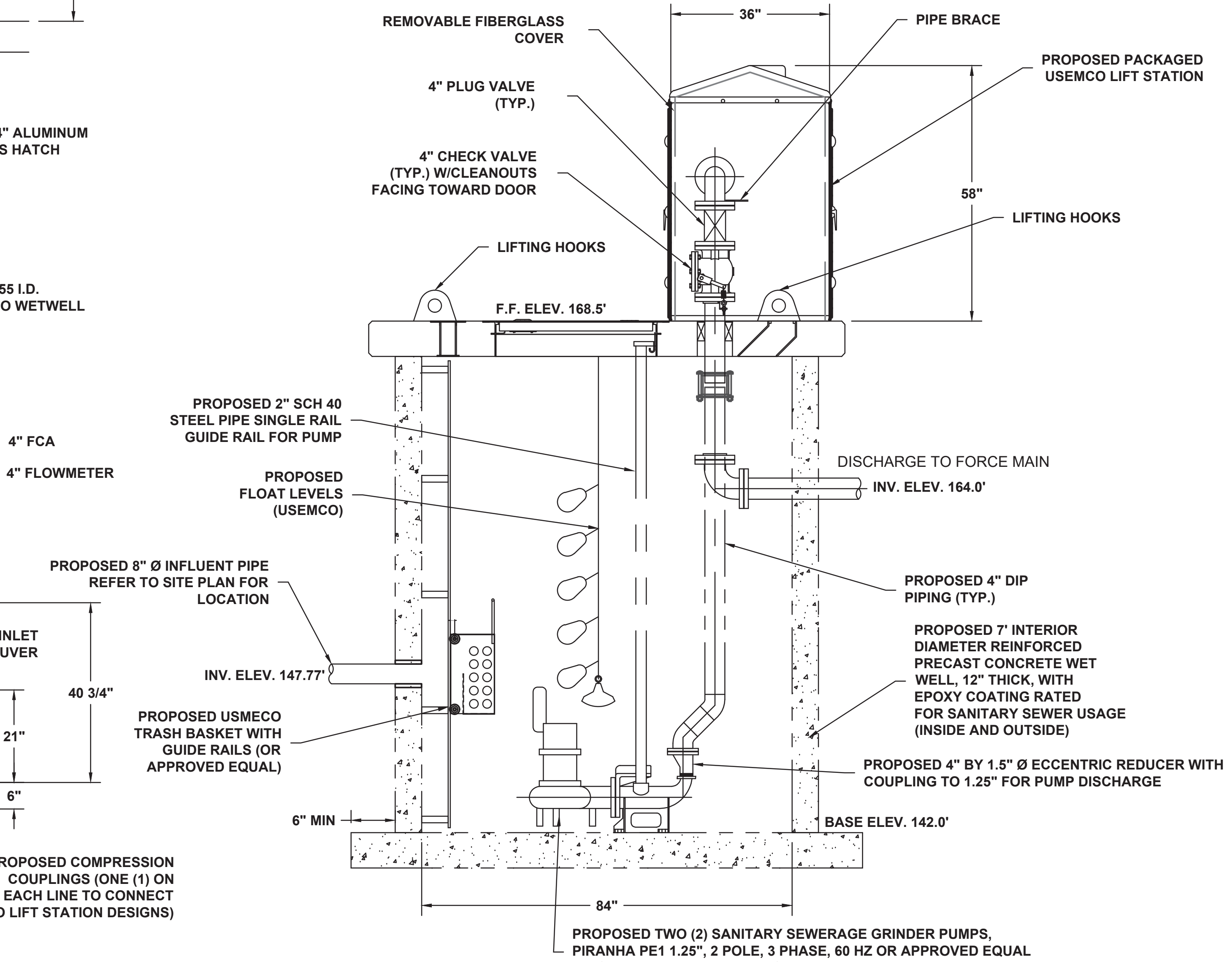
SUEZ NOTES:
1. ALL PIPING AT THE BACKFLOW PREVENTOR IS TO BE COPPER WITH BRASS FITTINGS.
2. CENTERLINE OF THE PIPE IS TO BE A MINIMUM OF 12-INCHES FROM THE WALL.
3. ALL BACKFLOW ELEMENTS AND APPURTENANCES ALL BE INSTALLED HORIZONTALLY.
4. THE REQUIREMENT TO INSTALL AN APPROVED PRESSURE ASSEMBLY SHALL BE DETERMINED BY SUEZ.
5. FLOOR DRAIN RECOMMENDED TO CAPTURE RPZ DISCHARGE.
6. APPROX. LAY LENGTH DIMENSIONS FOR DETERMINING SIZE OF THE CHAMBER ARE 5" FOR THE GATE VALVE, 13.25" FOR THE METER, 16.5" FOR THE BACK FLOW PREVENTOR, AND 7.5" FOR SPOOL PIECES

GENERAL NOTES:
1. CONTRACTOR SHALL FOLLOW SUEZ STANDARD DETAILS FOR BACK FLOW PREVENTOR (AS SHOWN). PIPING INSIDE CHAMBER SHALL BE 2", AND REDUCED DOWN OUTSIDE TO 1 1/2" TO THE SERVICE TO THE YARD HYDRANT (AND DRINKING FOUNTAIN), REFER TO SITE PLAN SHEETS (SHEET 13 AND 14) FOR EXACT LOCATIONS. ENXLOSURE SHALL ALSO BE INSATLLED PRIOR TO GROUND HYDRANT AS WELL.
2. BACKFLOW PREVENTOR SHALL BE WATTS MODEL LF719, OR APPROVED EQUAL, PER SUEZ SPECIFICATIONS.
3. CONTRACTOR IS REQUIRED TO PROVIDE NECESSARY ELECTRICAL FOR HEATED ENCLOSURE PER MANUFACTURER'S REQUIREMENTS, CONSISTING OF ONE (1) 1000 WATT, 1 PH, 120V, HEATER , AS PROVIDED BY THE MANUFACTURER OR APPROVED EQUAL.
4. ENCLOSURE SHALL BE CUSTOM MADE, ALUMINUM FINISH, AND BE INSTALLED PRIOR TO THE YARD HYDRANT AS LOCATED ON SITE. (ALTERNATE ENCLOSURE MUST BE APPROVED BY THE ENGINEERING AND OWNER, WITH SIMILAR DIMENSIONS TO HOUSE THE NECESSARY EQUIPMENT INSIDE THE HOT BOX.)

ENCLOSURE WITH FIRE FLOW METER AND BACKFLOW PREVENTER DETAIL (PRIOR TO YARD HYDRANT)
N.T.S.

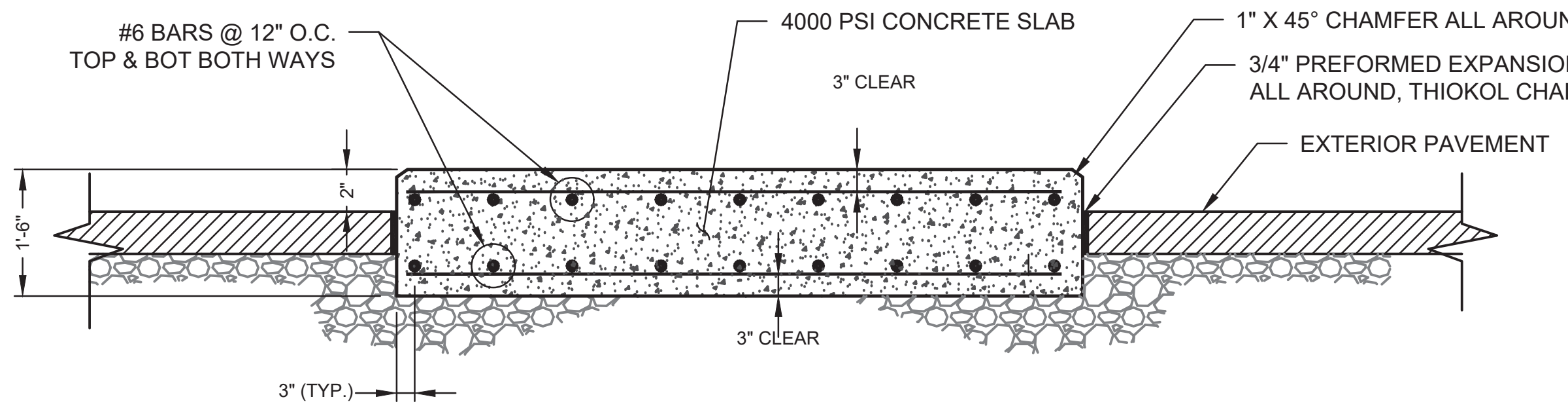

SPACE REQUIRED FOR SWING OPEN DOOR TYP. BOTH SIDES
CONTROL PANEL
PUMP & FLOAT CPLG. MOUNTING PLATE W/GASKET
5KVA TRANSFORMER
EMERGENCY DISCONNECT AND PORTABLE GENERATOR HOOKUP
BOTTOM OF HEATER 3" FROM FLOOR
27 1/16"
17 1/2"
11 1/4"
20"
54"
36 3/4"
32 1/2"
108"
7"
24 1/2"
C/L STATION & WETWELL
C/L HATCH
36" x 54" ALUMINUM ACCESS HATCH
JIB CRANE SOCKET 3.55 I.D. DRAINED TO WETWELL
96"
PROPOSED PRE-PACKAGED SANITARY SEWER LIFT STATION
PROPOSED 7' DIAMETER REINFORCED PRECAST CONCRETE WET WELL


LOUVERED EXHAUST BLOWER W/SCREEN HOOD
4" EMERGENCY PUMP BYPASS CONNECTION
4" WETWELL VENT PIPING W/HOOD
STATION CONDUIT ENTRANCE LOCATION
4" FCA
4" FLOWMETER
AIR INLET LOUVER
50 1/2"
40 3/4"
21"
6"
8"
8"
4" X 4" X 2" ELBOW
13 1/8" TYP.
PROPOSED COMPRESSION COUPLINGS (ONE (1) ON EACH LINE TO CONNECT TO LIFT STATION DESIGNS)
PROPOSED FLOAT LEVELS
PROPOSED 7' INTERIOR DIAMETER REINFORCED PRECAST CONCRETE WET WELL, 12" THICK


REMOVABLE FIBERGLASS COVER
36"
PIPE BRACE
PROPOSED PACKAGED USEMCO LIFT STATION
4" PLUG VALVE (TYP.)
4" CHECK VALVE (TYP.) W/CLEANOUTS FACING TOWARD DOOR
58"
LIFTING HOOKS
LIFTING HOOKS
F.F. ELEV. 168.5'
PROPOSED 2" SCH 40 STEEL PIPE SINGLE RAIL GUIDE RAIL FOR PUMP
DISCHARGE TO FORCE MAIN
INV. ELEV. 164.0'
PROPOSED FLOAT LEVELS (USEMCO)
PROPOSED 8" Ø INFLUENT PIPE REFER TO SITE PLAN FOR LOCATION
PROPOSED 4" DIP PIPING (TYP.)
PROPOSED 7' INTERIOR DIAMETER REINFORCED PRECAST CONCRETE WET WELL, 12" THICK, WITH EPOXY COATING RATED FOR SANITARY SEWER USAGE (INSIDE AND OUTSIDE)
INV. ELEV. 147.77'
PROPOSED USEMCO TRASH BASKET WITH GUIDE RAILS (OR APPROVED EQUAL)
PROPOSED 4" BY 1.5" Ø ECCENTRIC REDUCER WITH COUPLING TO 1.25" FOR PUMP DISCHARGE
6" MIN
BASE ELEV. 142.0'
84"
PROPOSED TWO (2) SANITARY SEWERAGE GRINDER PUMPS, PIRANHA PE1 1.25", 2 POLE, 3 PHASE, 60 HZ OR APPROVED EQUAL (PROVIDED BY REINER PUMPS)

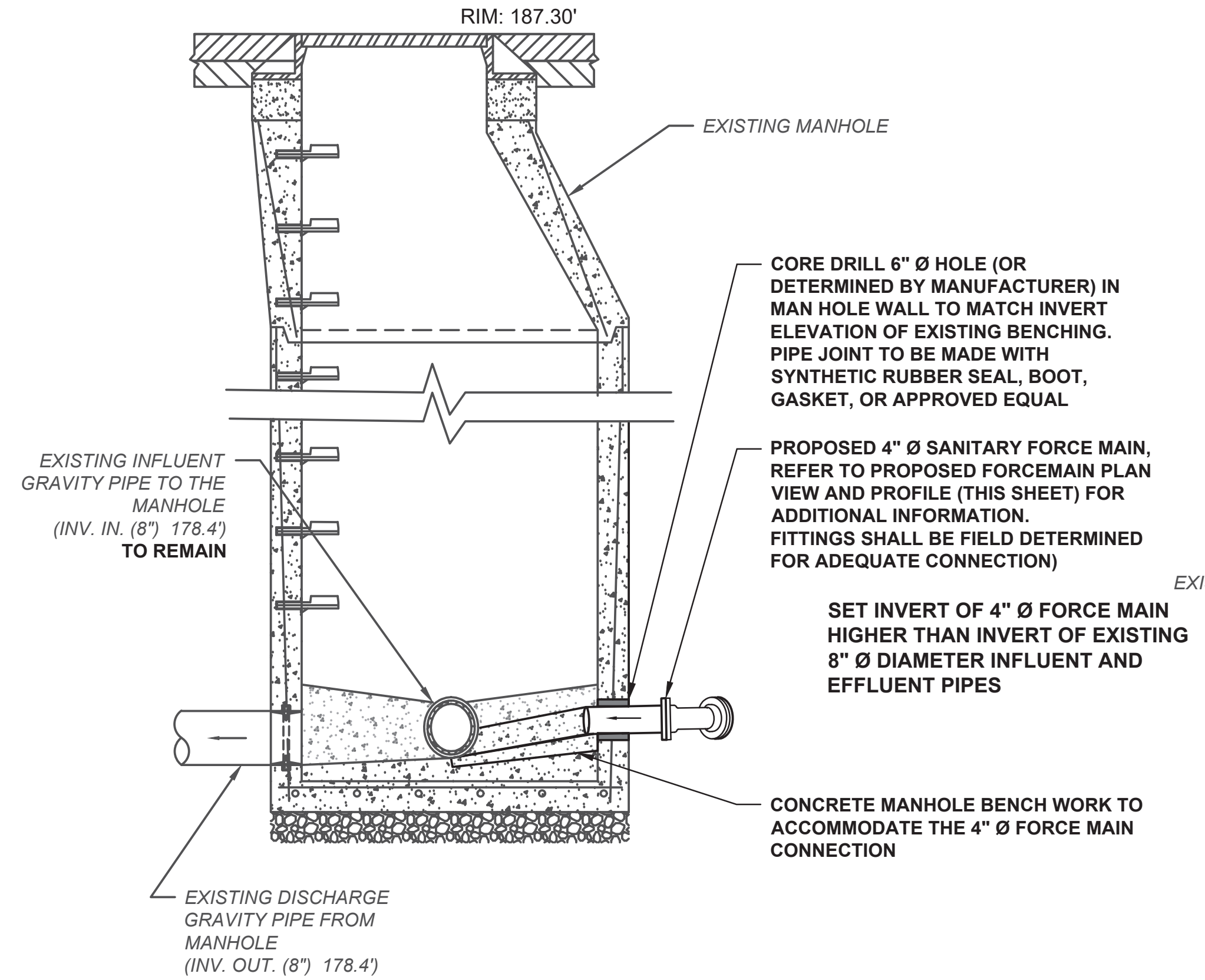
PROPOSED LIFT STATION PLAN AND SECTION VIEWS
SCALE: 1/2" = 1'-0"

LIFT STATION NOTES:
1. USEMCO MODEL PMATEII-4BB7-EM-MM-4D-A PACKAGED SANITARY SEWER LIFT STATION SHALL BE INSTALLED (SUPPLIED THROUGH REINER PUMPS) OR APPROVED EQUAL.
2. TWO (2) PIRANHA PE1 1.25", 2 POLE, 3 PHASE, 60 HZ PUMP MOTOR SHALL BE INSTALLED (REFER TO REINER PUMPS), OR APPROVED EQUAL
3. MISSION COMMUNICATION RTU SHALL BE INSTALLED AND CONNECT TO THE PACKAGED LIFT STATION FOR THE ASSOCIATED ALARMS.CONTRACTOR SHALL PROVIDE MISSION CONTROL SYSTEM (MyDro M850, OR APPROVED EQUAL) TO THE LIFT STATION MANUFACTURER FOR THE APPROPRIATE INTEGRATION.
4. MONITORING EQUIPMENT VIA MISSION COMMUNICATION AND THE LIFT STATION CONTROLS (SENTRY) OR APPROVED EQUAL SHALL MONITOR THE FOLLOWING ITEMS : FLOW PUMP RUN TIME, HIGH ALARM, LOW ALARM, DETERMINATION OR WHICH PUMP IS IN OPERATION, AND OTHER ASSOCIATED MONITORING ITEMS AS DEFINED IN THE SPECIFICATIONS.
5. THE LIFT STATION ALARMS SHALL BE DEFINED AND PREVIOUSLY APPROVED BY THE ENGINEER, OWNER, AND MANUFACTURER PRIOR TO INSTALLATION, WHICH SHALL CONSIST OF THE FOLLOWING ALARMS AT THE ASSOCIATED DELECTATIONS: HIGH LEVEL ALARM SHALL BE SET TO ELEV. OF 147', LAG PUMP ALARM SHALL BE SET TO ELEV. 146.5', LEAD PUMP ALARM SHALL BE SET TO ELEV. 145.5', AND PUMP OFF ALARM SHALL BE SET TO ELEV. 145' (OR UNLESS APPROVED EQUAL).
6. LIFT STATION SHALL BE EQUIPPED WITH A PORTABLE GENERATOR CONNECTION IN THE CASE OF EMERGENCIES.
7. PIPING REQUIREMENTS: PIPING EXTERIOR AND STEEL SURFACES SHALL BE APPLIED WITH A MINIMUM OF 6 MILS EPOXY ENAMEL COATING.
8. THE CONSTRUCTION OF THE WET WELL SHALL BE MADE OF REINFORCED CONCRETE, MIN 12" THICK WALLS AND BASE. PRECAST WET WELL SHALL BE DESIGNED, SIGNED, AND SEALED BY A NEW YORK LICENSED PROFESSIONAL ENGINEER.
9. LIFT STATION REQUIREMENTS INCLUDES: PROCESS PIPING OF 4" DIAMETER, LIFT STATION BASE SUPPORT TO BE 96" X 108" (REFER TO MANUFACTURER DETAILS) WITH THE WET WELL TO BE AN INTERIOR DIMENSION OF 84" DIAMETER.
10. PRE-PACKAGED LIFT STATION AS PROVIDED BY USEMCO (OR APPROVED EQUAL) SHALL CONSISTS OF TOP SLAB, SLAB COATING, ACCESS HATCH, LIFT HOOKS, ENCLOSURE, FLOW METER, CONTROL PANELS, HEATER, VENT, PIPING (ABOVE THE FLOOR SLAB) AND ASSOCIATED ITEMS ABOVE THE CONCRETE WET WELL. CONTRACTOR IS RESPONSIBLE TO INSTALL LIFT STATION COMPLETE, INCLUDING WET WELL, LIFT PACKAGED LIFT STATION, WET WELL APPURTENANCES (TRASH BASKET, PUMPS, GUIDE RAILS, ETC...), FORCE MAIN, FORCE MAIN CONNECTION TO DISCHARGE MANHOLE, AND ASSOCIATED APPURTENANCES FOR COMPLETE OPERATION OF THE LIFT STATION.

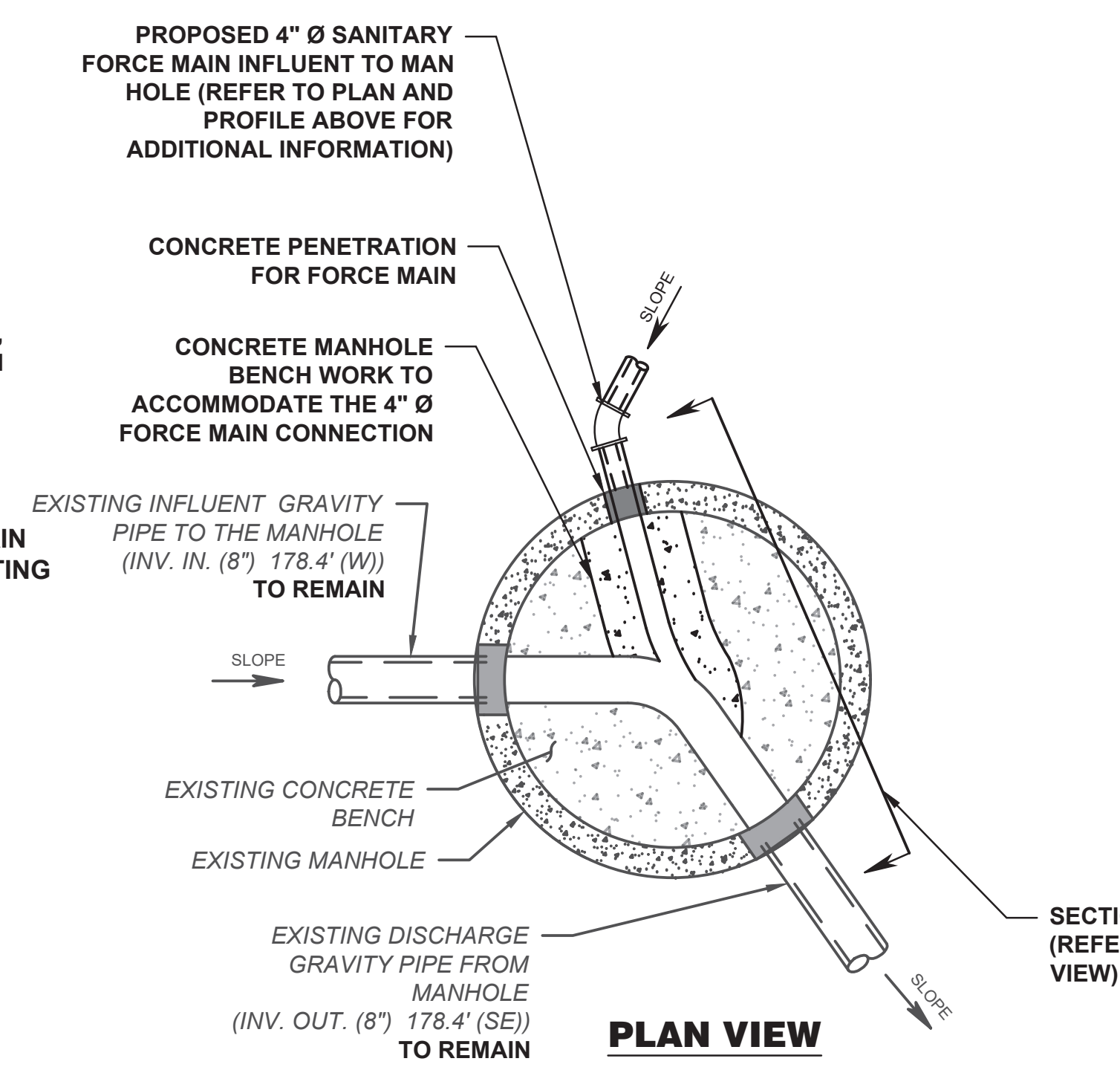

#6 BARS @ 12" O.C. TOP & BOT BOTH WAYS
4000 PSI CONCRETE SLAB
1" X 45° CHAMFER ALL AROUND
3/4" PREFORMED EXPANSION JOINT ALL AROUND, THIOKOL CHALKED
EXTERIOR PAVEMENT
3" CLEAR
2"
1'-6"
3" CLEAR
3" (TYP.)

NOTES:
1. THE GENERATOR PAD SHALL HAVE DIMENSIONS OF 15' X 8', OR UNLESS APPROVED EQUAL AND AS APPROVED IN WRITING FROM ENGINEER AND OWNER PRIOR TO INSTALLATION. ANY MODIFICATIONS TO THE SIZE SHALL CONFORM TO THE REINFORCEMENT REQUIREMENTS AS STATED IN THE DETAIL ABOVE.
2. CONTRACTOR SHALL INSTALL THE GENERATOR PAD AT THE LOCATION AS DEFINED BY THE ENGINEER AND OWNER PRIOR TO INSTALLATION, AS LOCATED WITHIN THE LIFT STATION CONFINES. THE GENERATOR PAD SHALL BE INSTALLED ADJACENT TO THE LIFT STATION, A MINIMUM OF 10 FEET OFF AND SHOULD BE ACCESSIBLE THROUGH THE GATE FOR THE PLACEMENT OF A TEMPORARY GENERATOR (IN CASE OF EMERGENCIES). REFER TO SITE PLAN SHEET 06 FOR REFERENCE OF LOCATION.

GENERATOR CONCRETE PAD
N.T.S.


RIM: 187.30'
EXISTING MANHOLE
CORE DRILL 6" Ø HOLE (OR DETERMINED BY MANUFACTURER) IN MAN HOLE WALL TO MATCH INVERT ELEVATION OF EXISTING BENCHING. PIPE JOINT TO BE MADE WITH SYNTHETIC RUBBER SEAL, BOOT, GASKET, OR APPROVED EQUAL
PROPOSED 4" Ø SANITARY FORCE MAIN, REFER TO PROPOSED FORCEMAIN PLAN VIEW AND PROFILE (THIS SHEET) FOR ADDITIONAL INFORMATION. FITTINGS SHALL BE FIELD DETERMINED FOR ADEQUATE CONNECTION)
EXISTING INFLUENT GRAVITY PIPE TO THE MANHOLE (INV. IN. (8") 178.4') TO REMAIN
SET INVERT OF 4" Ø FORCE MAIN HIGHER THAN INVERT OF EXISTING 8" Ø DIAMETER INFLUENT AND EFFLUENT PIPES
CONCRETE MANHOLE BENCH WORK TO ACCOMMODATE THE 4" Ø FORCE MAIN CONNECTION
EXISTING DISCHARGE GRAVITY PIPE FROM MANHOLE (INV. OUT. (8") 178.4') TO REMAIN

SECTION VIEW


PROPOSED 4" Ø SANITARY FORCE MAIN INFLUENT TO MAN HOLE (REFER TO PLAN AND PROFILE ABOVE FOR ADDITIONAL INFORMATION)
CONCRETE PENETRATION FOR FORCE MAIN
CONCRETE MANHOLE BENCH WORK TO ACCOMMODATE THE 4" Ø FORCE MAIN CONNECTION
EXISTING INFLUENT GRAVITY PIPE TO THE MANHOLE (INV. IN. (8") 178.4' (W)) TO REMAIN
SLOPE
EXISTING CONCRETE BENCH
EXISTING MANHOLE
EXISTING DISCHARGE GRAVITY PIPE FROM MANHOLE (INV. OUT. (8") 178.4' (SE)) TO REMAIN
SECTION CUT (REFER TO SECTION VIEW)

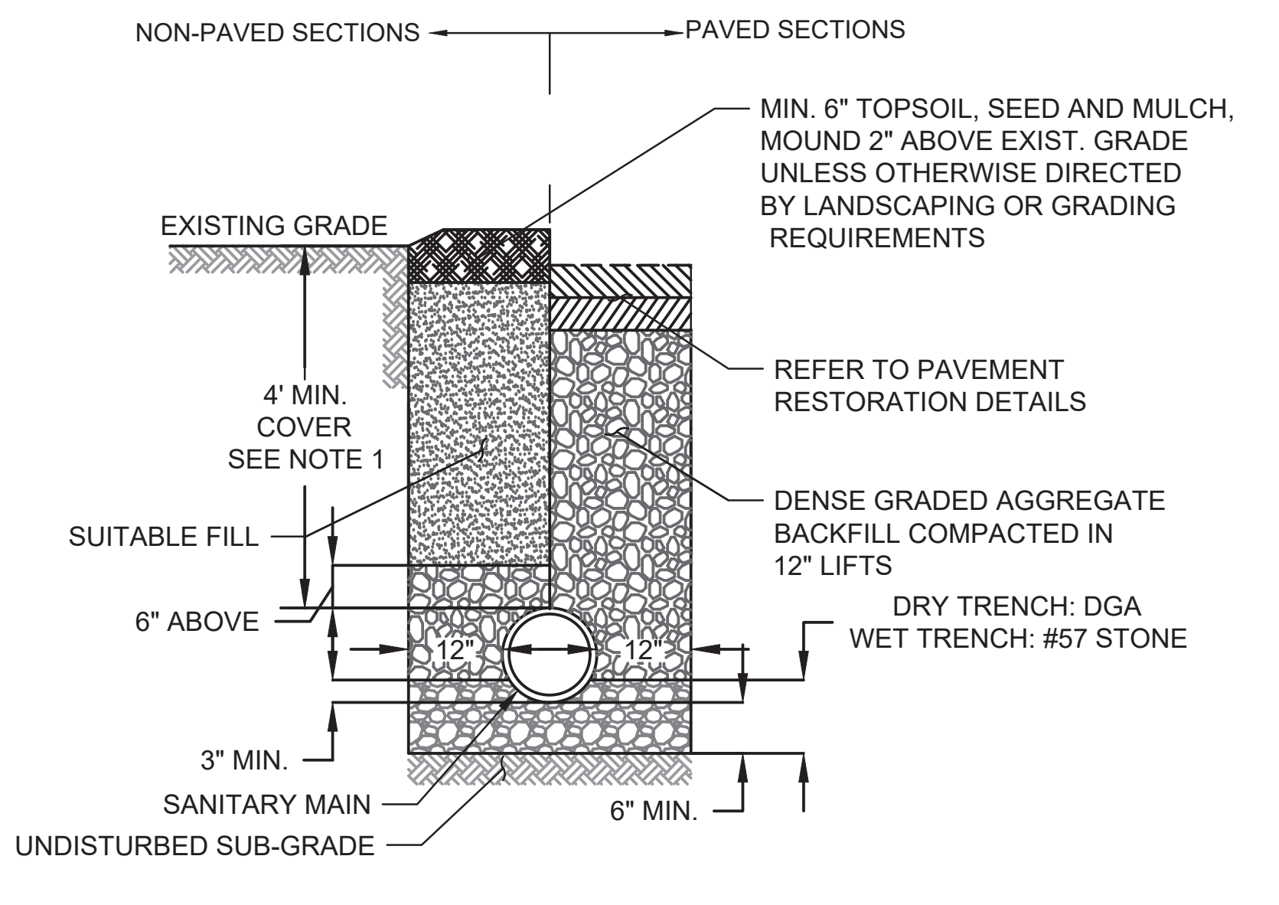
PLAN VIEW

MANHOLE MODIFICATIONS (FOR FORCEMAIN DISCHARGE)
N.T.S.

EXISTING MANHOLE INFORMATION:
1. EXISTING SANITARY SEWER MANHOLE INFORMATION:
   - 1.1. EXIST. RIM ELEV: 186.12'
   - 1.2. EXIST. INV. IN (8"): 178.4 (W)
   - 1.3. EXIST. INV. OUT (8"): 178.4 (SE)
   - 1.4. PROP. INV. IN (4"): 180.0' (N)* (T0 MEET THE NECESSARY INVERT/BENCHING OF THE EXISTING MANHOLE, INVERT CHANGE TO 178.5' TO MEET EXISTING CONDITIONS. ELEVATION SHALL BE FIELD DETERMINED AND APPROVED BY THE ENGINEER AND OWNER PRIOR TO INSTALL.)
   - 1.5. RIM AND INVERT WAS SURVEYED BY SUBURBAN ENGINEERING ON NOVEMBER 24, 2020 FOR THE DISCHARGE MANHOLE
2. OWNERSHIP: JOINT REGIONAL SEWERAGE BOARD
3. THE MANHOLE IS LOCATED ALONG CINDER ROAD, 190 FEET NORTH OF THE INTERSECTION OF CINDER ROAD AND NORTH CENTRAL HIGHWAY (STATE ROUTE 33).

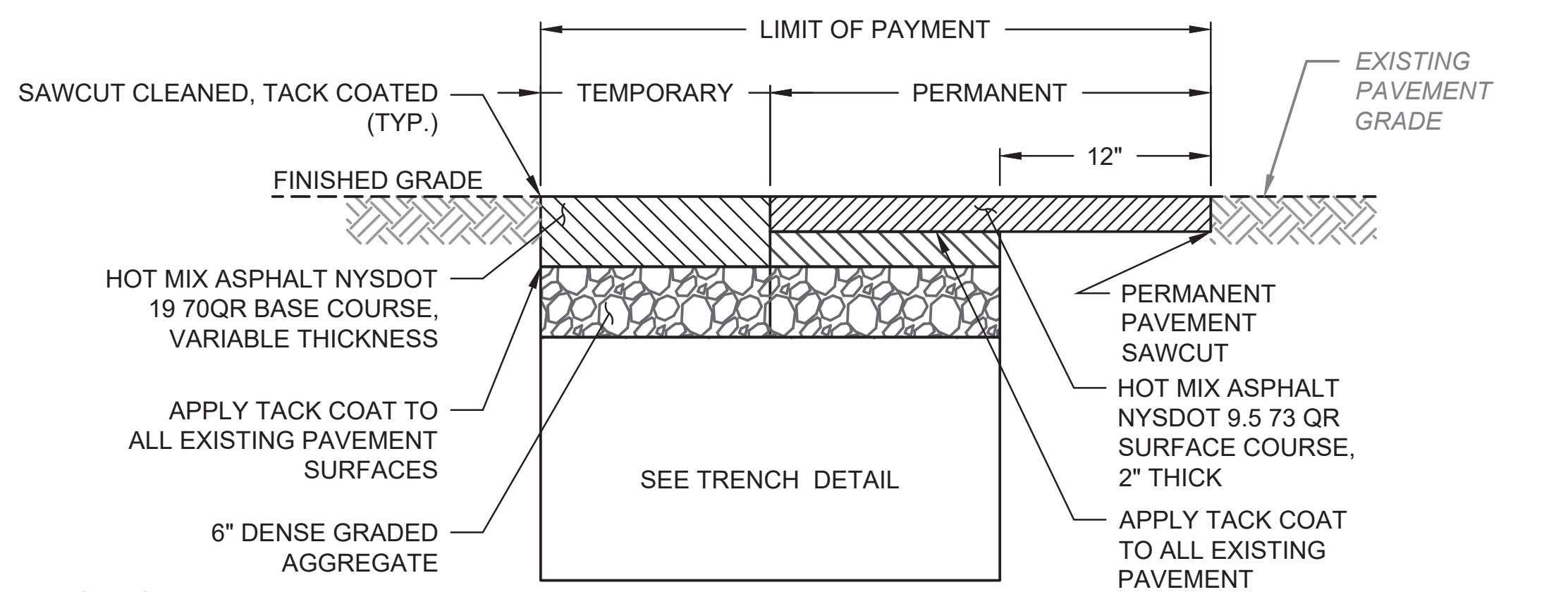
GENERAL NOTES FOR MANHOLE MODIFICATIONS:
1. CONTRACTOR SHALL PROVIDE EXISTING CONDITIONS OF THE MANHOLE TO THE ENGINEER AND OWNER, PRIOR TO ANY MODIFICATIONS, INCLUDING INVERTS, NUMBER OF PIPES, DIRECTION OF PIPES, MATERIAL OF PIPE, CONDITION OF CONCRETE, CONDITION OF BENCH, AND ASSOCIATED APPURTENANCES
2. CONTRACTOR SHALL FOLLOW MANHOLE REHABILITATION DETAILS FOLLOWING THE NECESSARY MODIFICATIONS FOR THE CONNECTION OF THE FORCE MAIN. MANHOLE REHABILITATION SHALL BE AT THE DIRECTION OF THE ENGINEER AND OWNER, AND SCOPE OF WORK SHALL BE DETERMINED FOLLOWING MODIFICATIONS AND BASED ON THE EXISTING CONDITIONS OF THE MANHOLE.
3. CONTRACTOR SHALL INSTALL NEW PIPE INTO THE MANHOLE AS MUCH AS PERPENDICULAR TO THE EXISTING INFLUENT PIPE INTO THE MANHOLE AS POSSIBLE, UNLESS OTHERWISE PRACTICAL. CONTRACTOR SHALL CONFIRM INFLUENT PIPE LOCATION WITH ENGINEER AND OWNER PRIOR TO INSTALL. CONTRACTOR SHALL INSTALL FITTINGS AS NECESSARY ON THE FORCE MAIN TO MATCH ACCORDINGLY.
4. THE CONTRACTOR SHALL VERIFY CORE HOLE SIZE AND APPROPRIATE MECHANICAL SEAL SIZE FOR THE INFLUENT 4" PIPE FOR THE FORCE MAIN WITH THE MANUFACTURER.
5. CONTRACTOR SHALL RESTRAIN THE 4" Ø BEND WITHIN THE MANHOLE WITH MEGA LUGS (OR APPROVED EQUAL FOR THE MECHANICAL JOINTS) AND ANCHORING BACK TO THE MANHOLE BY THE USE OF STAINLESS STEEL BOLTS/FITTINGS AS REQUIRED AND APPROVED.

MANHOLE REHABILITATION NOTES:
1. REHABILITATION OF THE MANHOLE WILL BE FIELD DETERMINED BY THE ENGINEER.
2. REHABILITATION MAY CONSIST OF, BUT ARE NOT LIMITED TO REPAIRING CONCRETE WITHIN THE MANHOLE, REPAIRING THE MANHOLE STEPS, REPAIRING THE BENCHING, REPAIRING THE SANITARY MAIN THAT ENTER/LEAVE THE MANHOLE STRUCTURE, REPAIRING/RESETTING MANHOLE FRAME.


NON-PAVED SECTIONS
PAVED SECTIONS
EXISTING GRADE
MIN. 6" TOPSOIL, SEED AND MULCH, MOUND 2" ABOVE EXIST. GRADE UNLESS OTHERWISE DIRECTED BY LANDSCAPING OR GRADING REQUIREMENTS
4' MIN. COVER SEE NOTE 1
REFER TO PAVEMENT RESTORATION DETAILS
DENSE GRADED AGGREGATE BACKFILL COMPACTED IN 12" LIFTS
SUITABLE FILL
6" ABOVE
DRY TRENCH: DGA
WET TRENCH: #57 STONE
12"
12"
3" MIN.
SANITARY MAIN
UNDISTURBED SUB-GRADE
6" MIN.

NOTES:
1. NO PAYMENT SHALL BE MADE FOR EXTRA DEPTH INSTALLATION AS INDICATED ON PLANS OR OTHERWISE NECESSARY TO RESULT IN A SMOOTH AN UNINTERRUPTED SANITARY MAIN GRADE OR ADDRESS CLEARANCE OF OTHER UTILITIES.
2. NO SEPARATE PAYMENT WILL BE MADE FOR RESTORATION EXCEEDING THESE TRENCH WIDTHS.

TYPICAL SANITARY MAIN TRENCH DETAIL (FOR COUNTY ROAD)
N.T.S.


LIMIT OF PAYMENT
SAWCUT CLEANED, TACK COATED (TYP.)
TEMPORARY
PERMANENT
EXISTING PAVEMENT GRADE
12"
FINISHED GRADE
HOT MIX ASPHALT NYSDOT 19 70QR BASE COURSE, VARIABLE THICKNESS
PERMANENT PAVEMENT SAWCUT
HOT MIX ASPHALT NYSDOT 9.5 73 QR SURFACE COURSE, 2" THICK
APPLY TACK COAT TO ALL EXISTING PAVEMENT SURFACES
SEE TRENCH DETAIL
6" DENSE GRADED AGGREGATE
APPLY TACK COAT TO ALL EXISTING PAVEMENT SURFACES

NOTES:
1. FOR RESTORATION WITHIN LIMITS OF PROJECT AREA:
   - 1.1. TEMPORARY RESTORATION OF: ROADS WITH CONCRETE BASE COURSE: 8"-10" BASE COURSE, ALL OTHER ROADS: 7" BASE COURSE, UNLESS OTHERWISE DIRECTED BY ROAD OPENING PERMIT
   - 1.2. PERMANENT RESTORATION AFTER 6 MONTHS: TOP TWO (2) INCHES OF TRENCH RESTORATION PAVEMENT SHALL BE MILLED ONE (1) FOOT WIDER THAN TRENCH ON EACH SIDE AND HMA SURFACE COARSE INSTALLED TWO (2) INCHES INCLUDING TACK COAT. UNLESS OTHERWISE DIRECTED BY ROAD OPENING PERMIT.
2. WHERE NEW PERMANENT PAVEMENT WILL BE CONSTRUCTED WITHIN TWO FEET OF THE EXISTING EDGE OF PAVEMENT OR EXISTING FACE OF CURB, MILLING AND PAVING SHOULD EXTEND TO THE EXISTING EDGE OF PAVEMENT OR FACE OF CURB. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE HMA SURFACE COURSE PAVEMENT BID ITEM.
3. PAVEMENT TO BE INSTALLED IN LIFTS NO GREATER THAN 3".
4. JOINT SEALANT, RC-70, TO BE APPLIED TO ALL JOINTS AND EXISTING STRUCTURES PRIOR TO PAVING ON ALL COUNTY AND LOCAL ROADS. NJ STATE ROADS SHALL RECEIVE RC-70 ON ALL HORIZONTAL JOINTS AND EXISTING STRUCTURES AND A POLYMERIZED JOINT SEALANT ON ALL VERTICAL JOINTS.
5. CONTRACTOR SHALL OBTAIN THE NECESSARY ROAD OPENING PERMITS FOR LOCAL AND COUNTY ROADS, AND SHALL ADHERE TO THE ASSOCIATED TRENCH RESTORATION REQUIREMENTS SET FORTH BY THE APPLICABLE ROAD OPENING PERMIT, JURISDICTION AND ASSOCIATED AUTHORITY.

PAVEMENT RESTORATION DETAIL
N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
DATE: 03/19/2021

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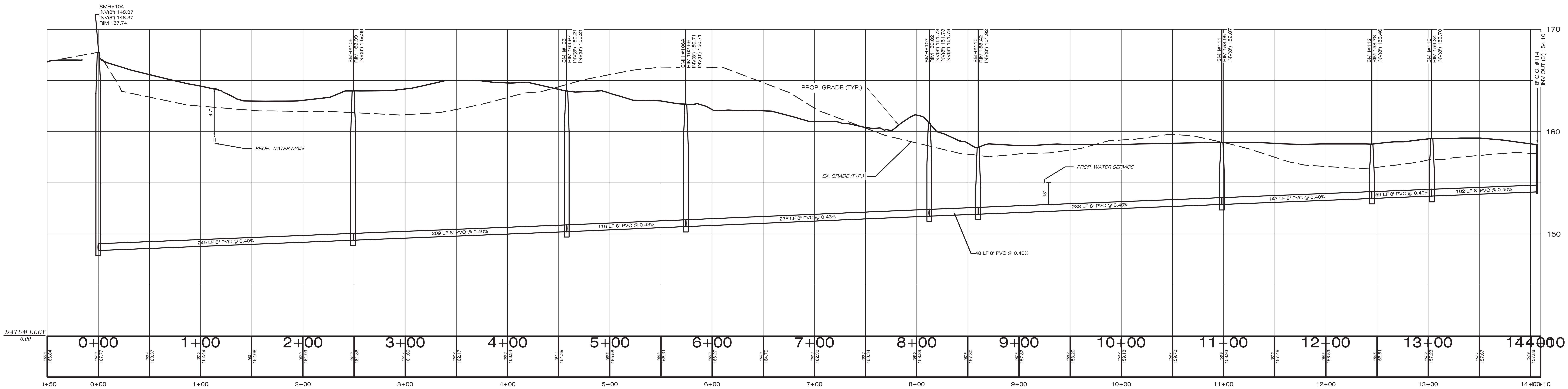
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

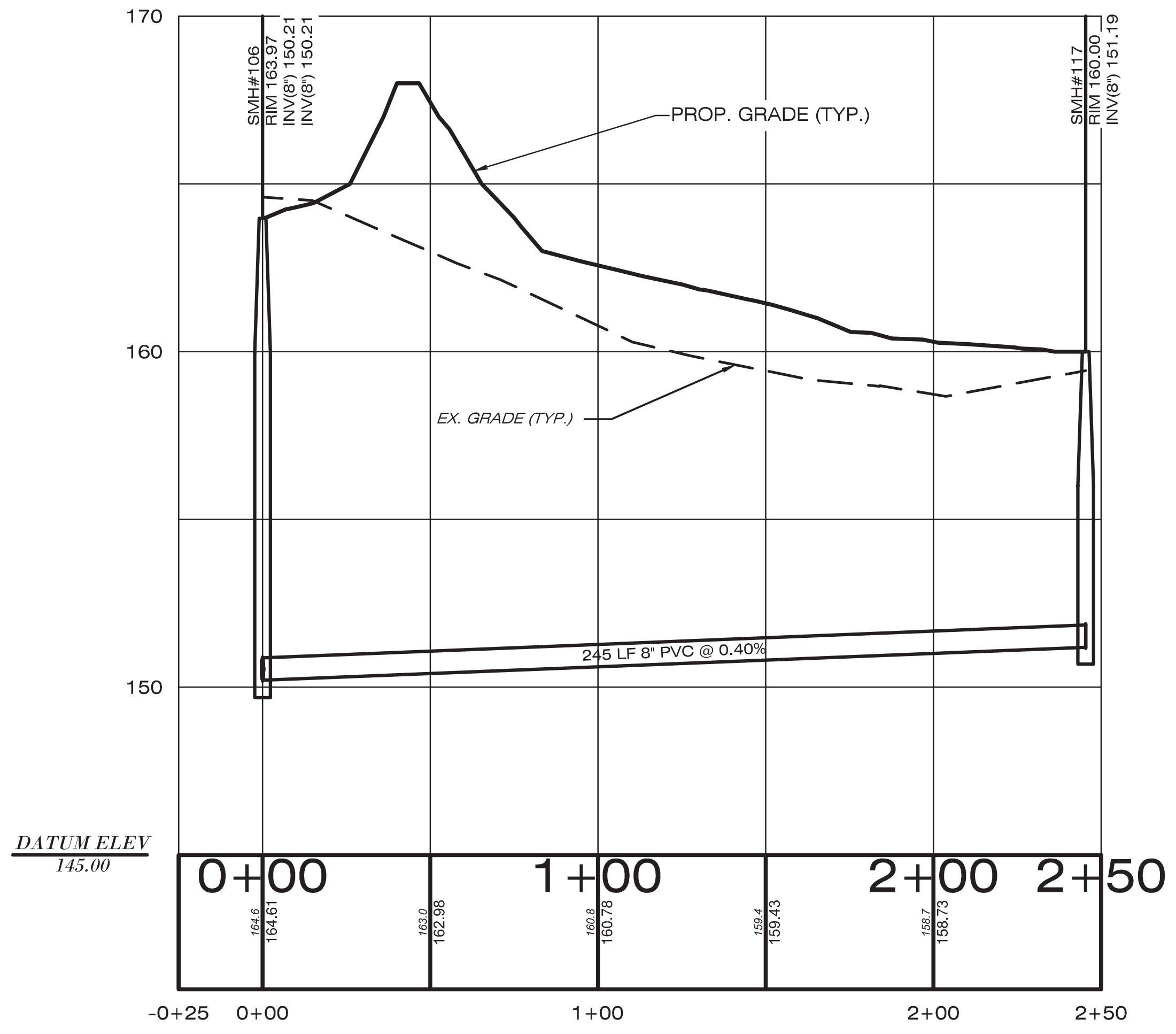
PROPOSED FORCEMAIN AND LIFT STATION

PROJECT NUMBER: SCE-9755.021
SCALE: AS NOTED
SHEET 15 OF 47
REVISION -

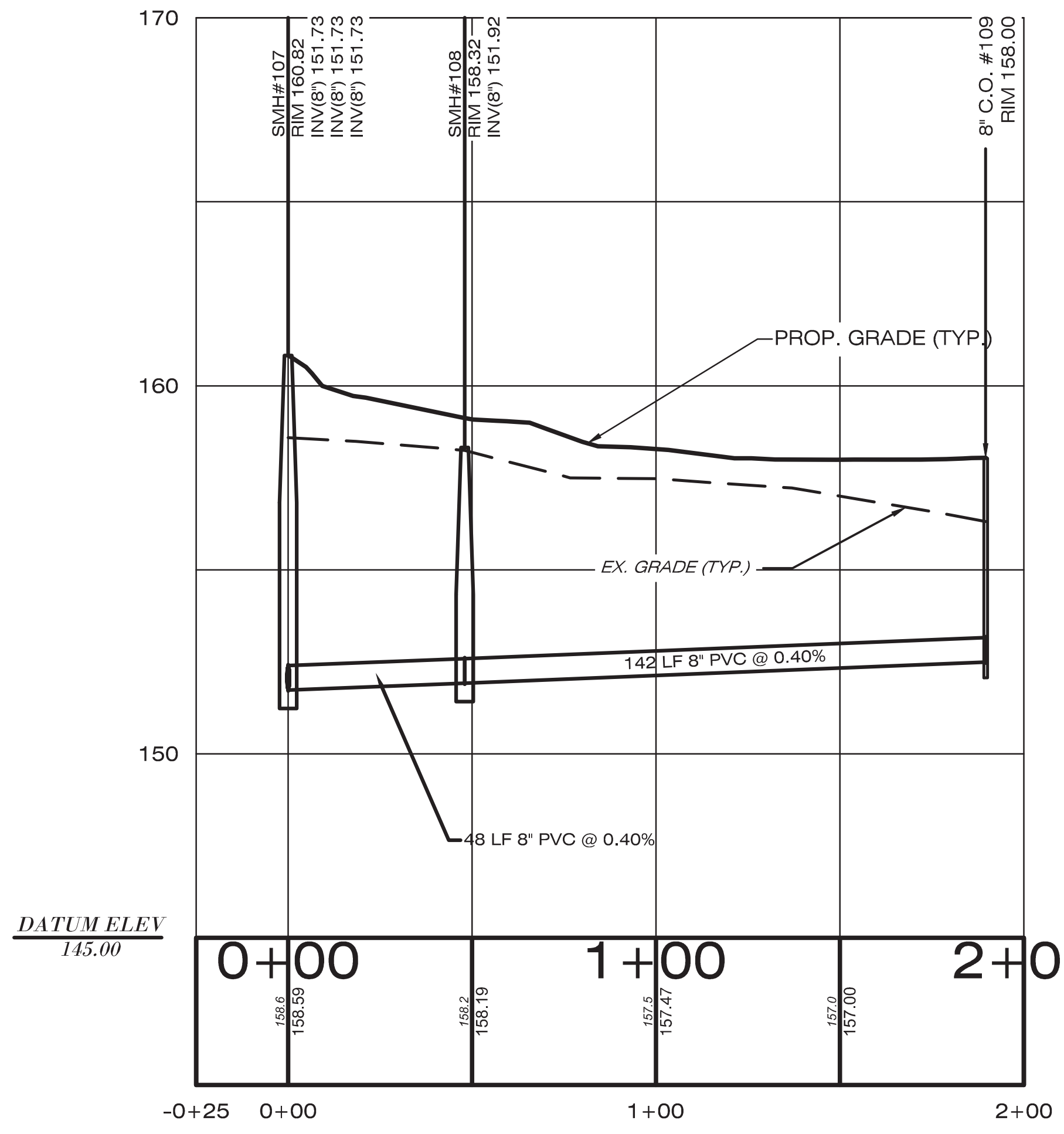
E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 15 Proposed Forcemain and Liftstation.dwg Mon, Mar 15, 2021 - 11:58am wschurmann SUBURBAN CONSULTING ENGINEERS, INC.



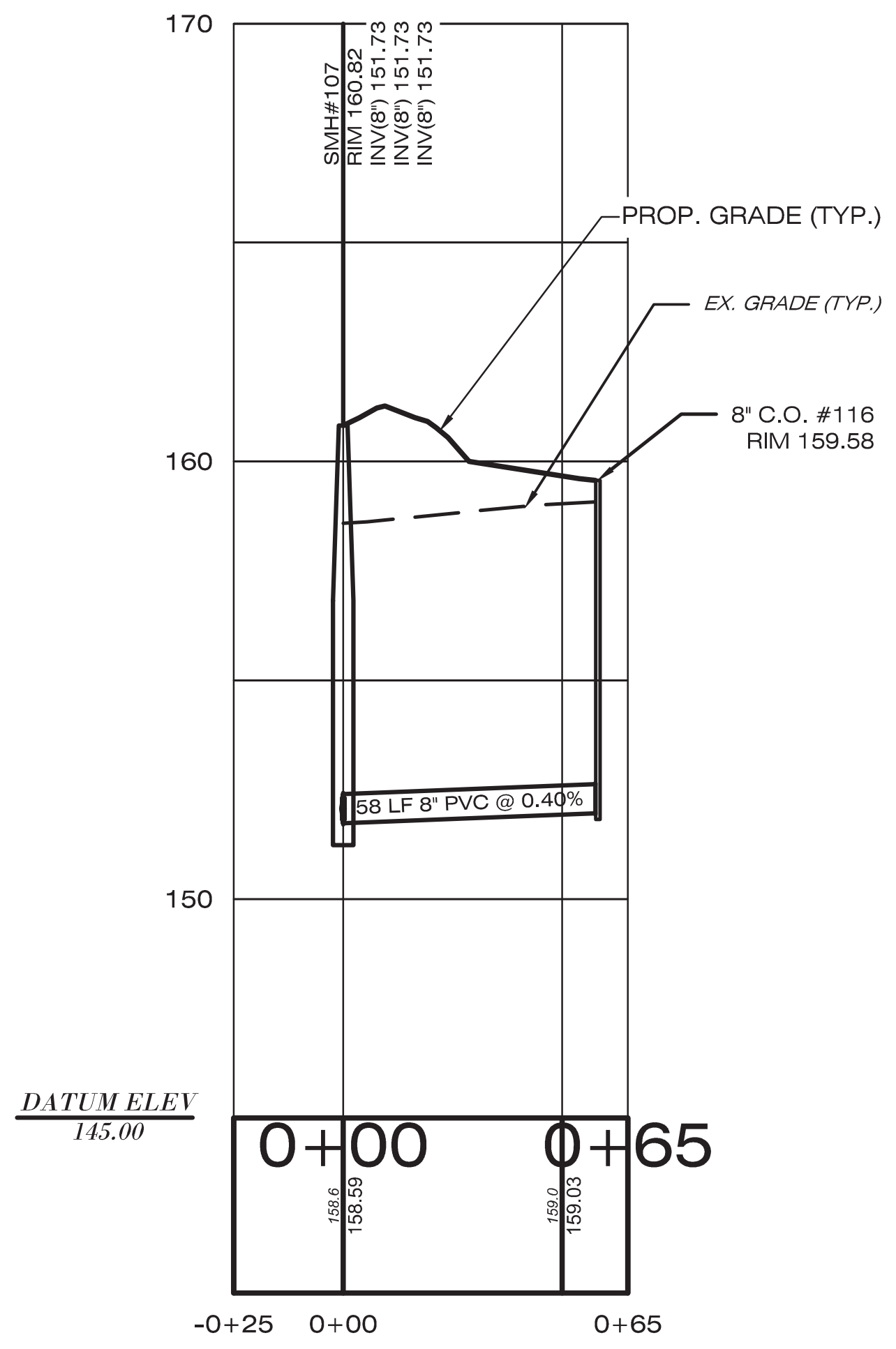
STRUCTURE 104-114



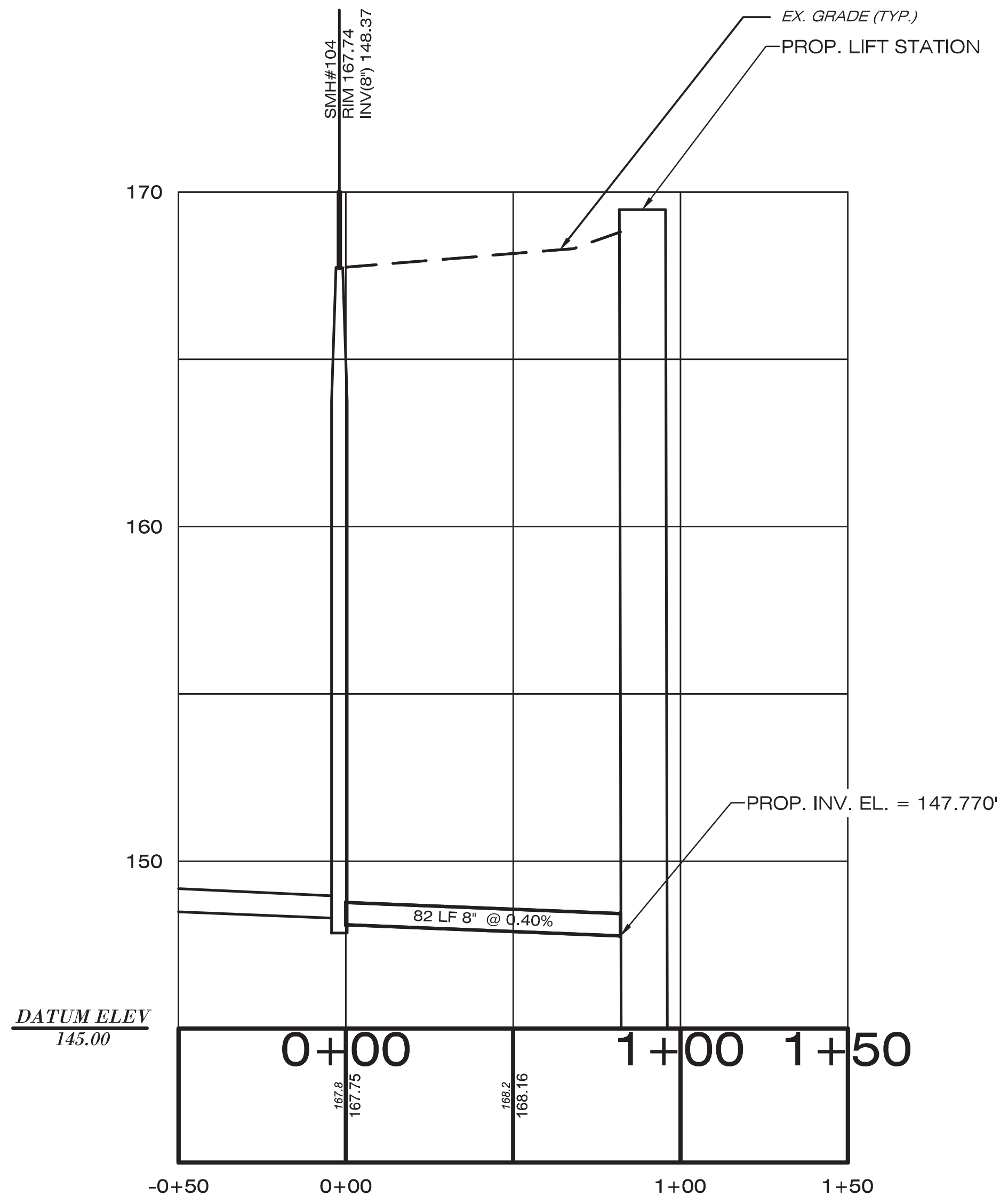
STRUCTURE 106-117



STRUCTURE 107-109



STRUCTURE 107-116



PROPOSED LIFT STATION ALIGNMENT

40 20 0 40 80
HORIZONTAL SCALE: 1"=40'-0"

4 2 0 4 8
HORIZONTAL SCALE: 1"=4'-0"

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
DATE: 03/19/2021

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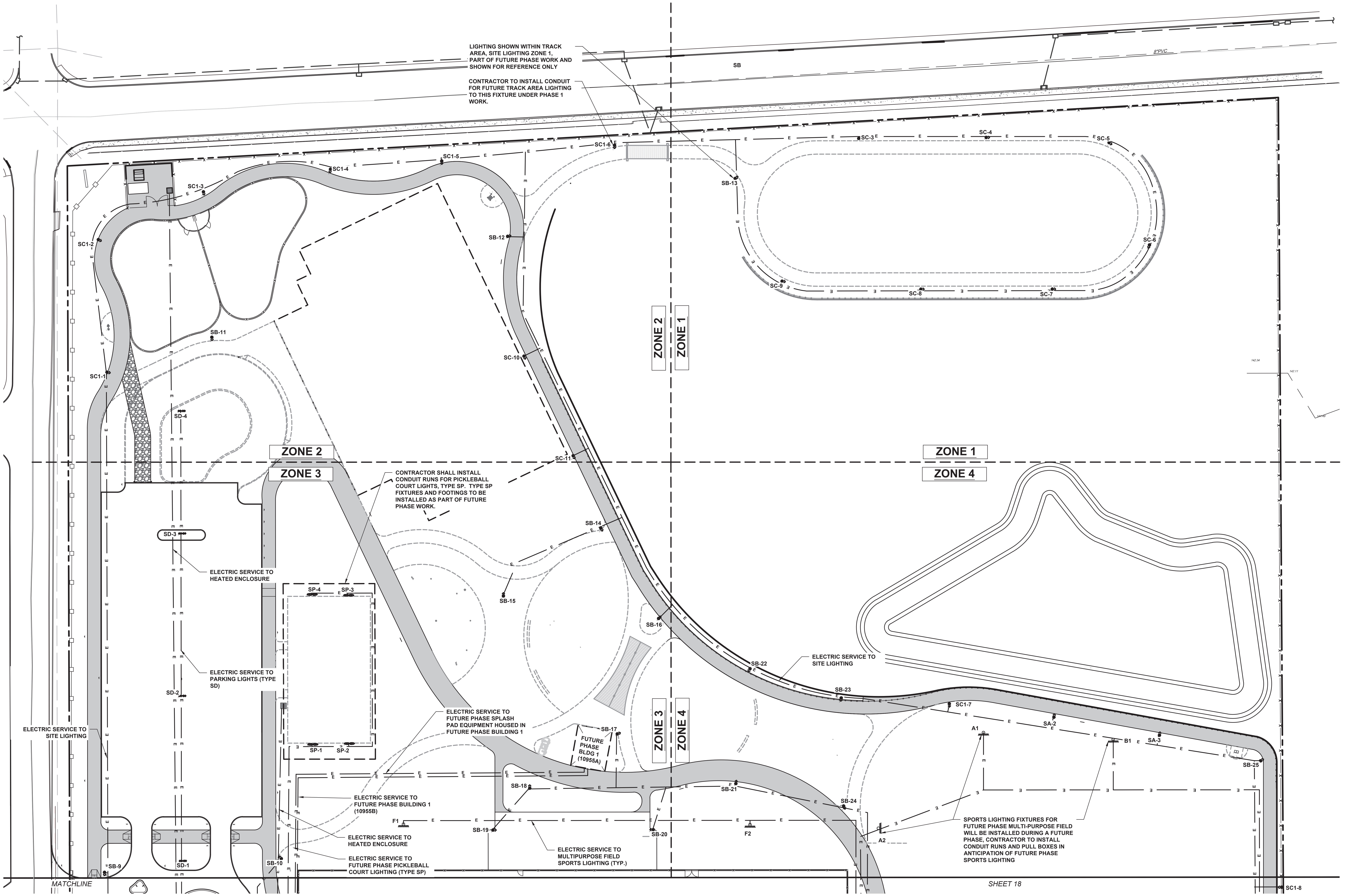
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SANITARY PROFILES

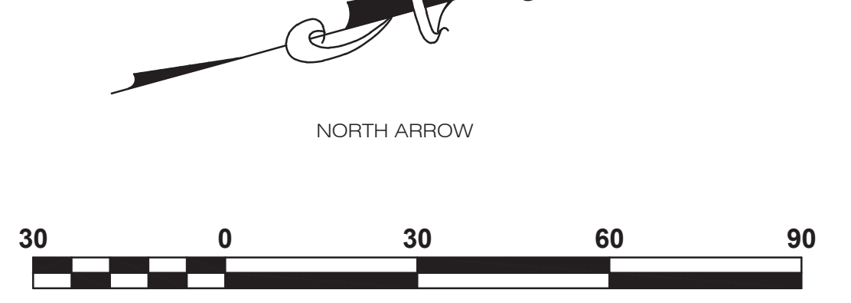
PROJECT NUMBER: SCE-9755.021
SCALE: AS NOTED
SHEET 16 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 16 Sanitary PROFILES I.dwg Mon, Mar 15, 2021 - 11:33am wschurmann SUBURBAN CONSULTING ENGINEERS, INC.


LIGHTING SHOWN WITHIN TRACK AREA, SITE LIGHTING ZONE 1, PART OF FUTURE PHASE WORK AND SHOWN FOR REFERENCE ONLY
CONTRACTOR TO INSTALL CONDUIT FOR FUTURE TRACK AREA LIGHTING TO THIS FIXTURE UNDER PHASE 1 WORK.
SB
SC1-6
SC1-5
SC1-4
SC1-3
SC1-2
SC1-1
SC-3
SC-4
SC-5
SC-6
SC-7
SC-8
SC-9
SB-13
SB-12
SB-11
SC-10
SC-11
SD-4
SD-3
SD-2
SD-1
ZONE 2
ZONE 1
ZONE 3
ZONE 4
CONTRACTOR SHALL INSTALL CONDUIT RUNS FOR PICKLEBALL COURT LIGHTS, TYPE SP. TYPE SP FIXTURES AND FOOTINGS TO BE INSTALLED AS PART OF FUTURE PHASE WORK.
ELECTRIC SERVICE TO HEATED ENCLOSURE
ELECTRIC SERVICE TO PARKING LIGHTS (TYPE SD)
ELECTRIC SERVICE TO SITE LIGHTING
SP-4
SP-3
SP-1
SP-2
SB-14
SB-15
SB-16
ELECTRIC SERVICE TO FUTURE PHASE SPLASH PAD EQUIPMENT HOUSED IN FUTURE PHASE BUILDING 1
FUTURE PHASE BLDG 1 (10955A)
SB-17
SB-18
SB-19
SB-20
SB-21
SB-22
SB-23
SB-24
SB-25
SC1-7
SC1-8
SA-2
SA-3
A1
A2
B1
F1
F2
ELECTRIC SERVICE TO SITE LIGHTING
SPORTS LIGHTING FIXTURES FOR FUTURE PHASE MULTI-PURPOSE FIELD WILL BE INSTALLED DURING A FUTURE PHASE, CONTRACTOR TO INSTALL CONDUIT RUNS AND PULL BOXES IN ANTICIPATION OF FUTURE PHASE SPORTS LIGHTING
ELECTRIC SERVICE TO FUTURE PHASE BUILDING 1 (10955B)
ELECTRIC SERVICE TO HEATED ENCLOSURE
ELECTRIC SERVICE TO FUTURE PHASE PICKLEBALL COURT LIGHTING (TYPE SP)
ELECTRIC SERVICE TO MULTIPURPOSE FIELD SPORTS LIGHTING (TYP.)
SB-9
SB-10
MATCHLINE
SHEET 18

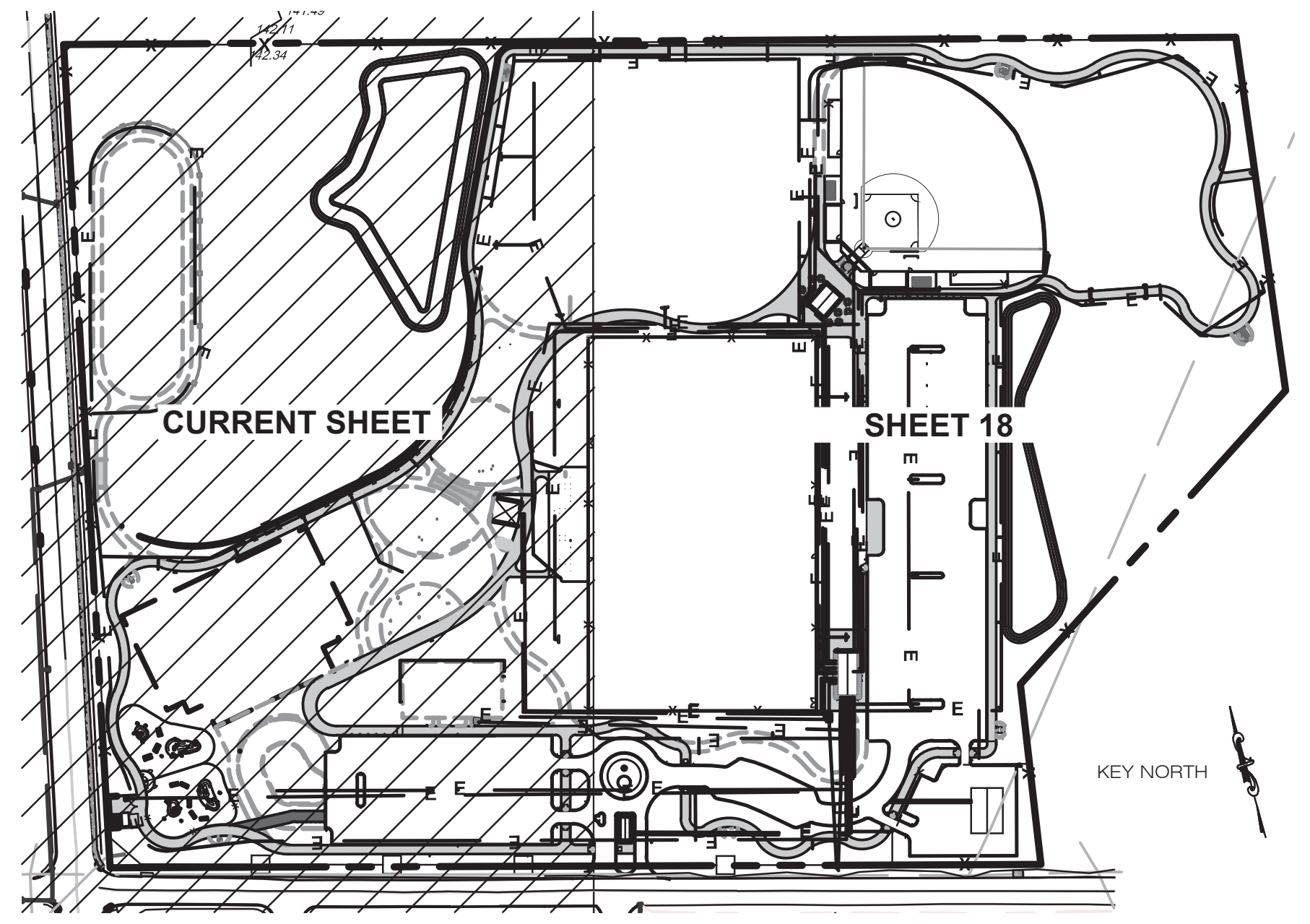
GENERAL LIGTHING NOTES

1. SEE SHEET 19 FOR SITE ELECTRICAL DETAILS AND CONDUIT SCHEDULES
2. SEE SHEET 20 FOR SITE LIGHTING SCHEDULE AND DETAILS
3. SEE SHEET 21 FOR SPORTS LIGHTING SCHEDULE AND DETAILS
4. ZONES REFER TO SITE LIGHTING CONTRACTOR ZONES, REFER TO SHEET 19 FOR SITE LIGHTING CONTROL PANEL DETAIL.
5. FOR SITE BUILDINGS, CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLATION OF SITE ELECTRICAL TO WITHIN 6' OF BUILDING FOOT PRINT, FINAL CONNECTION TO SITE SERVICE SHALL BE BY OTHERS.
6. FOR FUTURE PHASE SITE AND SPORTS LIGHTING CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING CONDUIT AND PULL BOXES FOR ANTICIPATION OF FUTURE PHASE WORK.
7. FOR SPORTS LIGHTING, ELECTRONIC SCOREBOARDS AND PRESS BOX, CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING SERVICE TO INDIVIDUAL ITEMS WITH FINAL ELECTRICAL CONNECTION BY OTHERS.
8. LIGHTS WITHIN ZONE 1 (TRACK AREA) SHALL BE INSTALLED AS PART OF A FUTURE PHASE, CONTRACTOR SHALL INSTALL CONDUIT STUB-UP AT FIXTURE SC1-6 IN ANTICIPATION OF FUTURE PHASE LIGHTING, TYP.



SCALE: 1" = 30'

KEY PLAN



CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE LIGHTING AND ELECTRIC PLAN - WEST

PROJECT NUMBER: SCE-9755.021
SCALE: 1"=30'
SHEET 17 OF 47
REVISION -

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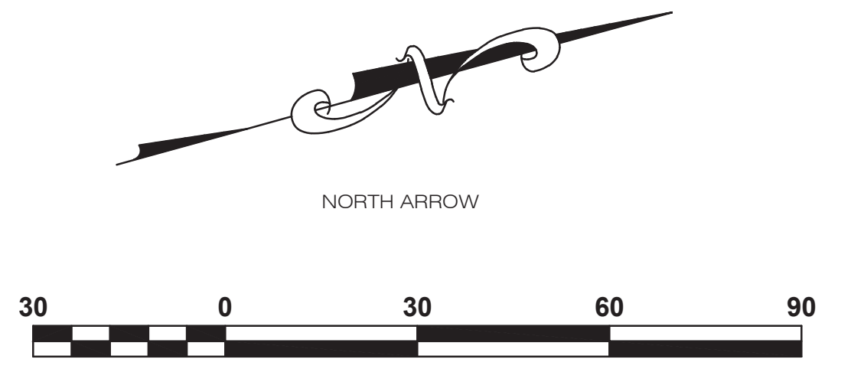
MATCHLINE
SHEET 17
SB-9
BLDG 2 (10955D)
FLAG-1
FLAG-2
SB-8
SC-2
SB-7
SB-6
2" CONDUIT FOR TELEPHONE/INTERNET SERVICE TO BUILDING 2 (10955D)
SB-5
SA-1
2" CONDUIT FOR TELEPHONE/INTERNET SERVICE TO SITE
SC-1
SB-4
ELECTRIC SERVICE TO FUTURE PHASE PICKLEBALL COURT LIGHTING (TYPE SP)
UTILITY SERVICE PAD MOUNT TRANSFORMER
ELECTRIC SERVICE TO BUILDING 5 (10955B)
BLDG 3 (10955C)
F4
ELECTRIC SERVICE TO CHALLENGER FIELD SCOREBOARD (TYP.)
ELECTRIC SERVICE TO PARKING LIGHTS (TYPE SD)
ELECTRIC SERVICE TO CHALLENGER FIELD SPORTS LIGHTING (TYP.)
ELECTRIC SERVICE TO PRESS BOX
ELECTRIC SERVICE TO SITE LIGHTING
ELECTRIC SERVICE TO MULTIPURPOSE FIELD SCOREBOARD (TYP.)
ELECTRIC SERVICE TO MULTIPURPOSE FIELD SPORTS LIGHTING (TYP.)
ELECTRIC SERVICE TO FUTURE PHASE SOFTBALL/SOCCER FIELD SPORTS LIGHTING (TYP.)
ZONE 5
ZONE 7
ZONE 6
ZONE 8
SB-29
F3
SB-30
SB-28
SC-12
SC-13
MULTI-SPORT SCOREBOARD
B2
C1
SC1-8
SC1-9
SC1-10
SPORTS LIGHTING FIXTURES FOR FUTURE PHASE MULTI-PURPOSE FIELD WILL BE INSTALLED DURING A FUTURE PHASE, CONTRACTOR TO INSTALL CONDUIT RUNS AND PULL BOXES IN ANTICIPATION OF FUTURE PHASE SPORTS LIGHTING
SB-27
A3
SB-26
C2
SC-14
SC-15
B3
BLDG 5 (10955B)
ELECTRIC SERVICE TO ANNOUNCER'S BOOTH RECEPTACLES
SB-31
A4
SB-3
2" CONDUIT FOR TELEPHONE/INTERNET
ELECTRIC SERVICE TO BUILDING 4 (MAINTENANCE)
SB-2
SD-8
SD-7
SD-6
SD-5
SC-21
SC-16
BASEBALL/SOFTBALL SCOREBOARD
SG-2
SG-1
SF-3
SF-1
SF-2
SB-1
SC1-14
SC-24
SC-23
SC-22
SB-32
SC-20
SC-17
B4
RELOCATED UTILITY POLE, CONTRACTOR TO COORDINATE WITH ELECTRIC UTILITY SERVICE PROVIDER.
SB-33
SC-18
SB-34
SC1-11
SB-35
ELECTRIC SERVICE TO SITE LIGHTING
SC-19
SC1-12
SC1-13
KEY PLAN
SHEET 17
CURRENT SHEET
KEY NORTH



SCALE: 1" = 30'

GENERAL LIGTHING NOTES

1. SEE SHEET 19 FOR SITE ELECTRICAL DETAILS AND CONDUIT SCHEDULES
2. SEE SHEET 20 FOR SITE LIGHTING SCHEDULE AND DETAILS
3. SEE SHEET 21 FOR SPORTS LIGHTING SCHEDULE AND DETAILS
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7. FOR SPORTS LIGHTING, ELECTRONIC SCOREBOARDS AND PRESS BOX, CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING SERVICE TO INDIVIDUAL ITEMS WITH FINAL ELECTRICAL CONNECTION BY OTHERS.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW, ROCKLAND COUNTY, NEW YORK

SITE LIGHTING & ELECTRIC PLAN - EAST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 18 OF 47

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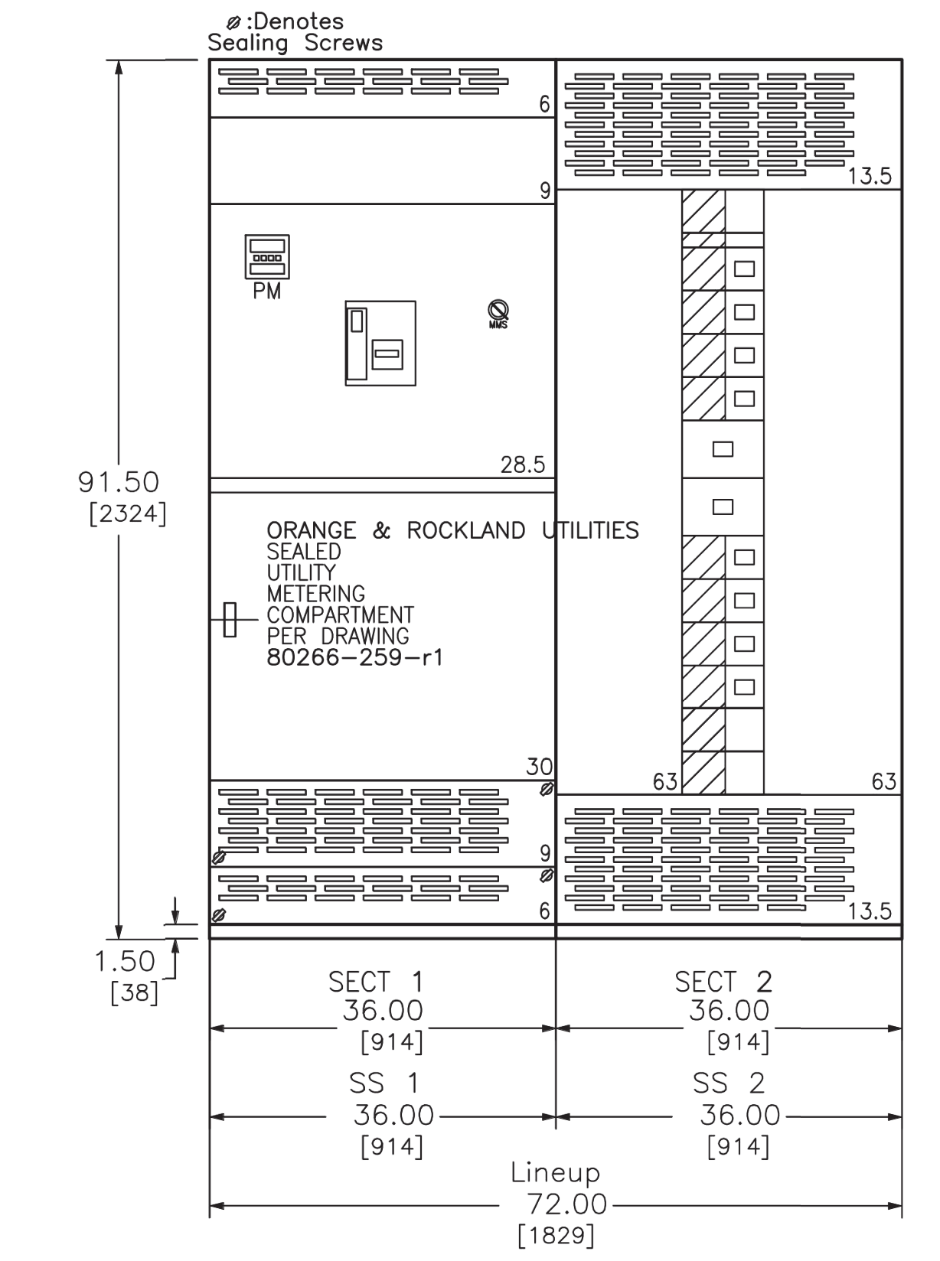
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PM
ORANGE & ROCKLAND UTILITIES SEALED UTILITY METERING COMPARTMENT PER DRAWING 80266-259-r1
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1.50 [38]
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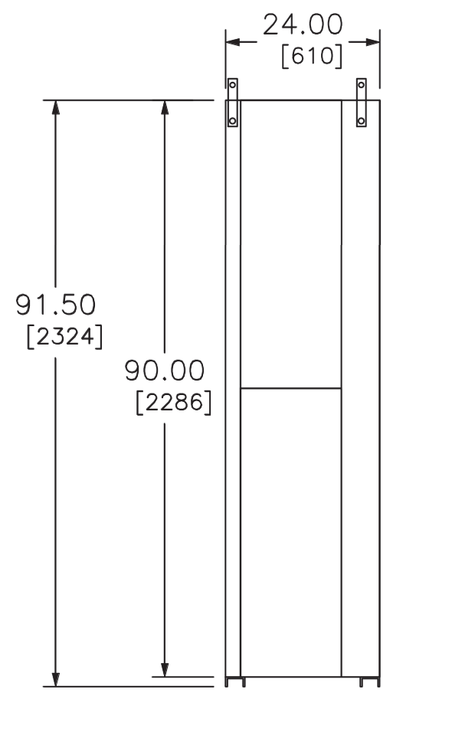
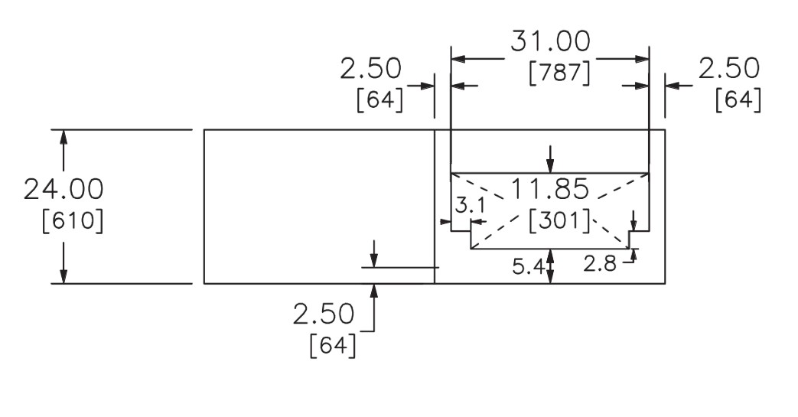
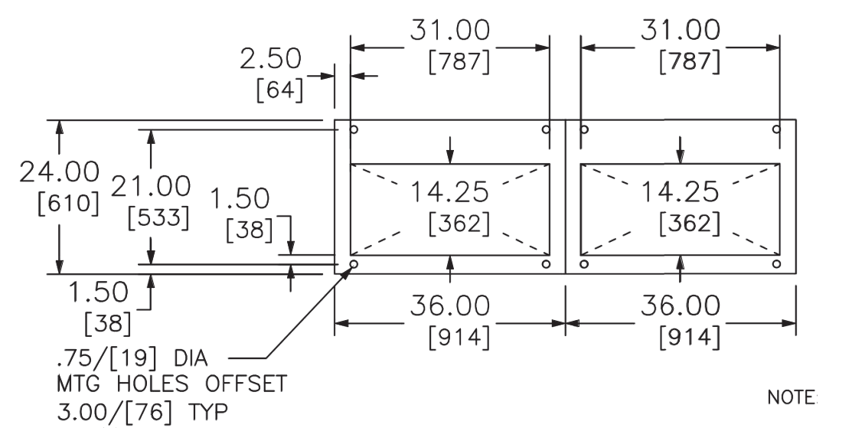
SECT 2 36.00 [914]
SS 1 36.00 [914]
SS 2 36.00 [914]
Lineup 72.00 [1829]



LEFT SIDE VIEW



TOP VIEW – FRONT



FLOOR PLAN – FRONT

SWITCHBOARD GENERAL NOTES

PRODUCT DESCRIPTION & RATINGS

Power System Data

480Y/277V 3Ph 4W 60Hz / 3 Phase Wye
Solidly Grounded
System Short Circuit Current Rating: 42kA RMS
Incoming Section 1 Cable Through the Bottom Left of Lineup

Bus System Data

1200A Tin/Aluminum & Silver/Copper Main Bus
(2) .25x2.00 IN/6x51 mm Al Bus Bar Per Phase/Neutral
(1) .25x1.50 IN/6x38 mm Al Ground Bus

Enclosure Data

Type 1 Free Standing
Exterior Paint Color: ANSI 49
Front Accessibility Only Required
Handling: Rollers & Lifting Assemblies
Nameplate Mounting Type: Adhesive (Factory Installed)
Equipment Nameplate: White Surface/Black Letters
Utility sealing hardware installed for unmetered bus compartments

Estimated Shipping Weight

Shipping Split 1 889.00 lbs / 403.25 kgs
Shipping Split 2 787.00 lbs / 356.98 kgs
Complete Lineup 1676.00 lbs / 760.23 kgs

Code Standards

U.L. Deadfront and suitable for use as Service Entrance when not more than six (6) disconnecting means are provided.

Rating Nameplates

ST1– Service Entrance – Section Bus 1200A
ST2– Deadfront – Section Bus 1200A

PRODUCT INFORMATION

Wiring

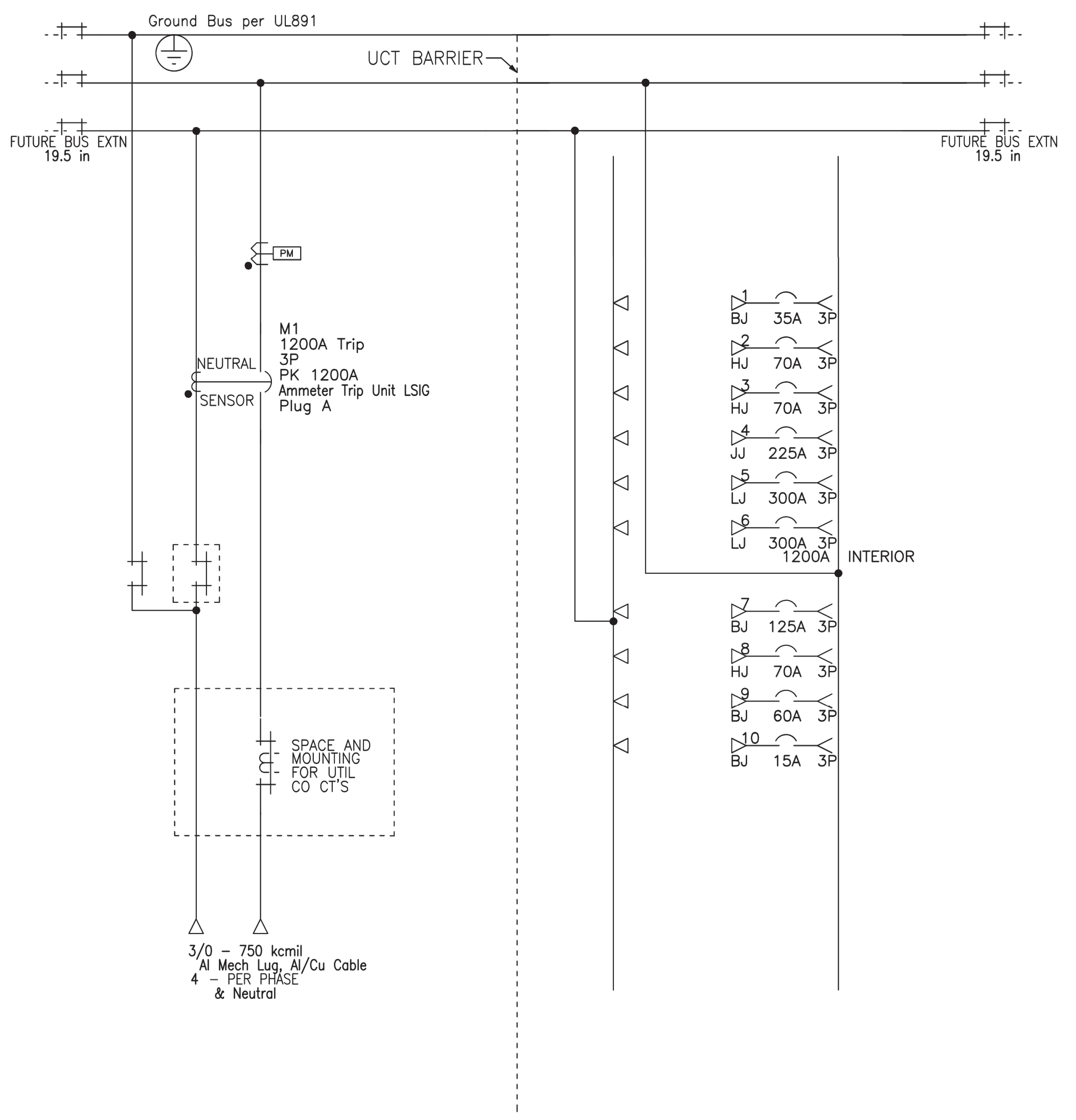
All wiring to be Machine Tool Wire type

Instruction Bulletins

Reference 80043–055 For Handling, Installation, Anchoring, Inspection And Maintenance Information

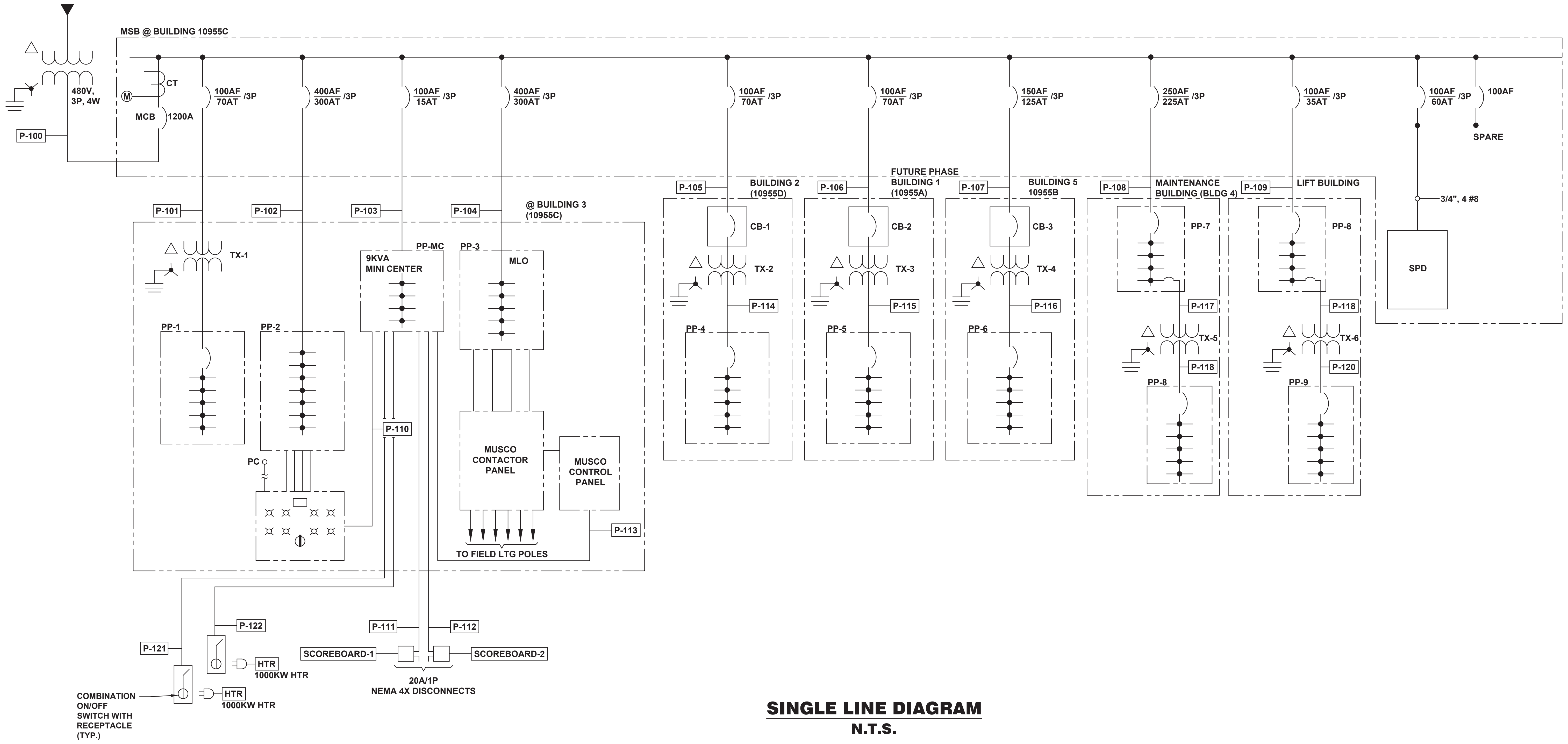
Product Accessories/Options

Seismic Qualified
24V Trip Unit Display Power
Network Communications Only – Modbus RS485 to Ethernet Modbus TCP
Customer Ethernet Network – 10/100Mb Copper
Locally Mounted MMS Switch



SECTION 1

SECTION 2



SINGLE LINE DIAGRAM

N.T.S.

EQUIPMENT SCHEDULE

EQUIPMENT TAG	DESCRIPTION	REMARKS
MSB	MAIN SWITCHBOARD	
PP-1	100A, 120/208V, 3PH, 4W	PART OF PRE-FAB. BUILIDING
PP-2	400A, 480V/3P	
PP-MC	60A, 480V/3P - 120/208V	MINI CENTER
PP-3	400A, 480V/3PH	MLO ONLY
PP-4	100A, 120/208V, 3PH, 4W	42 CKT PANEL BOARD WITH MCB
PP-5	100A, 120/208V, 3PH, 4W	42 CKT PANEL BOARD WITH MCB
PP-6	200A, 120/208V, 3PH, 4W	42 CKT PANEL BOARD WITH MCB
PP-7	225A, 480V/3PH	42 CKT PANEL BOARD WITH MCB
PP-8	100A, 120/208V	42 CKT PANEL BOARD WITH MCB
PP-9	30A, 120/208V PANEL	12 CKT PANEL BOARD WITH MCB
TX-1	45KVA, 480 - 120/208V	
TX-2	45KVA, 480 - 120/208V	
TX-3	45KVA, 480 - 120/208V	
TX-4	75KVA, 480 - 120/208V	
TX-5	30KVA, 480 - 120/208V	
TX-6	9KVA, 480 - 120/208V	
CB-1, CB-2	70A/3P	
CB-3	125A/3P	

CONDUIT & CABLE SCHEDULE

CONDUIT NO.	FROM	TO	CONDUIT SIZE	WIRE SIZE
P-100	UTILITY TRANSF.	MSB	3-3"	3 SETS- 4#600MCM + 1#3/0
P-101	MSB	TX-1 (45KVA)	1"	3#4 + 1#8G
P-102	MSB	PP-2	2 1/2"	4#350 + 1#4
P-103	MSB	PP-MC	3/4"	3#10 + 1#10
P-104	MSB	PP-3	3"	3#500MCM + 1#4G
P-105	MSB	CB-1	1"	3#4 + 1#8G
P-106	MSB	CB-2	1 1/2"	3#3 + 1#8G
P-107	MSB	CB-3	1 1/2"	3#1 + 1#6G
P-108	MSB	PP-7	2"	3#3/0 + 1#3G
P-109	MSB	PP-8	1 1/2"	3#4 + 1#10G
P-110	PP-MC	OUTDOOR LIGHTING CONTROL	3/4"	2#12 + 1#12G
P-111	PP-MC	SCOREBOARD NO. 1 DISCONNECT	1"	2#6 + 1#10G
P-112	PP-MC	SCOREBOARD NO. 2 DISCONNECT	1 1/2"	2#3 + 1#10G
P-113	PP-MC	MUSCO CONTROL PANEL	3/4"	2#12 + 1#12G
P-114	TX-2	PP-4	1 1/2"	4#2/0 + 1#6G
P-115	TX-3	PP-5	1 1/2"	4#2/0 + 1#6G
P-116	TX-4	PP-6	2 1/2"	4#300MCM + 1#4G
P-117	PP-7	TX-5	3/4"	3#8 + 1#10
P-118	TX-5	PP-8	1 1/2"	4#2 + 1#8G
P-119	PP-8	TX-6	3/4"	3#12 + 1#12G
P-120	TX-6	PP-9	3/4"	3#10 + 1#10G
P-121	PP-MC	HEATED ENCLOSURE FOR BACKFLOW PREVENTER	1"	2#4 + 1#10G
P-122	PP-MC	HEATED ENCLOSURE FOR BACKFLOW PREVENTER	1"	2#4 + 1#10G

MINI CENTER CIRCUIT DIRECTORY

20A/1P	BACKFLOW PREVENTOR ENCLOSURE RECEPTACLE
20A/1P	BACKFLOW PREVENTOR ENCLOSURE RECEPTACLE
20A/1P	MUSCO CONTROL PANEL
20A/1P	AREA LIGHTING CONTROL PANEL
20A/1P	SPARE
20A/1P	SPARE
20A/1P	SPARE
20A/1P	SPARE

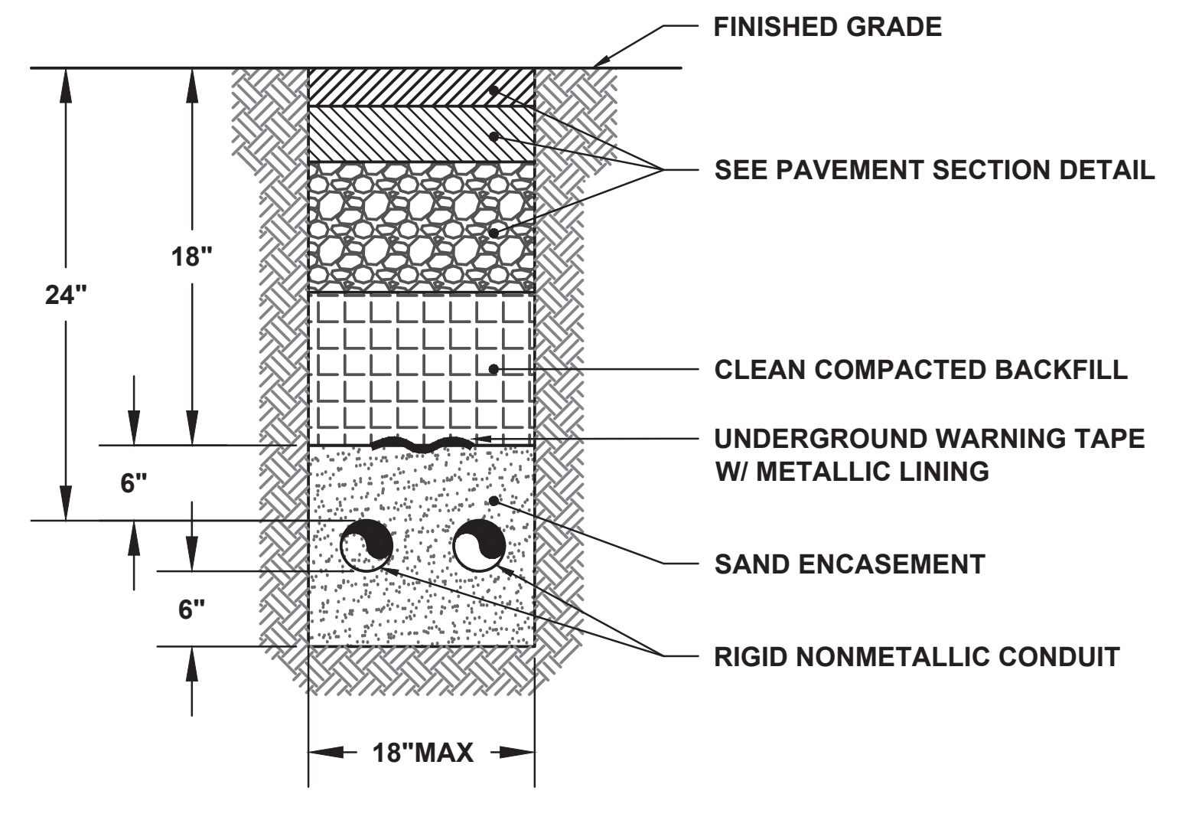
POWER STYLE QED-2 SWITCHBOARD

SECT NO	CKT NO	IMD /GMD CONFIG	DEVICE/FRAME RATING	TRIP AMP	FUSE/ TRIP	#P	DESIGNATION	N/P	LUG/WIRE INFORMATION				ACCESSORIES / NOTES
									QTY	PHASE WIRE RANGE	QTY	NEUT WIRE RANGE	
–	–	–	Equipment Nameplate	–	–	–	MDP	Yes	–	–	–	–	– –
1	M1	FIX	PK 1200A Plug A	1200A	A–LSIG	3P	MAIN BREAKER	No	–	–	–	–	GF COM,PLA,PM5K,PM5K,MMS,TU
1	UCT	–	1200A	–	–	–	ORANGE & ROCKLAND UTILITIES	No	4	3/0 – 750 kcmil	4	3/0 – 750 kcmil	
2	1	4.5 in	BJ	35A	–	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	
2	2	4.5 in	HJ 100A	70A	S–LI	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	
2	3	4.5 in	HJ 100A	70A	S–LI	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	
2	4	4.5 in	JJ	225A	–	3P		No	1	3/0 – 350 kcmil	1	3/0 – 350kcmil	
2	5	6 in	LJ 400A	300A	S–LI	3P		No	2	3/0 – 250 kcmil	2	3/0 – 250 kcmil	
2	6	6 in	LJ 400A	300A	S–LI	3P		No	2	3/0 – 250 kcmil	2	3/0 – 250 kcmil	
2	7	4.5 in	BJ	125A	–	3P		No	1	#14 – 2/0 AWG	1	#14 – 2/0 AWG	
2	8	4.5 in	HJ 100A	70A	S–LI	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	
2	9	4.5 in	BJ	60A	–	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	
2	10	4.5 in	BJ	15A	–	3P		No	1	#14 – 1/0 AWG	1	#14 – 1/0 AWG	

LEGEND	
COM	Communications
GF	Ground Fault
MMS	Maintenance Mode Setting Switch
PLA	Padlock Attachment–Fixed
PM5K	Power Meter PM55XX
TU	24V Trip Unit Display Power

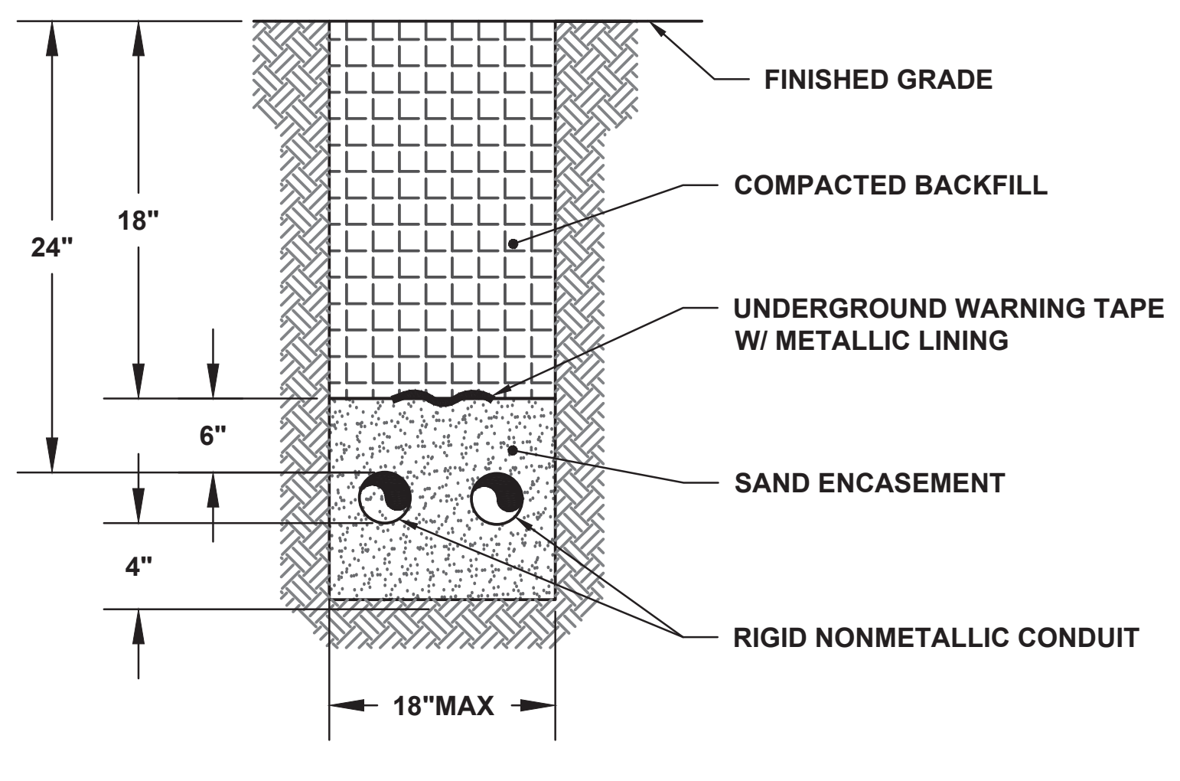
MAIN SWITCHBOARD PANEL DETAILS

N.T.S.


FINISHED GRADE
SEE PAVEMENT SECTION DETAIL
24"
18"
CLEAN COMPACTED BACKFILL
UNDERGROUND WARNING TAPE W/ METALLIC LINING
6"
SAND ENCASEMENT
6"
RIGID NONMETALLIC CONDUIT
18"MAX

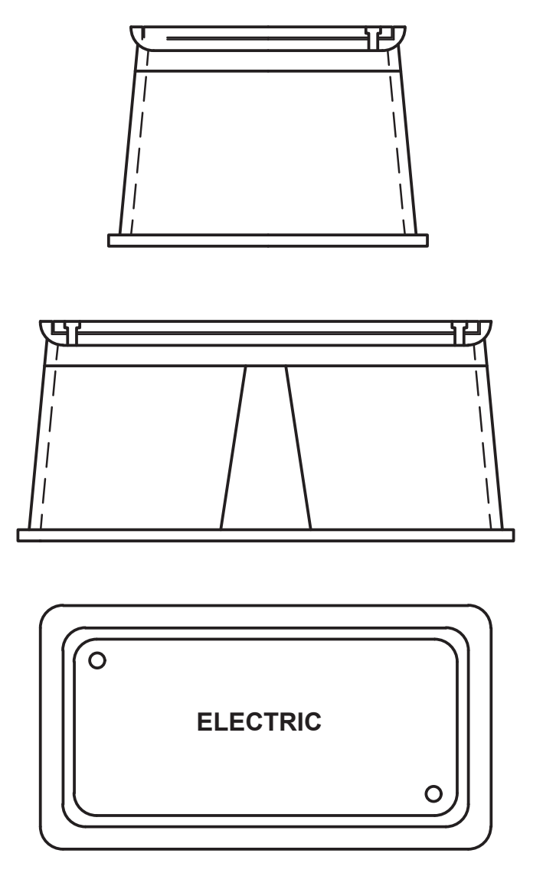
TRENCH DETAIL

SCHEDULE 40 PVC CONDUIT FOR ELECTRICAL WIRING
(IN PAVEMENT AREA)
N.T.S.


FINISHED GRADE
COMPACTED BACKFILL
24"
18"
UNDERGROUND WARNING TAPE W/ METALLIC LINING
6"
SAND ENCASEMENT
4"
RIGID NONMETALLIC CONDUIT
18"MAX

TRENCH DETAIL

SCHEDULE 40 PVC CONDUIT FOR ELECTRICAL WIRING
(IN GRASS AREA)
N.T.S.

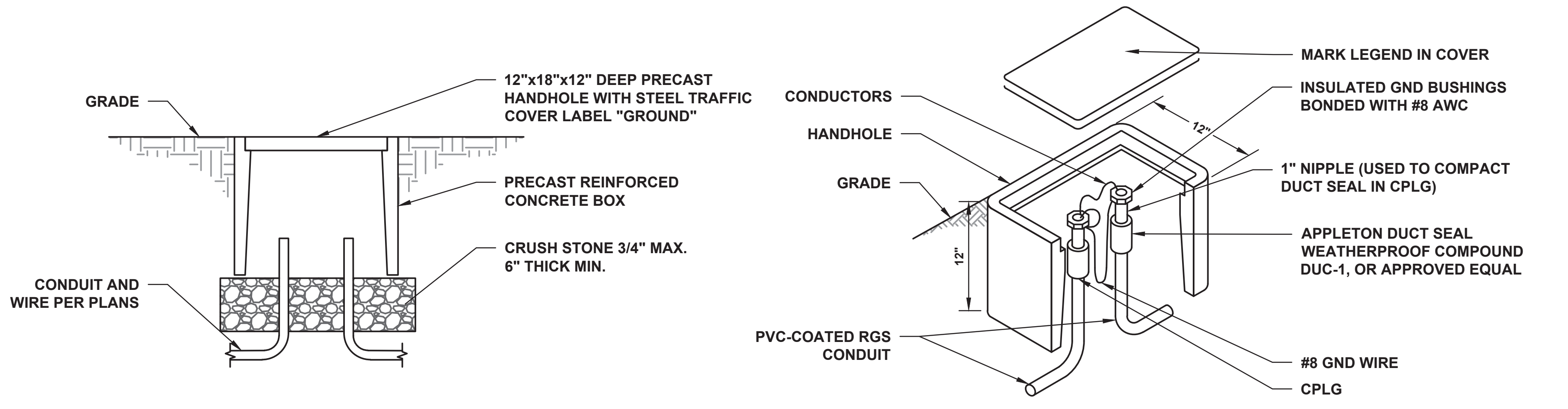


NOTE:

1. JUNCTION BOXES SHALL BE TIER 15 AS MANUFACTURED BY HIGHLINE PRODUCTS OR APPROVED EQUAL (MODEL CHA 132418H).

FIBERGLASS JUNCTION BOX

N.T.S.


GRADE
12"x18"x12" DEEP PRECAST HANDHOLE WITH STEEL TRAFFIC COVER LABEL "GROUND"
PRECAST REINFORCED CONCRETE BOX
CRUSH STONE 3/4" MAX. 6" THICK MIN.
CONDUIT AND WIRE PER PLANS
CONDUCTORS
HANDHOLE
GRADE
PVC-COATED RGS CONDUIT
MARK LEGEND IN COVER
INSULATED GND BUSHINGS BONDED WITH #8 AWC
1" NIPPLE (USED TO COMPACT DUCT SEAL IN CPLG)
APPLETON DUCT SEAL WEATHERPROOF COMPOUND DUC-1, OR APPROVED EQUAL
#8 GND WIRE
CPLG
12"
12"

SMALL ELECTRIC HANDHOLE

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:

REVISIONS

DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
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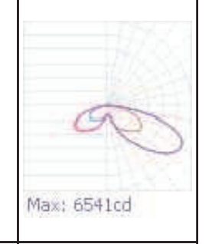
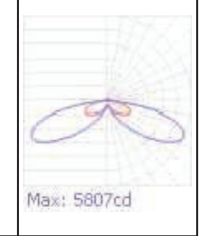
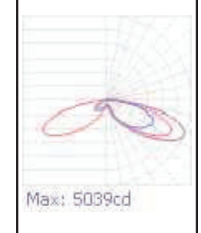
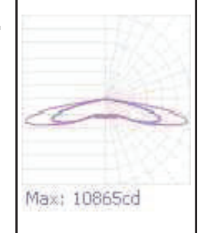
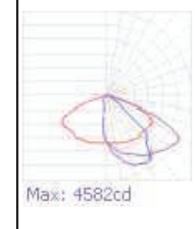
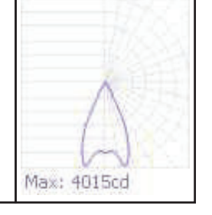
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE ELECTRICAL DETAILS AND SCHEDULES

PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 19 OF 47
REVISION -

Schedule: HAVERSTRAW MULTI USE PARK, NY REV 5 4-22-2020 A251 LLG/DMC

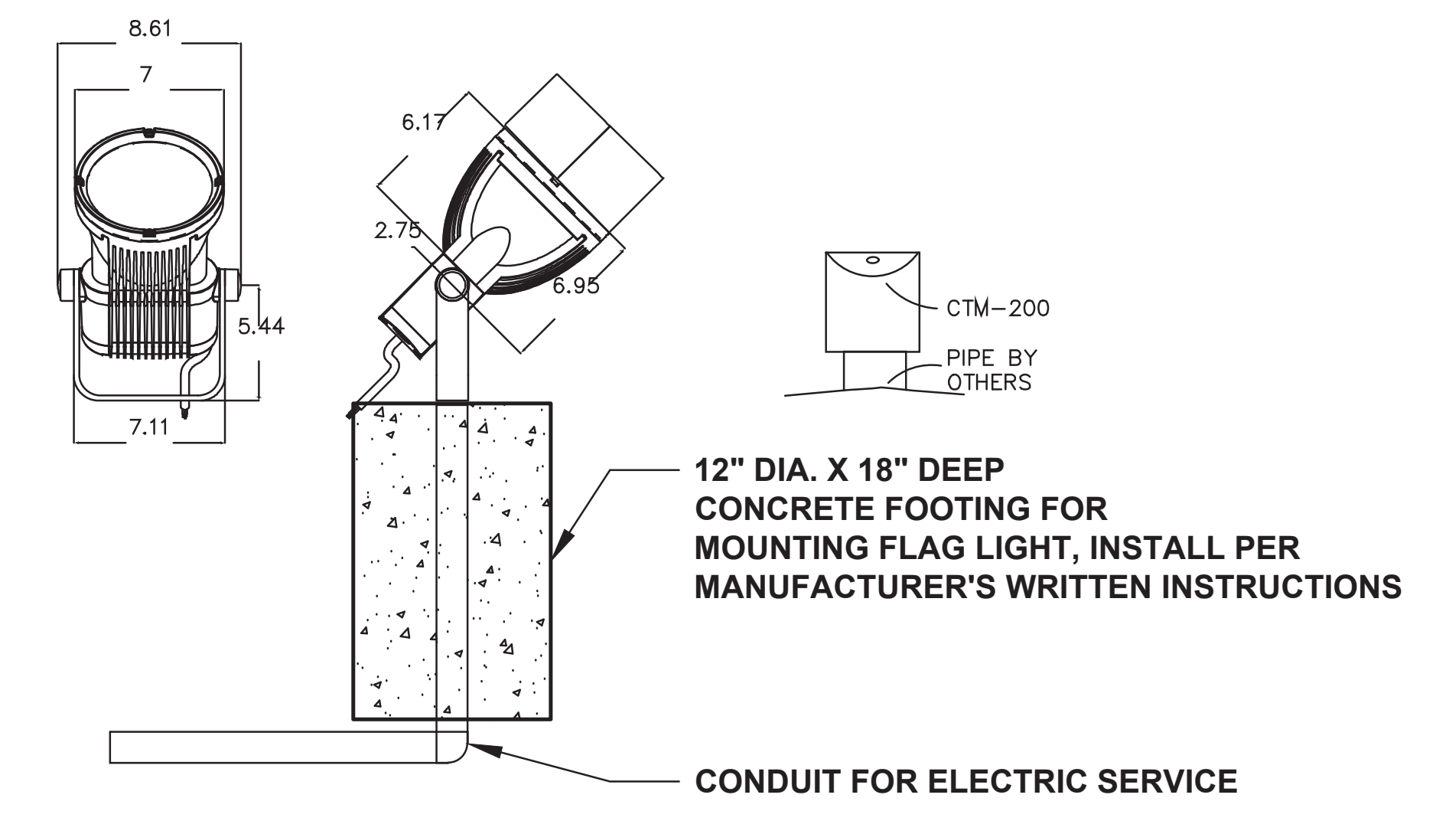
Symbol	Label	Image	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage	Efficiency	Distribution	Polar Plot
	SA		3	Lithonia Lighting	1DP/RADPT P5 30K ASY--12RSA-05-ANODIZED NAT-4Y-1DP-FBC	RADEAN Post-Top with P5 3000K Asymmetric distribution		1	RADPT_P5_30K_ASY.ies	14724	0.9	122.5564	100%	TYPE IV, VERY SHORT, BUG RATING: B3 - U2 - G3	
	SB		35	Lithonia Lighting	1DP/RADPT P5 30K SYM--12RSA-05-ANODIZED NAT-4Y-1DP-FBC	RADEAN Post-Top with P5 3000K Symmetric distribution		1	RADPT_P5_30K_SYM.ies	15541	0.9	122.5564	100%	TYPE VS, BUG RATING: B4 - U2 - G3	
	SC		24	Lithonia Lighting	1DP/RADPT P5 30K PATH-12RSA-05-ANODIZED NAT-4Y-1DP--FBC	RADEAN Post-Top with P5 3000K Pathway distribution		1	RADPT_P5_30K_PATH.ies	12053	0.9	122.5564	100%	TYPE IV, VERY SHORT, BUG RATING: B4 - U3 - G4	
	SC1		13	Lithonia Lighting	1DP/RADPT P5 30K PATH-HSS-12RSA-05-ANODIZED NAT-4Y-1DP--FBC	RADEAN Post-Top with P5 3000K Pathway distribution with house-side shield		1	RADPT_P5_30K_PATH_HS.ies	11061	0.9	122.5564	100%	TYPE IV, SHORT, BUG RATING: B3 - U3 - G4	
	SD		8	Lithonia Lighting	2D/DSX1 LED P9 30K T5W MVOLT-22-RSA-0505-2D-4Y-FBC ON 3FT PEDESTAL	DSX1 LED P9 30K T5W MVOLT	LED	1	DSX1_LED_P9_30K_T5W_MVOLT.ies	26405	0.9	482	100%	TYPE VS, BUG RATING: B5 - U0 - G4	
	SF		3	Lithonia Lighting	1DW/WDGE3 LED P2 70CRI R2 30K-MV-COLOR	WDGE3 LED WITH P2 - PERFORMANCE PACKAGE, 3000K, 70CRI, TYPE 2 OPTIC		1	WDGE3_LED_P2_70CRI_R2_30K.ies	7981	0.9	59.2761	100%	TYPE II, SHORT, BUG RATING: B2 - U0 - G1	
	SG		2	Lithonia Lighting	1DW/WDGE3 LED P2 70CRI RFT 30K-MV-COLOR	WDGE3 LED WITH P2 - PERFORMANCE PACKAGE, 3000K, 70CRI, FORWARD THROW OPTIC		1	WDGE3_LED_P2_70CRI_RFT_30K.ies	7922	0.9	59.2761	100%	TYPE IV, SHORT, BUG RATING: B1 - U0 - G2	
	SP		4 IN FUTURE PHASE	Lithonia Lighting	2D/DSX2 LED P14 30K T4M MVOLT R90/L90-MVOLT-MVOLT-SPD20V-COLOR 22-RSA-0505-2D-4Y-FBC ON 3FT PEDESTAL	[...]	[...]	1	[. . .]	42544.39	0.9	810	100%	[. . .]	
	T FLAG		2	U.S.T.E. DBA VISTA PROFESSIONAL OUTDOOR LIGHTING	1DF/1057-COLOR-MF-C--30-FS-CM200	7"DIA X 12-1/2"H. LED FLOODLIGHT CLEAR LENS		1	1057-MF-C-30.IES	2717	0.9	38.31	100%		

TYPE "SD"
N.T.S.

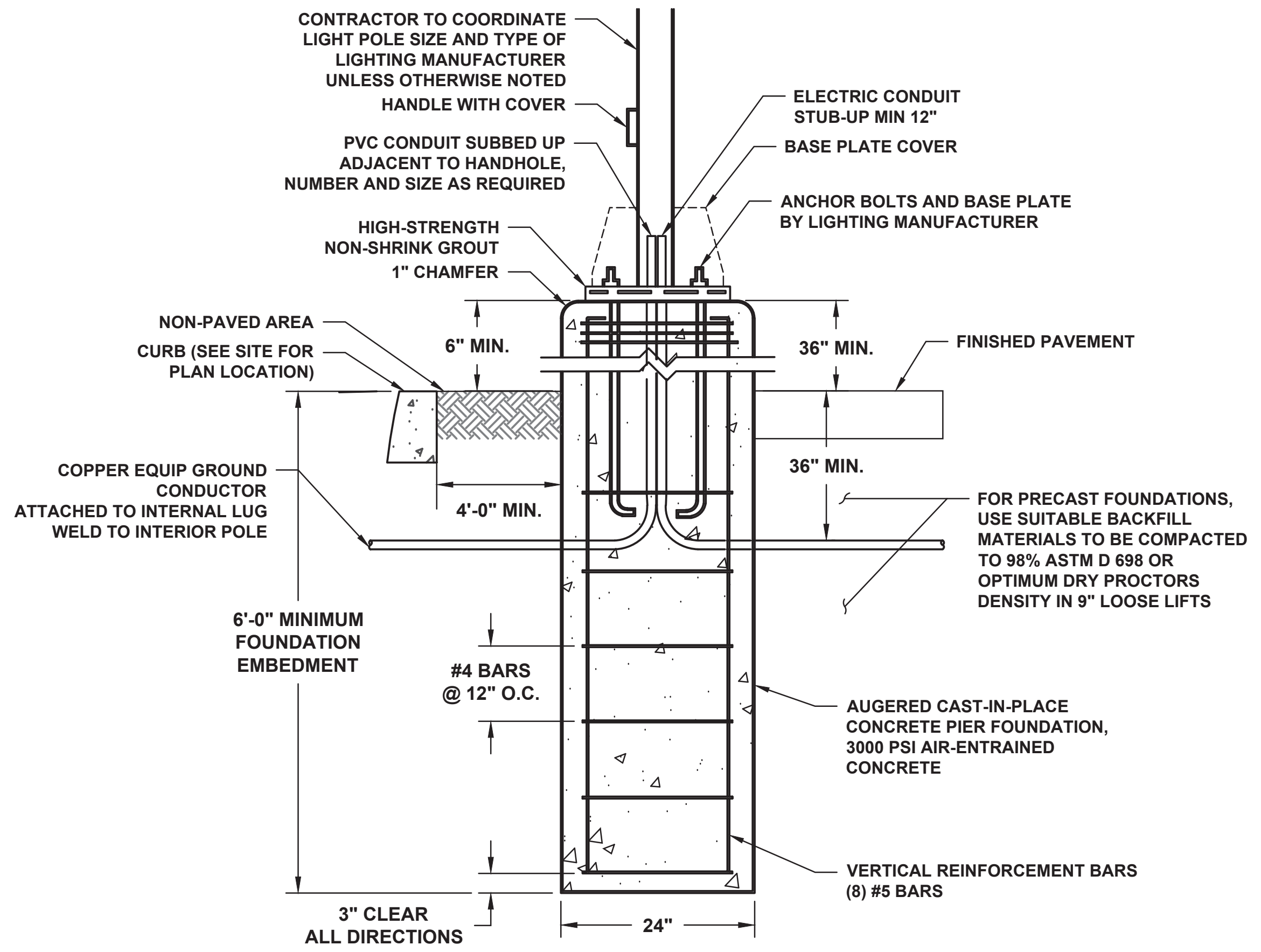
TYPE "SP"
N.T.S.

TYPES "SA, SB, SC & SC1"
N.T.S.

TYPES "SF & SG"
N.T.S.


8.61
7
5.44
7.11
6.17
2.75
6.95
CTM–200
PIPE BY OTHERS
12" DIA. X 18" DEEP CONCRETE FOOTING FOR MOUNTING FLAG LIGHT, INSTALL PER MANUFACTURER'S WRITTEN INSTRUCTIONS
CONDUIT FOR ELECTRIC SERVICE

TYPE "T FLAG"
N.T.S.

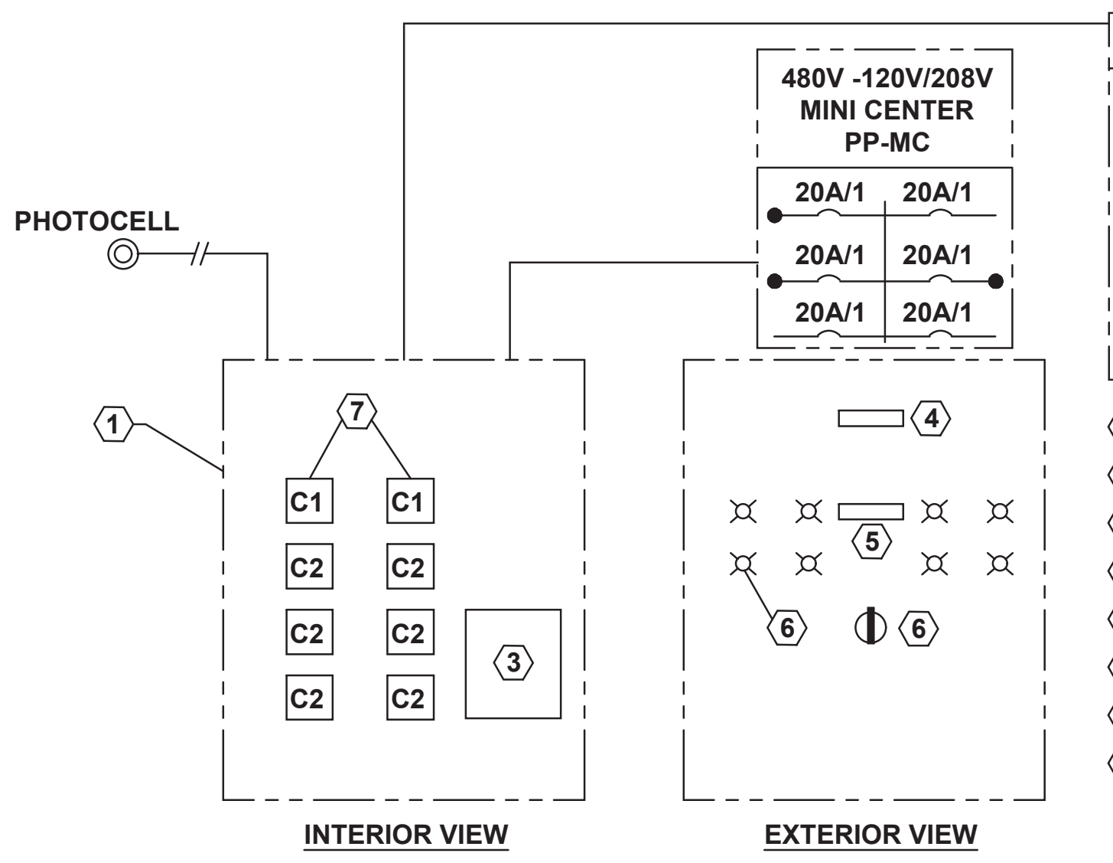

CONTRACTOR TO COORDINATE LIGHT POLE SIZE AND TYPE OF LIGHTING MANUFACTURER UNLESS OTHERWISE NOTED
HANDLE WITH COVER
PVC CONDUIT SUBBED UP ADJACENT TO HANDHOLE, NUMBER AND SIZE AS REQUIRED
HIGH-STRENGTH NON-SHRINK GROUT
1" CHAMFER
ELECTRIC CONDUIT STUB-UP MIN 12"
BASE PLATE COVER
ANCHOR BOLTS AND BASE PLATE BY LIGHTING MANUFACTURER
NON-PAVED AREA
CURB (SEE SITE FOR PLAN LOCATION)
6" MIN.
36" MIN.
FINISHED PAVEMENT
COPPER EQUIP GROUND CONDUCTOR ATTACHED TO INTERNAL LUG WELD TO INTERIOR POLE
4'-0" MIN.
36" MIN.
FOR PRECAST FOUNDATIONS, USE SUITABLE BACKFILL MATERIALS TO BE COMPACTED TO 98% ASTM D 698 OR OPTIMUM DRY PROCTORS DENSITY IN 9" LOOSE LIFTS
6'-0" MINIMUM FOUNDATION EMBEDMENT
#4 BARS @ 12" O.C.
AUGERED CAST-IN-PLACE CONCRETE PIER FOUNDATION, 3000 PSI AIR-ENTRAINED CONCRETE
VERTICAL REINFORCEMENT BARS (8) #5 BARS
3" CLEAR ALL DIRECTIONS
24"

NOTES:
1. CONTRACTOR TO SUBMIT SIGNED AND SEALED DESIGN DRAWINGS OF FOUNDATION DURING SUBMITTAL PROCESS.

LIGHT POLE FOUNDATION DETAIL

N.T.S.

GENERAL LIGTHING NOTES
1. SEE SITE LIGHTING PLANS SHEETS 17 & 18 FOR INDIVIDUAL FIXTURE LOCATIONS
2. SITE CONTRACTOR MUST NOTE AIMING LABEL IN FIXTURE FOR PROPER OPTIC ORIENTATION.
3. PICKLEBALL COURT LIGHTING SHALL BE INSTALLED AS PART OF FUTURE PHASE WORK,CONTRACTOR SHALL INSTALL CONDUIT AND PULLBOXES TO PICKLEBALL COURT IN ANTICIPATION OF FUTURE COURT LIGHTING FIXTURES.
4. SEE SHEET 19 FOR SITE ELECTRICAL DETAILS AND SINGLE LINE DIAGRAM
5. REFER TO THE APPENDIX SECTION OF THE SPECIFICATIONS FOR ADDITIONAL DRAWINGS AND INFORMATION FROM THE LIGHTING MANUFACTURER.



① NEMA-1 ENCLOSURE
② POWER DISTRIBUTION
③ TIMER
④ NAME PLATE 'SITE LIGHTING'
⑤ NAME PLATE 'HAND-OFF AUTO'
⑥ 3 POSITION MAINTAINED SWITCH
⑦ 30A/3P CONTACTOR WITH 120V CONTROL VOLTAGE
⑧ LED PILOT LIGHTS 'RED'

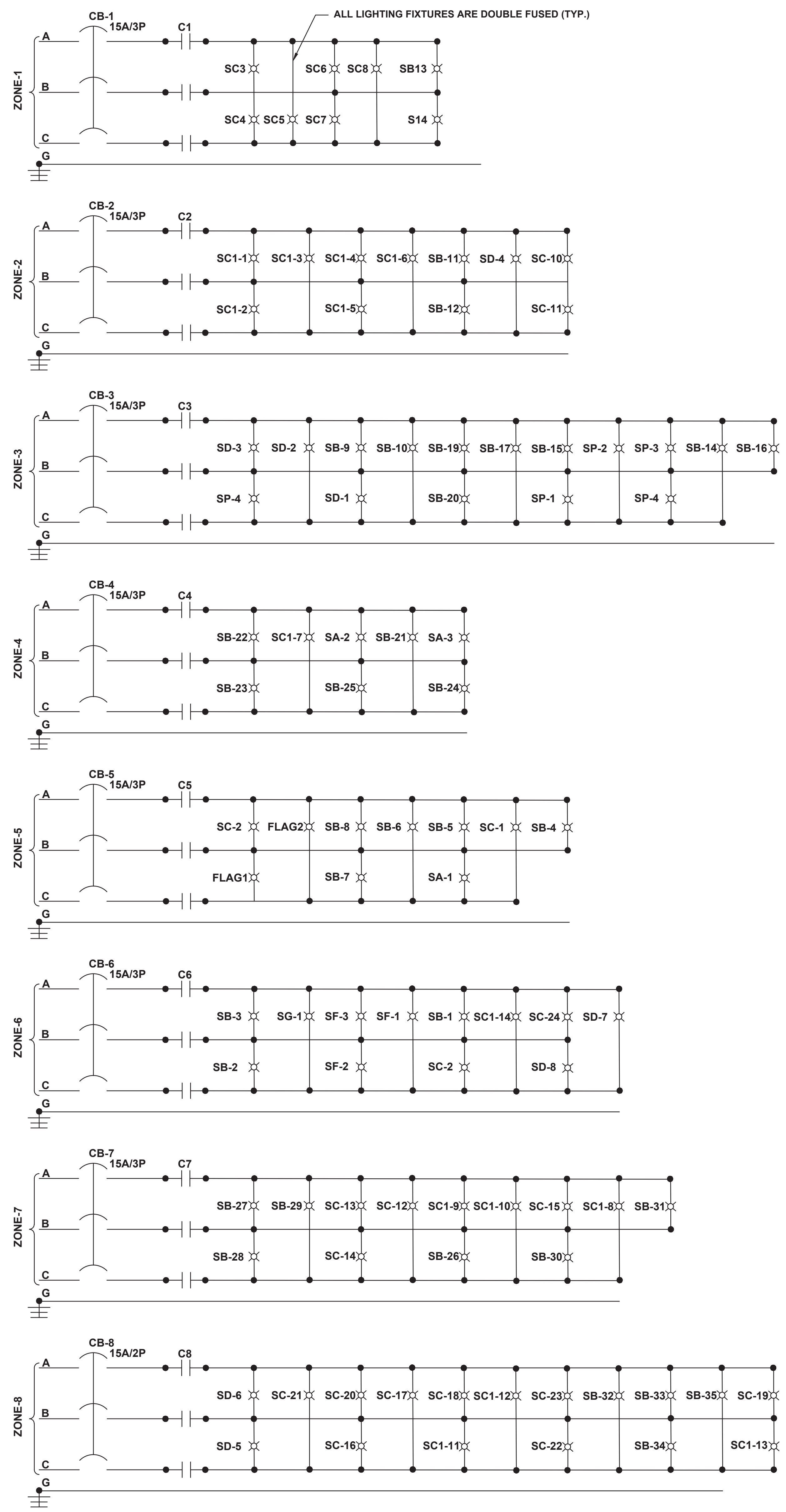
NOTES:
1. ALL DIRECT BURIED CONDUITS SHALL BE SCH. 80 PVC
2. DO NOT RUN CONDUITS UNDER ACTIVE SPORTS GROUNDS
3. ROADWAY CROSSING CONDUITS SHALL BE SCH. 80 PVC, CONCRETE ENCASED.

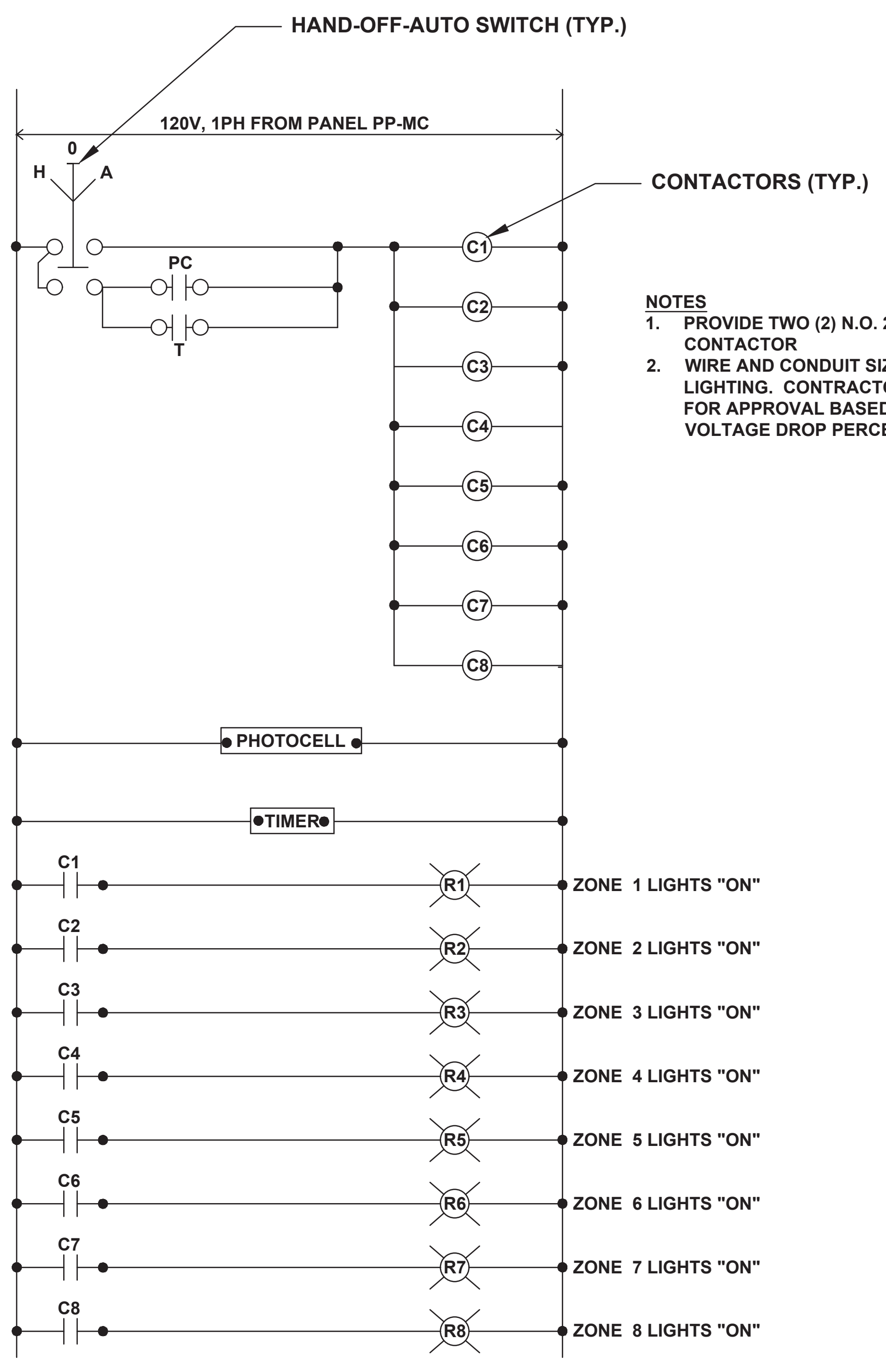
HAVERSTRAW STREET LIGHTING

CONTRACTOR NO.	SERVES FIXTURES	LOAD WATTS	CONDUIT	WIRE	FIXTURE QTY.
C1 ZONE 1	SB-13, SC-3, SC-4, SC-5, SC-6 SC-7, SC-8, SC-9	984	1"	3#10 + 1#10G	8
C2 ZONE 2	SC1-1, SC1-2, SC1-3, SC1-4, SC1-5, SC1-6, SB-11, SB-12, SD-4, SC-10, SC-11	1712	1"	3#8 + 1#10G	11
C3 ZONE 3	SP-1, SP-2, SP-3, SP-4, SD-1, SD-2, SD-3, SB-9, SB-10, SB-14, SB-15, SB-16, SB-17, SB-18, SB-19, SB-20	4993	1"	3#8 + 1#10G	16
C4 ZONE 4	SB-21, SB-22, SB-23, SB-24, SB-25, SA-2, SA-3, SC1-7	984	1"	3#10 + 1#10G	8
C5 ZONE 5	SA-1, SC-1, SC-2, FLAG-1, FLAG-2, SB-8, SB-7, SB-6, SB-5, SB-4	1062	1"	3#10 + 1#10G	10
C6 ZONE 6	SB-1, SB-2, SB-3, SC-24, SC1-14, SD-7, SD-8, SF-1, SF-2, SF-3, SG-1, SG-2	2005	1"	3#8 + 1#10G	12
C7 ZONE 7	SB-26, SB-27, SB-28, SB-29, SB-30, SB-31, SC-12, SC-13, SC-14, SC-15, SC1-9, SC1-9, SC1-10	1599	1"	3#8 + 1#10G	13
C8 ZONE 8	SB-32, SB-33, SB-34, SB-35, SC-16, SC-17, SC-18, SC-19, SC-20, SC-21, SC-22, SC-23, SC1-11, SC1-12, SC1-13, SD-5, SD-6	2809	1"	3#8 + 1#10G	17
		16,148 WATTS (TOTAL)			95 FIXTURES (TOTAL)

HAVERSTRAW SITE LIGHTING CONTROL PANEL

N.T.S.





NOTES
1. PROVIDE TWO (2) N.O. 2NC AUXILIARY CONTACTS ON EACH CONTACTOR
2. WIRE AND CONDUIT SIZES ARE CONCEPTUAL FOR SITE LIGHTING. CONTRACTOR SHALL SUBMIT CONDUIOT SIZES FOR APPROVAL BASED ON PROPOSED CONDUIT RUN AND VOLTAGE DROP PERCENTAGES.

HAVERSTRAW SITE LIGHTING SCHEMATIC

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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03/19/2021

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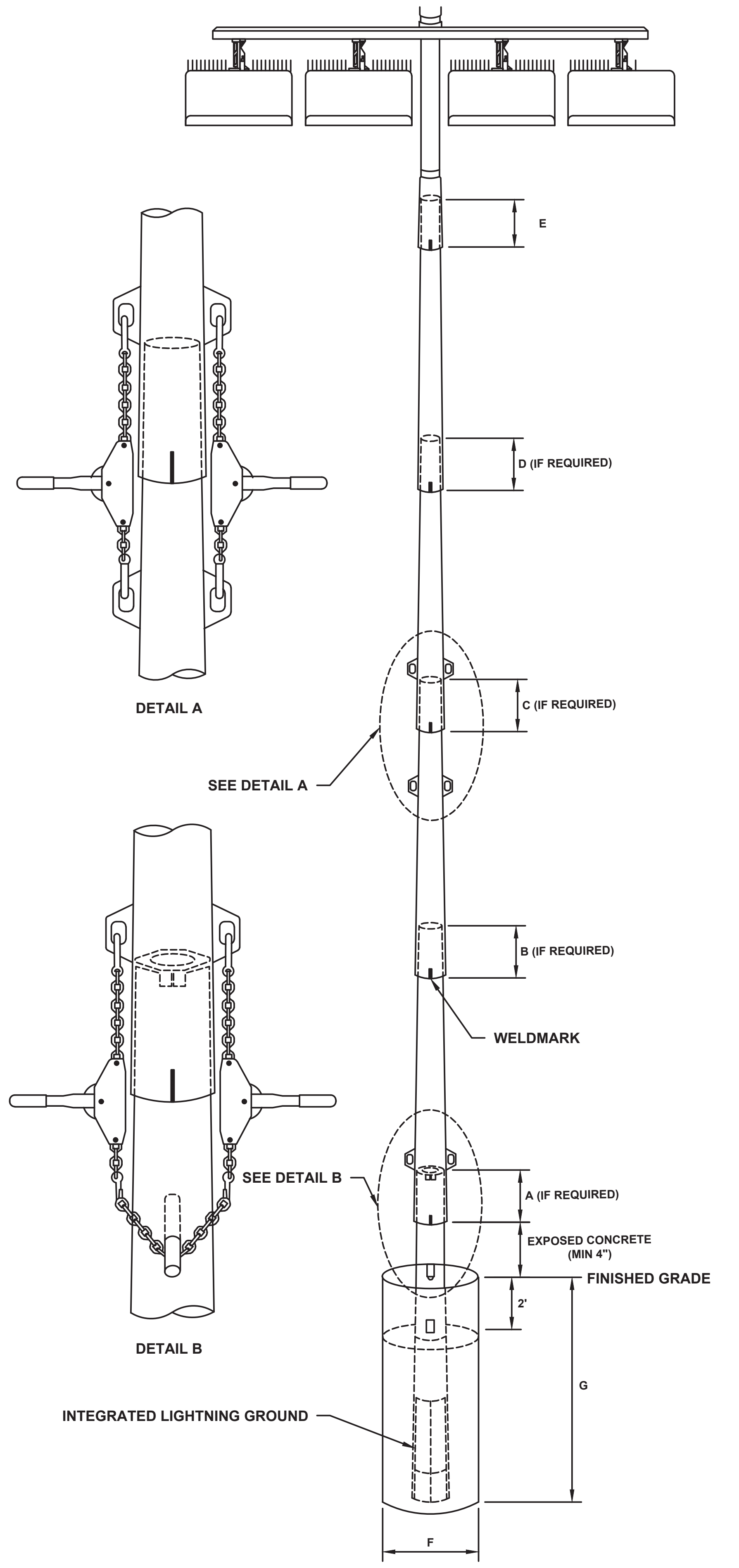
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE LIGHTING DETAILS AND SCHEDULES

PROJECT NUMBER:
SCE-9755.021
SCALE:
AS NOTED
SHEET 20 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 20 Site Lighting details and schedule.dwg Tue, Mar 16, 2021 - 1:36pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.



POLE/FIXTURE SUMMARY

POLE ID	POLE HT.	MTG. HT.	FIXTURE QTY.	LUMINAIRE TYPE
A1-A2	60'	60'	3	TLC-LED-1200
		16'	1	TLC-BT-575
A3-A4	70'	70'	3	TLC-LED-1200
		16'	1	TLC-BT-575
B1,C2	70'	70'	5	TLC-LED-1500
		16'	1	TLC-BT-575
B2	70'	70'	6	TLC-LED-1500
		16'	1	TLC-BT-575
B3-B4	70'	70'	5	TLC-LED-1200
		16'	1	TLC-BT-575
C1	70'	70'	5	TLC-LED-1500
		16'	2	TLC-BT-575
F1-F2	80'	80'	9	TLC-LED-1500
		16'	2	TLC-BT-575
		80'	1	TLC-LED-600
F3-F4	80'	80'	9	TLC-LED-1500
		80'	1	TLC-LED-400
		16'	2	TLC-BT-575
14			*102*	

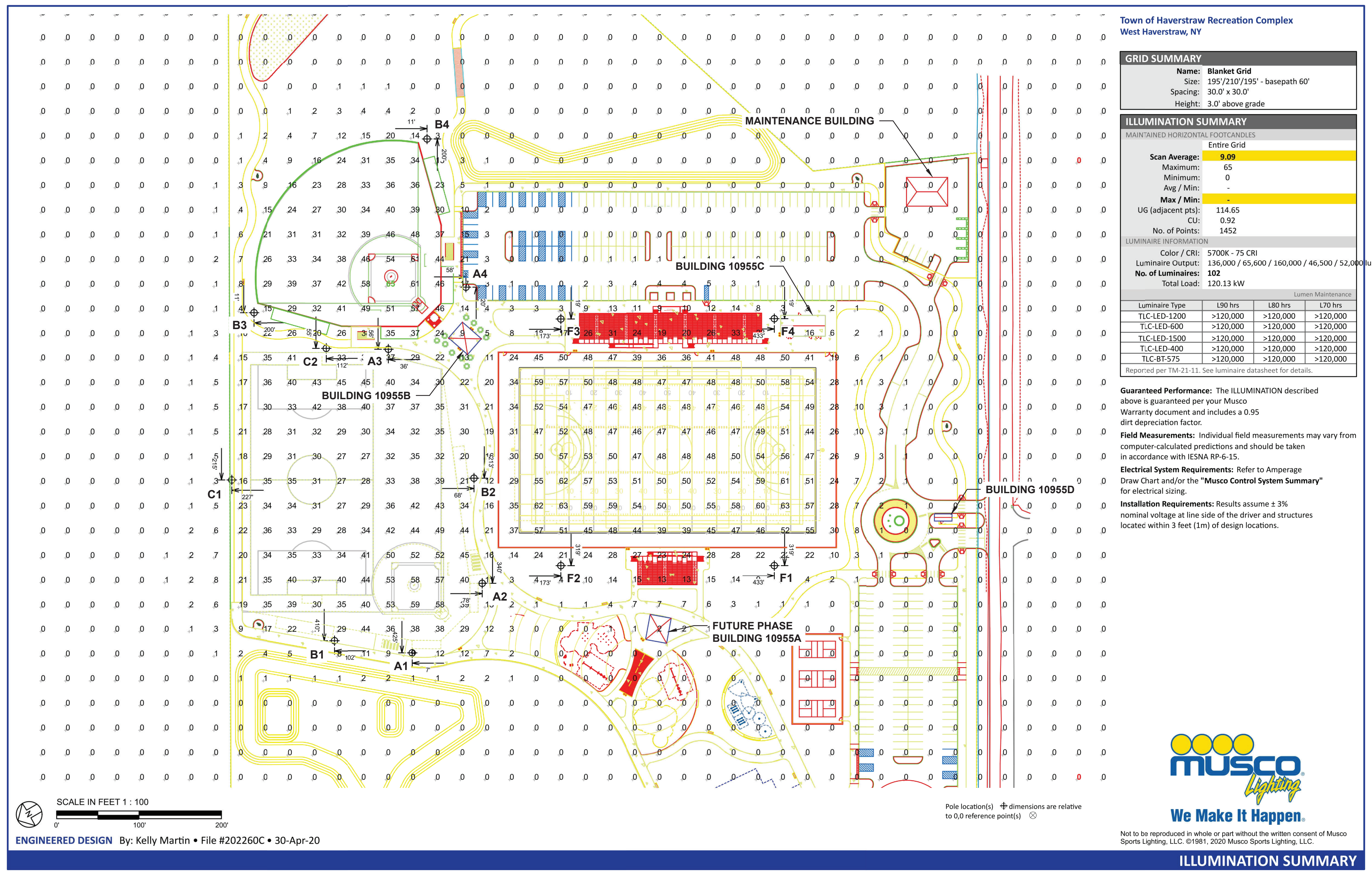
POLE ASSEMBLY NOTES:
1. STEEL POLE SHOULD OVERLAP CONCRETE BASE AND BE SEATED TIGHT WITH 1 1/2 TON COME-ALONGS (CONTRACTOR PROVIDED).
2. ALIGN WELD MARKS ON STEEL SECTIONS BEFORE ASSEMBLING.
3. ASSEMBLED POLE WEIGHT INCLUDES STEEL SECTIONS, CROSSARMS, LUMINAIRES, AND ELECTRICAL COMPONENTS ENCLOSURES.
4. SECTION OVERLAP MUST BE PULLED TOGETHER UNTIL TIGHT. OVERLAP MEASUREMENT SHOULD BE +/- 6 IN (150 MM).
5. THIS DOCUMENT IS NOT INTENDED FOR USE AS AN ASSEMBLY INSTRUCTION. SEE INSTALLATION INSTRUCTIONS: LIGHT-STRUCTURE SYSTEM TM LIGHTING SYSTEM FOR COMPLETE ASSEMBLY PROCEDURE.

POLE FOUNDATION SCHEDULE

POLE ID	FORCES (1.)			DRILLED PIER		
	MOMENT FT-LBS	SHEAR LBS	VERTICAL LBS	DIA. INCHES	EMBEDMENT DEPTH	CONC. BACKFILL CY.
A1,A2	30,159	851	924	30	10'-0"	1.3
B1	59,909	1,287	1,758	30	12'-0"	1.5
B2	71,114	1,548	2,253	30	14'-0"	1.6
C1	62,699	1,357	1,815	30	12'-0"	1.5
C2	60,957	1,300	1,758	30	12'-0"	1.5
A3,A4	41,905	985	1,215	30	10'-0"	1.3
B3,B4	52,111	1,183	1,495	30	12'-0"	1.5
F1,F2	117,183	2,223	3,532	30	16'-0"	1.7
F3,F4	118,061	2,237	3,581	30	16'-0"	1.7

FOUNDATION NOTES:
1. CONTRACTOR, IF SUBMITTING AN "APPROVED EQUAL" LIGHTING FIXTURE, SHALL SUBMIT A FOUNDATION DESIGN SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF NEW YORK, FOR APPROVAL DURING THE SHOP DRAWING PHASE.
2. CONTRACTOR TO REFER TO "POLE AND FOUNDATION" PLAN SHEET PREPARED BY STRUCTURAL ENGINEERS, PC IN THE APPENDIX OF THE SPECIFICATIONS FOR FOUNDATION DESIGN OF MUSCO LIGHTING FIXTURE.

GENERAL ELECTRICAL CONSTRUCTION NOTES
1. THE CONTRACTOR IS RESPONSIBLE TO VISIT THE SITE AND BECOME FAMILIAR WITH EXISTING SITE AND FIELD CONDITIONS THAT MAY AFFECT THE WORK.
2. CONTRACTOR SHALL OBTAIN REQUIRED ELECTRICAL PERMITS AND APPROVALS OF CONSTRUCTION.
3. CONTRACTOR SHALL LOCATE EXISTING PULL BOXES.
4. APPROXIMATE LOCATION OF ALL PROPOSED WIRING AND EXISTING CONDUIT LAYOUT FOR LIGHTING FIXTURE IS SHOWN.
5. ALL NEW WIRING TO BE SPLICELESS. IF THE CONTRACTOR MUST SPLICE THE WIRING, THE SPLICES SHALL BE WATERPROOF.



Town of Haverstraw Recreation Complex
West Haverstraw, NY

GRID SUMMARY

Name:	**Blanket Grid**
Size:	195'/210'/195' - basepath 60'
Spacing:	30.0' x 30.0'
Height:	3.0' above grade

ILLUMINATION SUMMARY

MAINTAINED HORIZONTAL FOOTCANDLES

	Entire Grid
Scan Average:	9.09
Maximum:	65
Minimum:	0
Avg / Min:	-
Max / Min:	-
UG (adjacent pts):	114.65
CU:	0.92
No. of Points:	1452

LUMINAIRE INFORMATION

Color / CRI:	5700K - 75 CRI
Luminaire Output:	136,000 / 65,600 / 160,000 / 46,500 / 52,000 lumer
No. of Luminaires:	**102**
Total Load:	120.13 kW

Lumen Maintenance

Luminaire Type	L90 hrs	L80 hrs	L70 hrs
TLC-LED-1200	>120,000	>120,000	>120,000
TLC-LED-600	>120,000	>120,000	>120,000
TLC-LED-1500	>120,000	>120,000	>120,000
TLC-LED-400	>120,000	>120,000	>120,000
TLC-BT-575	>120,000	>120,000	>120,000

Reported per TM-21-11. See luminaire datasheet for details.

Guaranteed Performance: The ILLUMINATION described above is guaranteed per your Musco Warranty document and includes a 0.95 dirt depreciation factor.

Field Measurements: Individual field measurements may vary from computer-calculated predictions and should be taken in accordance with IESNA RP-6-15.

Electrical System Requirements: Refer to Amperage Draw Chart and/or the **"Musco Control System Summary"** for electrical sizing.

Installation Requirements: Results assume ± 3% nominal voltage at line side of the driver and structures located within 3 feet (1m) of design locations.

ENGINEERED DESIGN By: Kelly Martin • File #202260C • 30-Apr-20

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ILLUMINATION SUMMARY

SPORTS LIGHTING NOTES
1. LIGHTS ARE INTENDED FOR USE ONLY DURING GAMES, WHEN FIELDS ARE NOT IN USE, LIGHTS WILL TURNED OFF.

SPORTS LIGHTING (BY OTHERS) DETAIL

N.T.S.

PANEL: PP-3
VOLTAGE: 480/277V
AMPS: 225AMLO
TYPE: NEMA - 1
30,000 KAIC

CKT #	DESCRIPTION	CB	A(VA)	B(VA)	C(VA)		A(VA)	B(VA)	C(VA)	CB	DESCRIPTION	CKT #
1	POLE F1	30A/3P	6097				6097			30A/3P	POLE F2	2
3				6097				6097				4
5					6097				6097			6
7	POLE F3	30A/3P	6097				6097			30A/3P	POLE F4	8
9				6097				6097				10
11					6097				6097			12
13	POLE A3 & A4	20A/3P	3409				3409			20A/3P	POLE A1 & A2	14
15				3409				3409				16
17					3409				3409			18
19	POLE B3	20A/3P	2688				2688			20A/3P	POLE B4	20
21				2688				2688				22
23					2688				2688			24
25	POLE C2	20A/3P	3223				3816			20A/3P	POLE B2	26
27				3223				3816				28
29					3223				3816			30
31	POLE B1	20A/3P	3223				3456			20A/3P	POLE C1	32
33				3223				3456				34
35					3223				3456			36
37	SPARE										SPARE	38
39												40
41												42
			24737	24737	24737		25563	25563	25563			
	LOAD KVA = 150.91 AMPS = 181.51		TOTAL = 74.21 KVA				TOTAL = 76.69 KVA					

MUSCO

ITEM	POLE NO.	DISTANCE	LOAD KW	LOAD KW	AMPS @ 480V, 8PF	WIRE SIZE	CONDUIT
1	F1	1025	14.60	14.60	22A	3#4 + 1#6	1"1/2
2	F2	765	14.60	14.60	22A	3#4 + 1#6	1"1/2
3	F3	350	14.42	14.42	22A	3#4 + 1#6	1"1/2
4	F4	85	14.42	14.42	22A	3#4 + 1#6	1"1/2
5	A4	455	4.09	8.18	12.30A	3#8 + 1#8	1"
6	A3	540	4.09				
7	B3	720	6.43	6.43	9.7	3#8 + 1#8	1"
8	B4	655	6.43	6.43	9.7	3#10 + 1#10	1"
9	C2	265	7.73	7.73	11.63	3#12 + 1#12	1"
10	B2	600	9.16	9.16	13.77	3#8 + 1#10	1"
11	A2	825	4.09	8.18	12.30	3#8 + 1#8	1"
12	A1	794	4.09				
13	B1	886	7.73	7.73	11.36	3#8 + 1#8	1"
14	C1	1220	8.30	8.30	12.47	3#6 + 1#8	1"

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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03/19/2021
CHECKED BY:
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03/19/2021

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EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SPORTS LIGHTING SCHEDULE AND
ELECTRICAL DETAILS

PROJECT NUMBER:
SCE-9755.021
SCALE:
N.T.S.
SHEET 21 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 21 Sports Lighting Details and Schedule.dwg Tue, Mar 16, 2021 - 1:40pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.

KEY PLAN
PLAN AREA
ACCESS AISLE SIGNAGE, NYP1-7 (TYP.)
ACTIVE ACCESSIBLE PARKING PAVEMENT MARKING (TYP.)
ACCESS AISLE SIGNAGE, NYP1-7 (TYP.)
VAN ACCESSIBLE PARKING SIGNAGE, R7-8, R7-8VA (TYP.)
4" WIDE WHITE STRIPING. DIAGONAL STRIPING SHALL BE @ 45° AND SPACED 2' O.C. (TYP.)
4" WIDE BLUE STRIPING. DIAGONAL STRIPING SHALL BE @ 45° AND SPACED 2' O.C. (TYP.)
ACCESS AISLE SIGNAGE, NYP1-7 (TYP.)
4" WIDE WHITE STRIPING FOR ALL STANDARD PARKING STALLS (TYP.)
STRAIGHT ARROW (TYP.)
8'
18'
9'
15'
19
13
11
26
2
7
20
15
17
22
26
4
5
4" WIDE BLUE STRIPING. DIAGONAL STRIPING SHALL BE @ 45° AND SPACED 2' O.C. (TYP)
ACCESS AISLE SIGNAGE (TYP.)
ACCESSIBLE PARKING SIGNAGE, R7-8, R7-8VA (TYP.)
ACTIVE ACCESSIBLE PARKING PAVEMENT MARKING (TYP.)
TURNING/STRAIGHT ARROW (TYP.)
"ONE WAY" SIGN, R6-1(L) (TYP.)
"ONE WAY" SIGN, R6-1(L) (TYP .)
ACCESS AISLE SIGNAGE, NYP1-7 (TYP.)
4" WIDE WHITE STRIPING FOR ALL STANDARD PARKING STALLS (TYP.), DIAGONAL STRIPING SHALL BE @ 45° AND SPACED 2' O.C. (TYP.)
"ONE WAY" SIGN, R6-1(L) (TYP.)
STRAIGHT ARROW (TYP.)
"DO NOT ENTER" SIGN, R5-1 (TYP.)
ACCESS AISLE SIGNAGE, NYP1-7 (TYP.)
2' (TYP.)
LADDER BAR TYPE "L" CROSSWALK (TYP.)
CROSSWALK SIGNAGE, W11-A2, W16-7PL, W16-7PR, W16-9P (TYP.)
4" WIDE DOUBLE SOLID YELLOW LINE
TURNING/STRAIGHT ARROW (TYP.)
4" WIDE WHITE NORMAL DOTTED EXTENSION LINE (TYP.)
WHITE YIELD LINE MARKINGS (TYP.)
"YIELD" SIGN, R1-2 (TYP.)
LADDER BAR TYPE "L" CROSSWALK (TYP.)
CROSSWALK SIGNAGE, W11-A2, W16-7PL, W16-9P (TYP.)
6" WIDE SOLID YELLOW LANE LINE (TYP.)
4" WIDE SOLID WHITE LANE LINE (TYP)
4" WIDE DOUBLE SOLID YELLOW LINE
8" WIDE SOLID YELLOW LINE HATCH. HATCH LINES @ 45° AND SPACED 2' O.C. (TYP.)
"YIELD" SIGN, R1-2 (TYP.)
"DO NOT ENTER" SIGN, R5-1 (TYP.) "YIELD" SIGN, R1-2 (TYP.)
"STOP" SIGN, R1-1 (TYP.)
TURN ARROW (TYP.)
"DO NOT ENTER" SIGN, R5-1 (TYP.)
18" WIDE WHITE STOP BAR (TYP.)
LADDER BAR TYPE "L" CROSSWALK (TYP.)
"STOP" SIGN, R1-1 (TYP.)
"DO NOT ENTER" SIGN, R5-1 (TYP.)
CROSSWALK SIGNAGE, W11-A2, W16-7PL, W16-7PR, W16-9P (TYP.)
STOP
STOP
"ONE WAY" SIGN, R6-1(L) (TYP.)
CROSSWALK SIGNAGE, W11-A2, W16-7PL, W167PL, W16-9P (TYP.)
CROSSWALK SIGNAGE, W11-A2, W16-7PL, W16-7PR, W16-9P (TYP.)
"STOP" SIGN, R1-1 (TYP.)
"STOP" LETTERING (TYP.)
"STOP" SIGN, R1-1 (TYP.)
TURNING ARROW (TYP.)
8" WIDE WHITE LANE LINE
18" WIDE WHITE STOP BAR (TYP.)
CHAPEL STREET
CHAPEL STREET
NORTH ARROW
30 0 30 60 90

SCALE: 1" = 30'

NOTE:

REFER TO CONSTRUCTION DETAILS II, SHEET 34 FOR STRIPING AND SIGNAGE DETAILS.

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 22 Site Signage and Striping Plan.dwg Tue, Mar 16, 2021 - 1:42pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1

095020-1

DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

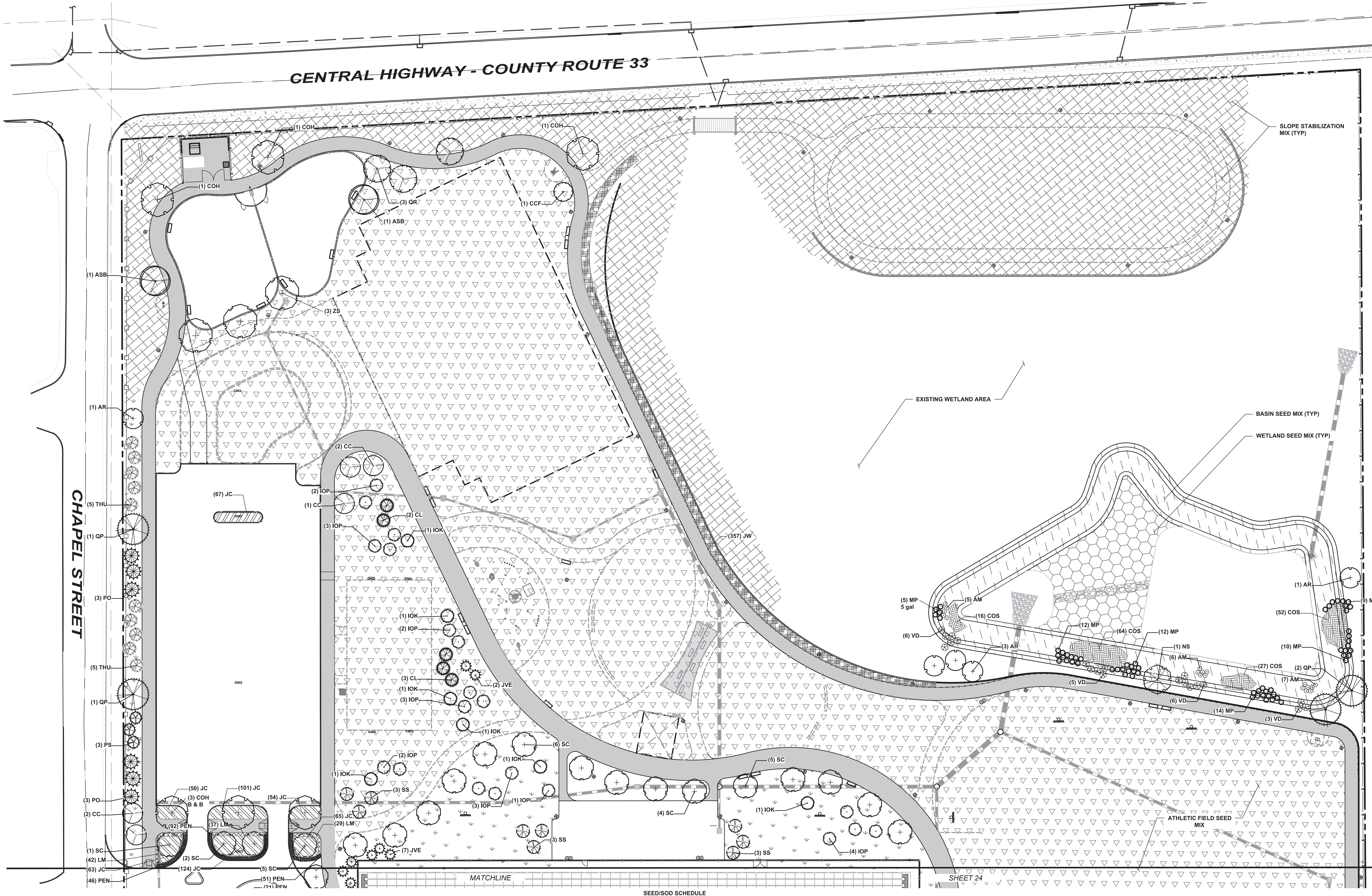
SITE SIGNAGE AND STRIPING PLAN

PROJECT NUMBER: SCE-9755.021

SCALE: 1"=30'

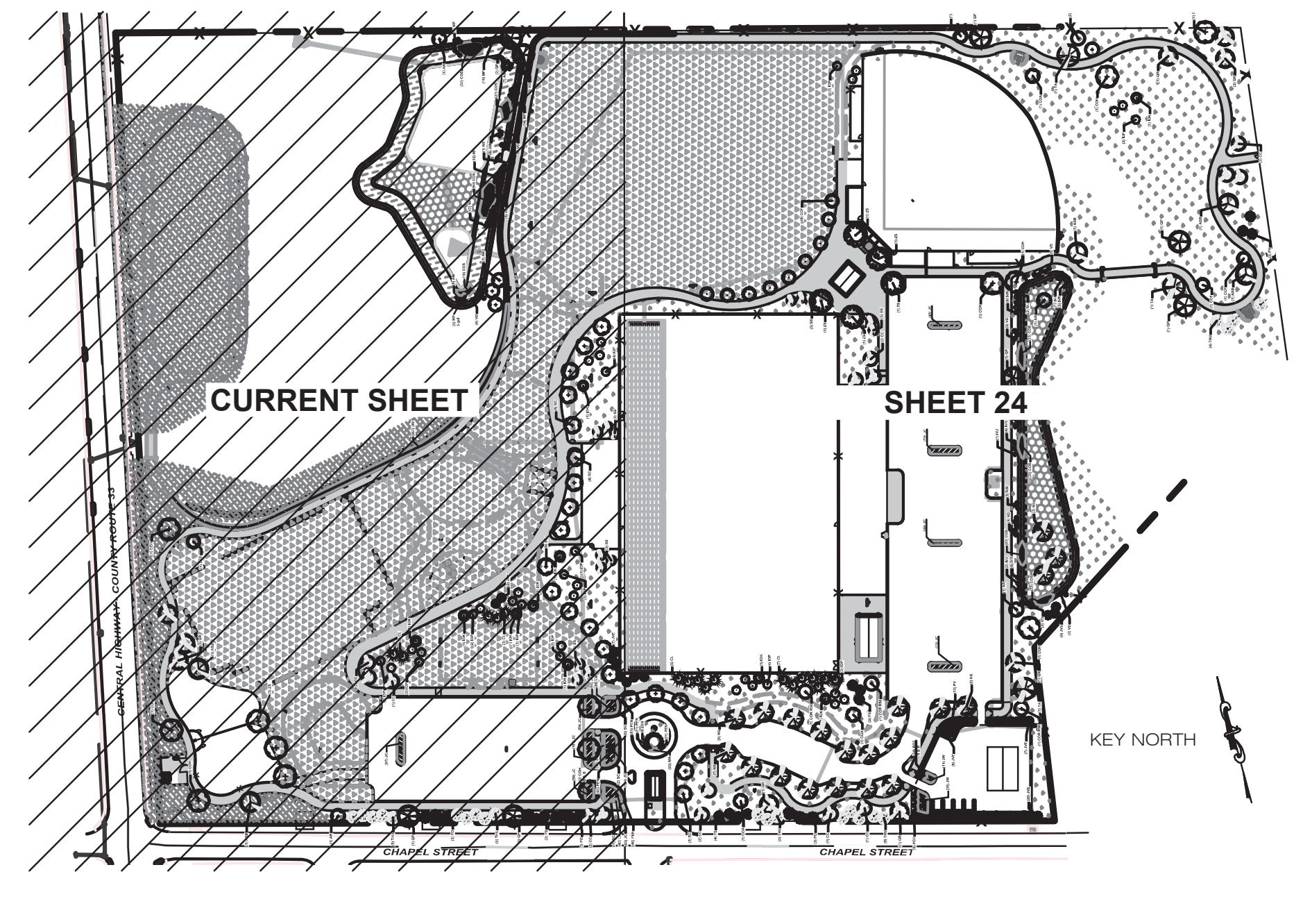
SHEET 22 OF 47

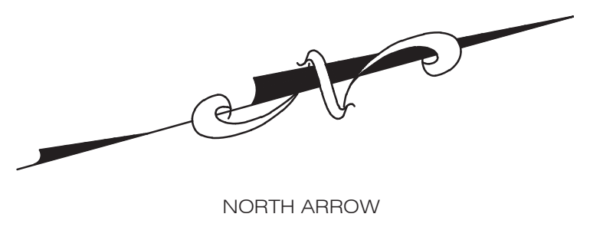
REVISION -



NOTE: SEE LANDSCAPE DETAILS, SHEET 25 FOR PLANT SCHEDULE, PLANTING DETAILS AND PLANTING NOTES.

KEY PLAN





SCALE: 1" = 30'

SEED/SOD SCHEDULE

▽	SOD - SEE SPECIFICATION SECTION 329233
▨	SLOPE STABILIZATION SEED MIX - NATIVE STEEP SLOPE MIX W/ANNUAL RYEGRASS, ERNMX-181, BY ERNST CONSERVATION SEEDS, INC. SEE SPECIFICATION SECTION 329219
⬡	WETLAND SEED MIX - OBL WETLAND MIX, ERNMX-131, BY ERNST CONSERVATION SEEDS, INC. SEE SPECIFICATION SECTION 329219
▥	BASIN SEED MIX - NATIVE DETENTION AREA MIX, ERNMX-183, BY ERNST CONSERVATION SEEDS, INC. SEE SPECIFICATION SECTION 329219
▽	ATHLETIC FIELD SEED MIX - ATHLETIC FIELD MIX, ERNMX-106, BY ERNST CONSERVATON SEEDS, INC. SEE SPECIFICATION SECTION 329219.

CONSULTANT:
KRISTOPHER A. KEMPER
NY REGISTERED LANDSCAPE ARCHITECT: 002719-1
Kristopher Kemper
002719-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE LANDSCAPE PLAN - WEST

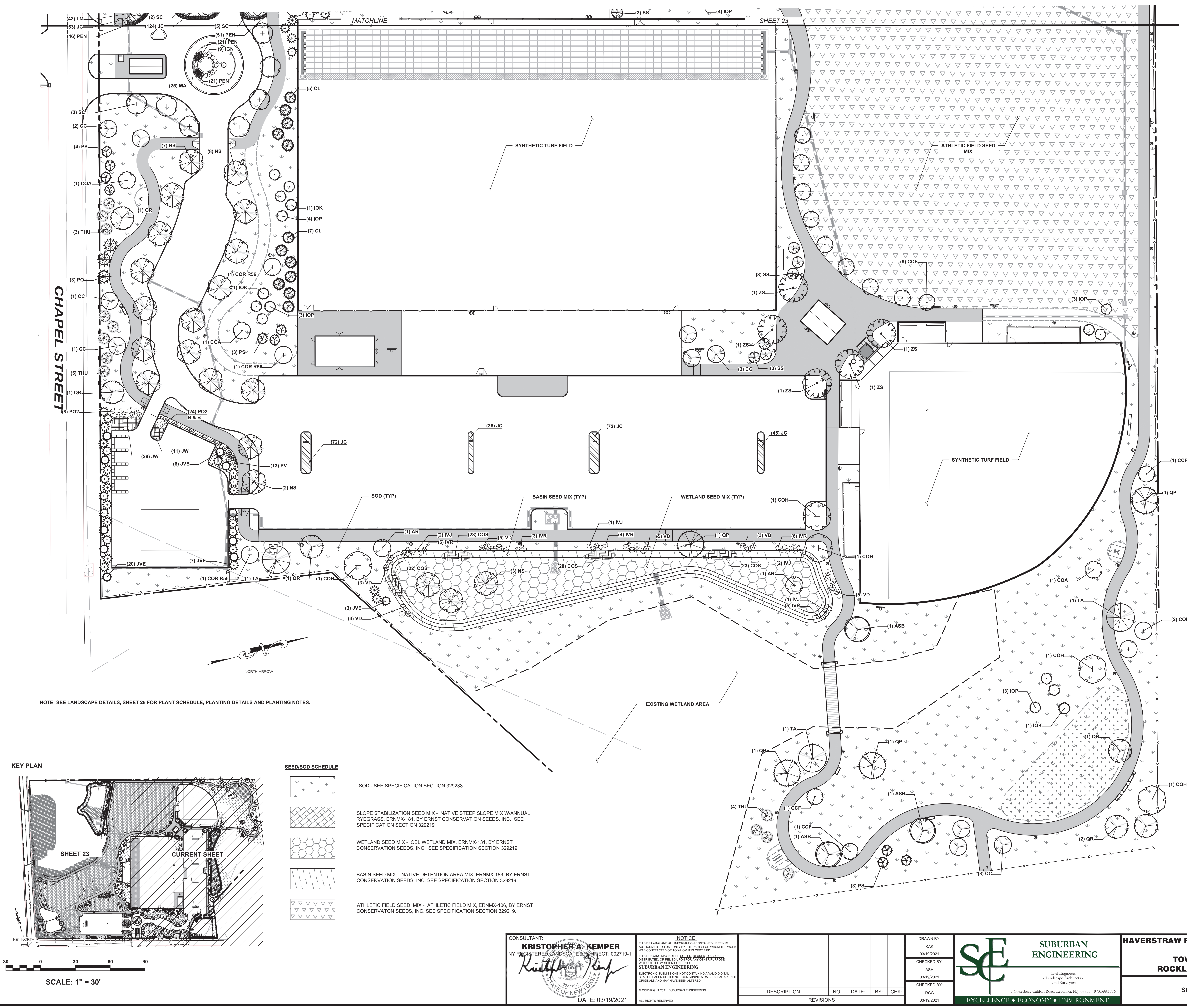
PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 23 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 23-24 Site Landscape Plan.dwg Wed, Mar 17, 2021 - 8:37am kkemper SUBURBAN CONSULTING ENGINEERS, INC.



SCALE: 1" = 30'

NOTE: SEE LANDSCAPE DETAILS, SHEET 25 FOR PLANT SCHEDULE, PLANTING DETAILS AND PLANTING NOTES.

SEED/SOD SCHEDULE

↓	SOD - SEE SPECIFICATION SECTION 329233
▨	SLOPE STABILIZATION SEED MIX - NATIVE STEEP SLOPE MIX W/ANNUAL RYEGRASS, ERNMX-181, BY ERNST CONSERVATION SEEDS, INC. SEE SPECIFICATION SECTION 329219
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▽	ATHLETIC FIELD SEED MIX - ATHLETIC FIELD MIX, ERNMX-106, BY ERNST CONSERVATON SEEDS, INC. SEE SPECIFICATION SECTION 329219.

CONSULTANT:
KRISTOPHER A. KEMPER
NY REGISTERED LANDSCAPE ARCHITECT: 002719-1
Kristopher Kemper
002719-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE LANDSCAPE PLAN - EAST

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 24 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 23-24 Site Landscape Plan.dwg Wed, Mar 17, 2021 - 8:38am kkemper SUBURBAN CONSULTING ENGINEERS, INC.

PLANT SCHEDULE

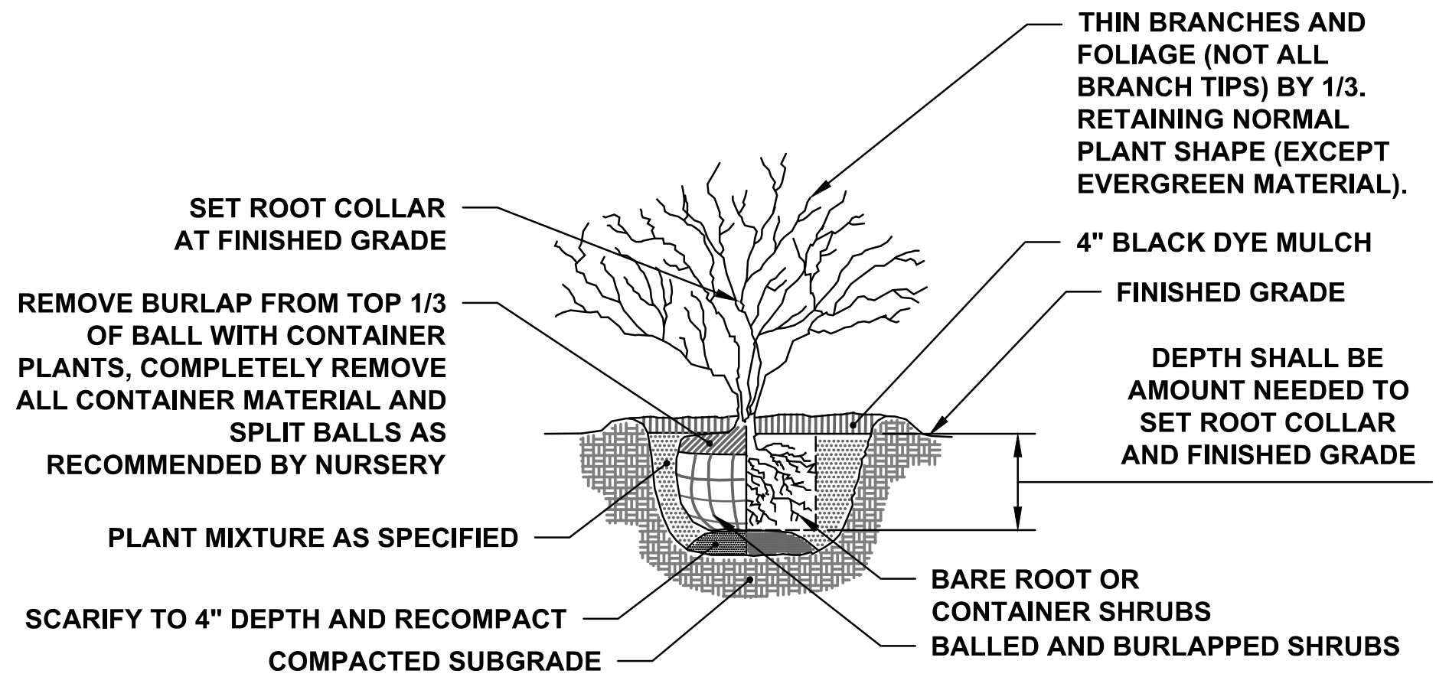
DECIDUOUS TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY	DETAIL	REMARKS
	AR	Acer rubrum `Bowhall Red`	Red Maple	B & B	2.5"-3"	7		SYMMETRICAL BRANCHING
	ASB	Acer saccharum `Bonfire`	Bonfire Sugar Maple	B & B	2.5"-3"	5		SYMMETRICAL BRANCHING
	CCF	Carpinus caroliniana `Firespire` TM	American Hornbeam	B & B	2.5"-3"	13		SYMMETRICAL BRANCHING
	COH	Celtis occidentalis	Common Hackberry	B & B	2.5"-3"	11		SYMMETRICAL BRANCHING
	COR R56	Cornus x `Rutgan` TM	Stellar Pink Dogwood	B & B	2.5"-3"	5		SYMMETRICAL BRANCHING
	NS	Nyssa sylvatica	Sour Gum	B & B	2.5"-3"	21		SYMMETRICAL BRANCHING
	SC	Prunus sargentii	Sargent Cherry	B & B	2.5"-3"	26		SYMMETRICAL BRANCHING
	QP	Quercus palustris	Pin Oak	B & B	2.5"-3"	8		SYMMETRICAL BRANCHING
	QR	Quercus rubra	Red Oak	B & B	2.5"-3"	9		SYMMETRICAL BRANCHING
	TA	Tilia americana	American Linden	B & B	2.5"-3"	3		SYMMETRICAL BRANCHING
	ZS	Zelkova serrata `Green Vase`	Sawleaf Zelkova	B & B	2.5"-3"	8		SYMMETRICAL BRANCHING

EVERGREEN TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY	DETAIL	REMARKS
	CL	Cupressocyparis x leylandii	Leylandi Cypress	B & B	10`-12` HT	17		SYMMETRICAL BRANCHING
	IOK	Ilex opaca `Jersey Knight`	Jersey Knight Holly	B & B	8`-10` HT.	10		SYMMETRICAL BRANCHING
	IOP	Ilex opaca `Jersey Princess`	Jersey Princess Holly	B & B	8`-10` HT.	33		SYMMETRICAL BRANCHING
	JVE	Juniperus virginiana `Emerald Sentinal`	Red Cedar Juniper	B & B	10`-12` HT	45		FULL, SYMMETRICAL
	PO	Picea omorika	Serbian Spruce	B & B	10`-12` HT	9		SYMMETRICAL BRANCHING
	PS	Pinus strobus	Eastern White Pine	B & B	10`-12` HT	13		SYMMETRICAL BRANCHING
	THU	Thuja occidentalis `Green Giant`	Green Giant Arborvitae	B & B	10`-12` HT	22		SYMMETRICAL BRANCHING

ORNAMENTAL TREES	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY	DETAIL	REMARKS
	SS	Amelanchier canadensis	Shadblow Serviceberry Multitrunk	B & B	2"-2.5"	15		MULTI-STEM, SYMMETRICAL BRANCHING
	CC	Cercis canadensis	Eastern Redbud	B & B	2"-2.5"	15		TREE FORM, SYMMETRICAL BRANCHING
	COA	Cornus alternifolia	Pagoda Dogwood	B & B	2"-2.5"	3		SYMMETRICAL BRANCHING

SHRUBS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	QTY	DETAIL	REMARKS
	AM	Aronia melanocarpa `Viking`	Chokeberry	3 gal	18"-24"	18		FULL PLANT
	IGN	Ilex glabra `Nana`	Dwarf Inkberry	3 gal	24"-30"	9		FULL PLANT
	IVJ	Ilex verticillata `Jim Dandy`	Jim Dandy Winterberry	3 gal	18"-24"	6		FULL PLANT
	IVR	Ilex verticillata `Red Sprite`	Red Sprite Winterberry	3 gal	18"-24"	24		FULL PLANT
	MP	Myrica pensylvanica	Northern Bayberry	5 gal	24"-30"	63		FULL PLANT
	PV	Panicum virgatum `Cape Breeze`	Switch Grass	2 gal	2`-3`	13		FULL PLANT
	PEN	Pennisetum alopecuroides `Hameln`	Hameln Dwarf Fountain Grass	2 gal	2`-3`	231		FULL PLANT
	PO2	Prunus laurocerasus `Otto Luyken`	Luykens Laurel	B & B	3`-4`	32		FULL PLANTS
	VD	Viburnum dentatum	Viburnum	5 gal	24"-30"	45		FULL PLANT

GROUND COVERS	CODE	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER	SPACING	QTY	DETAIL	REMARKS
	MA	-	Mixed Seasonal Annuals* (SEE NOTE)	flat	6" Runners	12" o.c.	25		
	COS	Cephalanthus occidentalis `Sputnik`	Buttonbush	2 gal	18"-24"	36" o.c.	247		FULL PLANT
	JC	Juniperus conferta `Blue Pacific`	Blue Pacific Juniper	2 gal	18"-24"	24" o.c.	749		FULL PLANT
	JW	Juniperus horizontalis `Wiltonii`	Blue Rug Juniper	3 gal	18"-24"	36" o.c.	396		
	LM	Liriope muscari `Big Blue`	Big Blue Lilyturf	1 gal	10"-12"	18" o.c.	108		FULL PLANTS

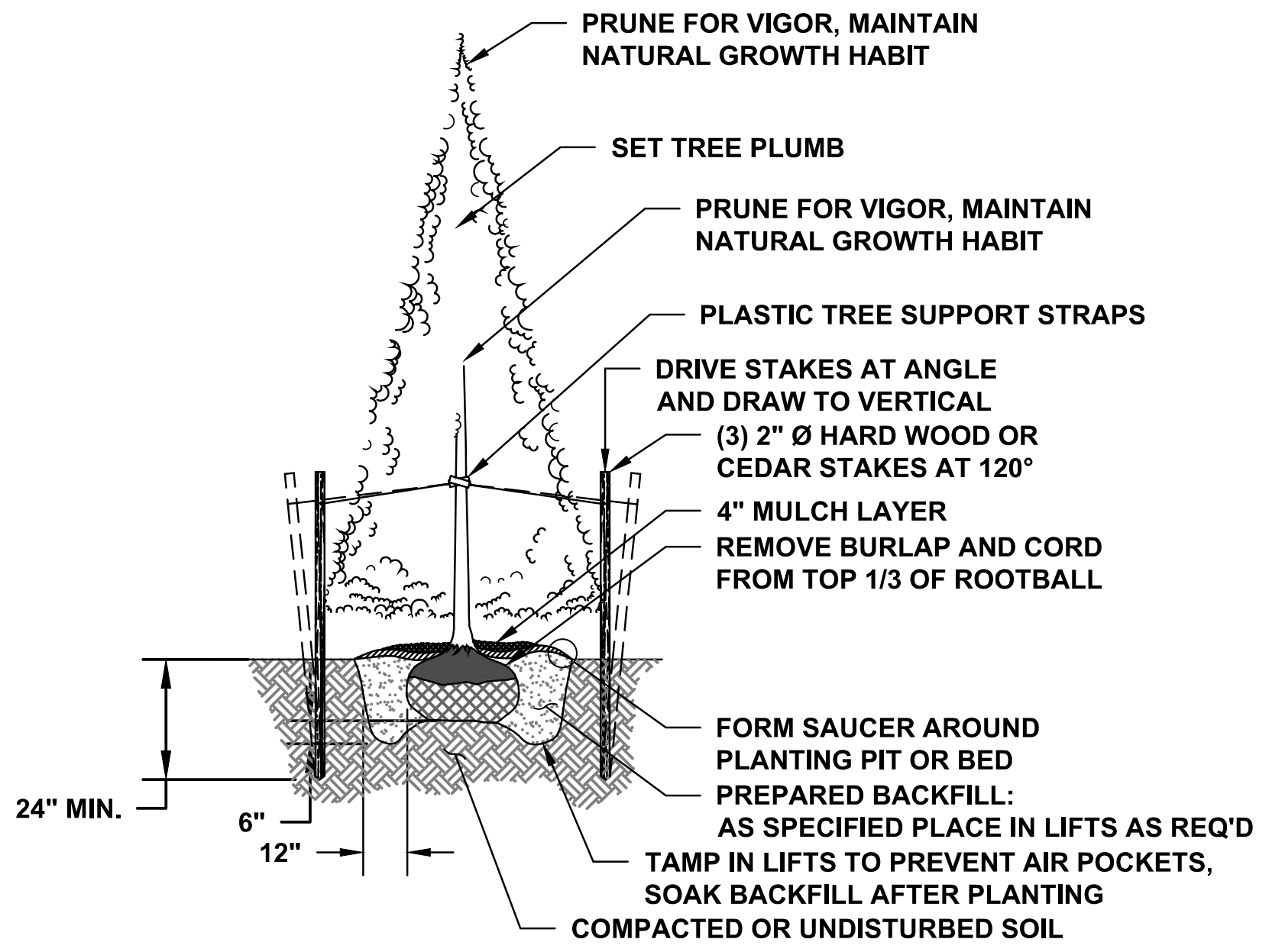

THIN BRANCHES AND FOLIAGE (NOT ALL BRANCH TIPS) BY 1/3. RETAINING NORMAL PLANT SHAPE (EXCEPT EVERGREEN MATERIAL).
SET ROOT COLLAR AT FINISHED GRADE
4" BLACK DYE MULCH
FINISHED GRADE
REMOVE BURLAP FROM TOP 1/3 OF BALL WITH CONTAINER PLANTS, COMPLETELY REMOVE ALL CONTAINER MATERIAL AND SPLIT BALLS AS RECOMMENDED BY NURSERY
DEPTH SHALL BE AMOUNT NEEDED TO SET ROOT COLLAR AND FINISHED GRADE
PLANT MIXTURE AS SPECIFIED
BARE ROOT OR CONTAINER SHRUBS
SCARIFY TO 4" DEPTH AND RECOMPACT
BALLED AND BURLAPPED SHRUBS
COMPACTED SUBGRADE

NOTES:

1. MAINTAIN SAME GROUND LINE AS IN NURSERY.
2. DO NOT PRUNE EVERGREEN SHRUBS EXCEPT TO REMOVE DEAD AND BROKEN BRANCHES.

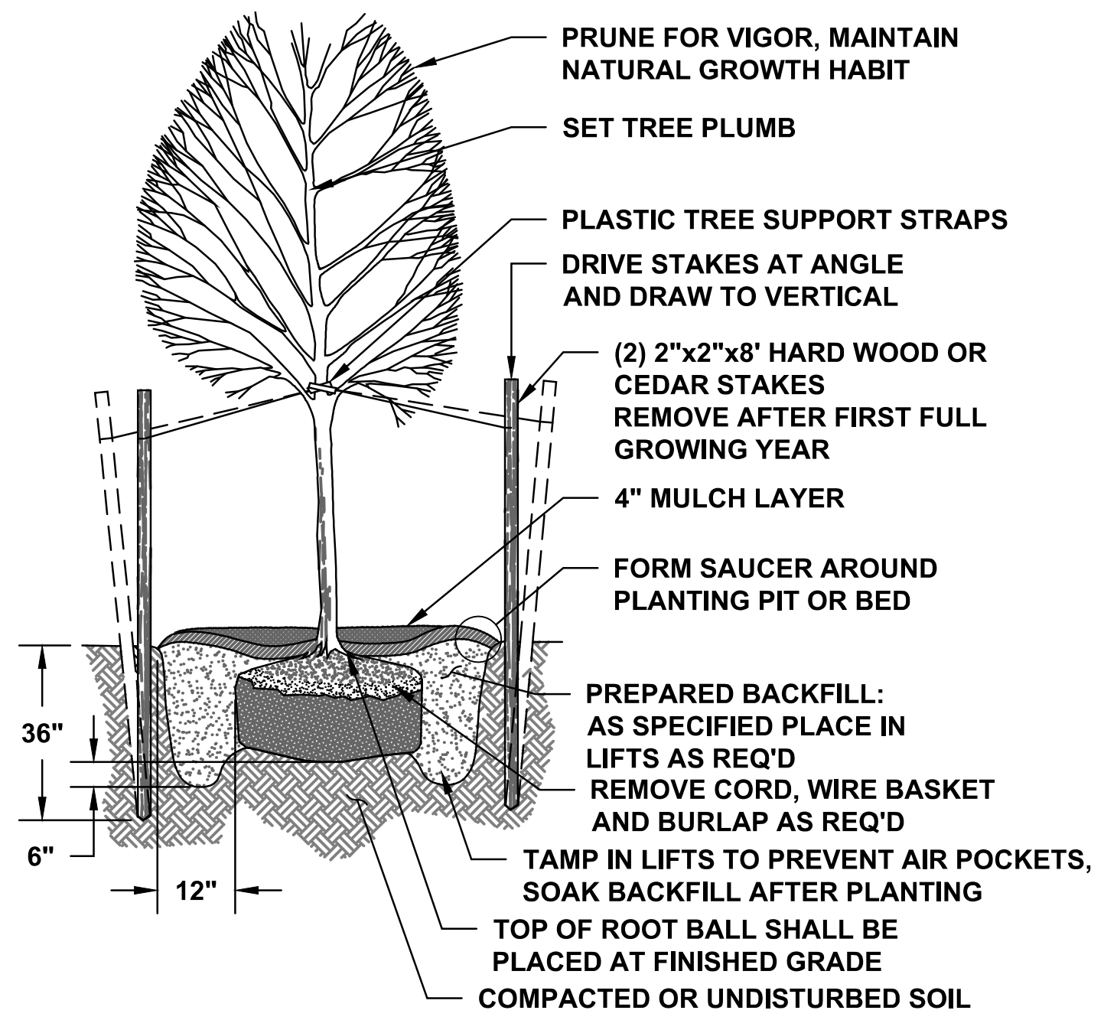
SHRUB/GRASS PLANTING DETAIL

N.T.S.


PRUNE FOR VIGOR, MAINTAIN NATURAL GROWTH HABIT
SET TREE PLUMB
PRUNE FOR VIGOR, MAINTAIN NATURAL GROWTH HABIT
PLASTIC TREE SUPPORT STRAPS
DRIVE STAKES AT ANGLE AND DRAW TO VERTICAL
(3) 2" Ø HARD WOOD OR CEDAR STAKES AT 120°
4" MULCH LAYER
REMOVE BURLAP AND CORD FROM TOP 1/3 OF ROOTBALL
FORM SAUCER AROUND PLANTING PIT OR BED
PREPARED BACKFILL: AS SPECIFIED PLACE IN LIFTS AS REQ'D
24" MIN.
6"
12"
TAMP IN LIFTS TO PREVENT AIR POCKETS, SOAK BACKFILL AFTER PLANTING
COMPACTED OR UNDISTURBED SOIL

EVERGREEN TREE PLANTING

N.T.S.

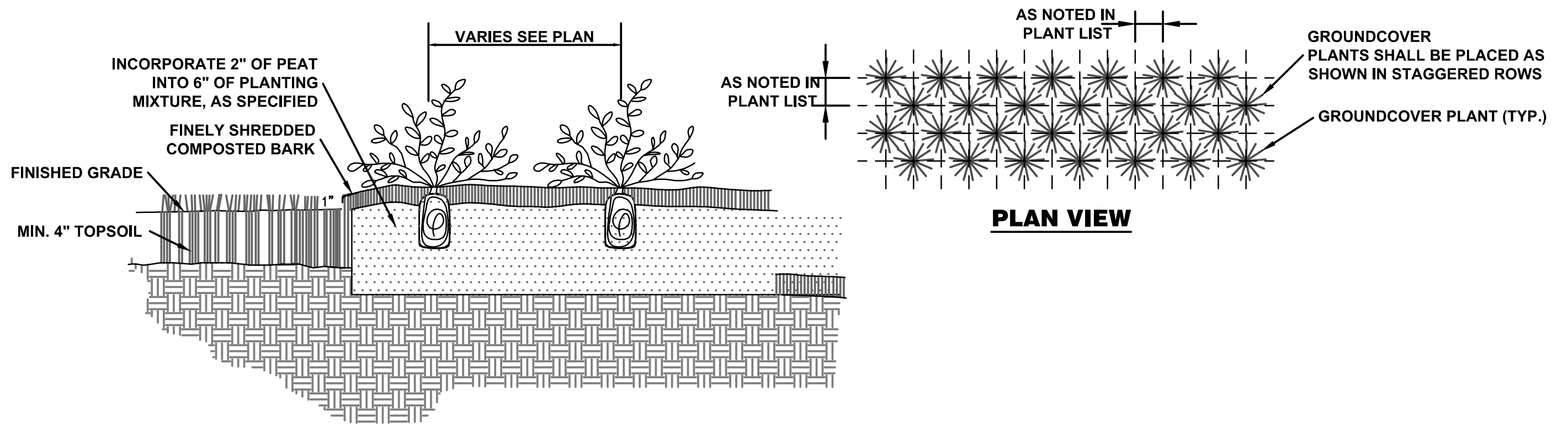

PRUNE FOR VIGOR, MAINTAIN NATURAL GROWTH HABIT
SET TREE PLUMB
PLASTIC TREE SUPPORT STRAPS
DRIVE STAKES AT ANGLE AND DRAW TO VERTICAL
(2) 2"x2"x8' HARD WOOD OR CEDAR STAKES REMOVE AFTER FIRST FULL GROWING YEAR
4" MULCH LAYER
FORM SAUCER AROUND PLANTING PIT OR BED
PREPARED BACKFILL: AS SPECIFIED PLACE IN LIFTS AS REQ'D
36"
REMOVE CORD, WIRE BASKET AND BURLAP AS REQ'D
6"
12"
TAMP IN LIFTS TO PREVENT AIR POCKETS, SOAK BACKFILL AFTER PLANTING
TOP OF ROOT BALL SHALL BE PLACED AT FINISHED GRADE
COMPACTED OR UNDISTURBED SOIL

NOTE:

1. CONTRACTOR SHALL SUPPLY AND INSTALL GATOR BAGS ON ALL TREE MATERIAL.

DECIDUOUS TREE PLANTING

N.T.S.


VARIES SEE PLAN
INCORPORATE 2" OF PEAT INTO 6" OF PLANTING MIXTURE, AS SPECIFIED
FINELY SHREDDED COMPOSTED BARK
FINISHED GRADE
1"
MIN. 4" TOPSOIL
AS NOTED IN PLANT LIST
AS NOTED IN PLANT LIST
GROUNDCOVER PLANTS SHALL BE PLACED AS SHOWN IN STAGGERED ROWS
GROUNDCOVER PLANT (TYP.)
PLAN VIEW

GROUNDCOVER/PERENNIAL PLANTING

N.T.S.

LANDSCAPE ARCHITECTURAL NOTES

GENERAL NOTES

A. EXAMINE ALL ENGINEERING DRAWINGS AND FIELD CONDITIONS FOR SPECIFIC LOCATIONS OF UTILITIES, STRUCTURES, ETC. NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY REGARDING ANY DISCREPANCIES OR LOCATION CONFLICTS PRIOR TO PLANTING.

B. IN THE EVENT THAT PLANT QUANTITY DISCREPANCIES OR MATERIAL OMISSIONS OCCUR IN THE PLANTING SCHEDULE, THE PLAN SHALL SUPERSEDE.

C. ALL PLANTING MATERIALS AND METHODS SHALL MEET OR EXCEED THE REQUIREMENTS OF THE LOCAL MUNICIPAL ORDINANCES AND ANSI Z-60.1 (CURRENT VERSION), THE AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN. IN THE EVENT OF CONFLICTS BETWEEN A.A.N. AND MUNICIPAL STANDARDS, THE MUNICIPAL REQUIREMENTS SHALL SUPERSEDE.

D. ALL LANDSCAPING SHALL BE PLANTED AS TO NOT TO INTERFERE WITH UTILITY LINES, SIGHT TRIANGLES, UNDERGROUND UTILITIES, OR PUBLIC WALKWAYS OR OTHER EXISTING OR PROPOSED STRUCTURES. ALL PLANT MATERIAL REQUIRED IN SIGHT DISTANCES OR SIGHT TRIANGLE SHALL NOT EXCEED A MATURE HEIGHT GREATER THAN 30" ABOVE THE ELEVATION OF THE ADJACENT ROADWAY. STREET TREES AND SHADE TREES PLANTED NEAR PEDESTRIAN OR VEHICULAR ACCESSES, OR WITHIN REQUIRED SIGHT DISTANCES OR SIGHT TRIANGLE EASEMENTS SHALL NOT BE BRANCHED ANY LOWER THAN 8'-0" ABOVE GRADE, AND MUST BE APPROPRIATELY PRUNED. NO WOODY PLANTS, EXCEPT GROUNDCOVERS, ARE TO HAVE THEIR CENTERS CLOSER THAN 36" TO THE BACK OF THE CURB.

PLANT MATERIAL

A. NO PLANT SUBSTITUTION SHALL BE ALLOWED WITH REGARD TO SIZE, SPECIES, NAMED VARIETY OR CULTIVAR WITHOUT PRIOR PERMISSION OF THE APPROVING AUTHORITY.

B. ALL PLANTS SHALL BE DUG, PACKED, TRANSPORTED AND HANDLED WITH THE UTMOST CARE TO ENSURE ADEQUATE PROTECTION FROM INJURY DESICCATION.

C. ALL PLANTS SHALL BE FREE FROM DISEASE AND INFESTATION, AND HAVE ALL LEGALLY REQUIRED AGRICULTURAL CERTIFICATIONS.

D. ALL PLANTS SHALL BE PRUNED TO ENHANCE VIGOR PRIOR TO OR UPON INSTALLATION WHILE RETAINING NATURAL GROWTH HABIT OF THE PLANTS. THE CENTRAL LEADER SHALL NOT BE CUT; PLANTS PROVIDED IN THIS CONDITION SHALL NOT BE ACCEPTED. DAMAGED, BROKEN, OR CONFLICTING BRANCHES SHALL BE PRUNED CLEANLY, FLUSH WITH THE MAIN TRUNK OR BRANCH.

E. ALL PLANTS SHALL BE NURSERY-GROWN AND TAGGED WITH A DURABLE LABEL INDICATING THE GENUS, SPECIES AND SPECIFIED VARIETY OR CULTIVAR.

PLANTING

A. SOIL MUST BE FROST-FREE, FRIABLE AND NOT MUDDY AT THE TIME OF PLANTING.

B. BACKFILL MATERIAL FOR PLANTING PITS SHALL BE COMPOSED OF 70% TOPSOIL, 20% FULLY COMPOSTED COW OR HORSE MANURE AND 10% PEAT MOSS. TOPSOIL SHALL MEET NJDOT STANDARD SPECIFICATIONS AND MAY BE FROM ON-SITE OR IMPORTED SOURCES. SOIL SHALL CONTAIN NO ACIDIC MARL, NOR ANY LARGE STONES.

C. PLANTS SHALL BE SET TO ULTIMATE FINISHED GRADE SO THAT THEY WILL BE LEFT IN THE RELATIONSHIP TO THE SURROUNDING GROUND AS THEY HAD, PRIOR TO BEING DUG. PLANTS SHALL BE SET SO THAT THEIR CROWNS ARE APPROXIMATELY THREE INCHES ABOVE THE FINAL GRADE WITH ROOT TOPSOIL AND MULCH GENTLY MOUNDED TO AVOID EXCESSIVE DRYING AT THE SURFACE. UNDER NO CIRCUMSTANCES SHALL PLANTINGS AT RELATIVELY DRY LOCATIONS BE PERFORMED IN A MOUNDED MANNER.

D. THE CORD BINDING THE BALL OF ALL BALLED AND BURLAPPED (B&B) PLANTS SHALL BE CUT AND REMOVED, AND BURLAP ON THE UPPER 1/3 OF THE ROOT BALL SHALL BE REMOVED. PLANTS WITH SYNTHETIC NON- DEGRADABLE ROOT BALL WRAPS SHALL NOT BE ACCEPTABLE.

E. ALL PROPOSED TREES SHALL BE SET IN BEDS MULCHED TO THE LIMIT OF THEIR PLANTING PITS. ALL PROPOSED SHRUBS SHALL BE SET IN CONTINUOUS MASSED PLANTING BEDS RATHER THAN ISOLATED INDIVIDUALS. ALL TREE AND SHRUB BEDS SHALL RECEIVE A 4" THICK APPLICATION OF A THOROUGHLY COMPOSTED ORGANIC MULCH, FREE OF ANY OBJECTIONABLE OR FOREIGN MATERIALS.

F. ALL FINAL LAYOUT PLANTINGS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

MAINTENANCE

A. ALL PLANTINGS SHALL BE WATERED AS NECESSARY FOR SOUND HORTICULTURAL PRACTICE DURING THE FIRST GROWING SEASON TO ENSURE THEIR PROPER ESTABLISHMENT.

B. ALL DISTURBED AREAS BEYOND THE LIMITS OF THE MULCHED PLANTING BEDS SHALL BE PERMANENTLY STABILIZED WITH TURFGRASSES PER THE SOIL EROSION AND SEDIMENT CONTROL PLANS.

C. IN GENERAL, SHRUBS ARE TO BE PLANTED AT INTERVALS WHICH WILL ALLOW THEM TO FULLY DEVELOP INTO CONTINUOUS MASSES OF THE INDIVIDUAL SPECIES. THEREFORE, NO PRUNING TO SHAPE OR SHEARING IS REQUIRED OR DESIRABLE. WHERE DEAD OR CONFLICTING BRANCHING DEVELOPS, IT SHOULD BE PRUNED OUT.

TRANSPLANTING & POST-PLANTING CARE NOTES:

A. THE LOCATION OF UTILITIES AND OTHER OBSTRUCTIONS BOTH BELOW AND ABOVE GROUND SHALL BE TAKEN INTO CONSIDERATION PRIOR TO TRANSPLANTING ANY TREE.

B. AN INITIAL ASSESSMENT SHALL BE CONDUCTED PRIOR TO TRANSPLANTING. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO, GENERAL HEALTH OF THE PLANTS, STRUCTURAL CONDITIONS, SPECIES DATA, SIZE AND QUALITY OF ROOT SYSTEM, AND ANY OTHER RELATED ISSUE THAT WILL IMPACT THE ESTIMATED RATE OF SUCCESS. ASSESSMENT SHALL ALSO INCLUDE THE EVALUATION OF THE EXISTING SITE AND INSTALLATION SITE'S CONDITIONS, SUCH AS SOIL CONDITIONS, SLOPE, LOCATION OF UTILITIES BELOW AND ABOVE GROUND AND ANY STRUCTURES OR OBSTACLES.

C. FOR SHADE TREES, MEASURE THE DIAMETER OF THE TREE TRUNK ONE FOOT ABOVE THE GROUND. DIG A BALL APPROXIMATELY ONE FOOT IN WIDTH FOR EACH INCH OF TRUNK DIAMETER ABOVE THE ONE INCH DIAMETER SIZE, WHICH SHOULD HAVE A MINIMUM BALL DIAMETER OF 16 INCHES. DEPTH OF THE BALL SHOULD BE ABOUT 2/3 TO 3/4 ITS WIDTH.

D. PROPOSED LOCATIONS SHALL BE STAKED/MARKED OUT BY THE CONTRACTOR AND APPROVED BY THE LANDSCAPE ARCHITECT. CONTRACTOR TO NOTIFY THE LANDSCAPE ARCHITECT OF PLANTING LOCATION ADJUSTMENTS AS A RESULT OF UNANTICIPATED CONDITIONS IMMEDIATELY.

E. DEPTH OF THE PLANTING PIT IS DETERMINED BY THE DEPTH AND FIRMNESS OF THE ROOT BALL AND SHALL NOT EXCEED THE DEPTH OF THE ROOT BALL. THE SOIL DIRECTLY BENEATH THE ROOT BALL SHOULD BE UNDISTURBED OR PREPARED TO PREVENT SETTLING. THE PLANTING PIT WIDTH SHOULD BE A MINIMUM OF 12 INCHES GREATER DIAMETER TO TWO TIMES THE DIAMETER OF THE ROOT BALL. THE SIDES OF THE PLANTING HOLE SHOULD BE FRIABLE AND LOOSENED TO BREAK ALL “GLAZING”.

F. NO PLANTING HOLES SHALL BE LEFT OPEN WITHOUT PROPERLY SECURING THEM FROM PUBLIC SAFETY.

G. TREES THAT HAVE BEEN DUG SHALL BE PLANTED WITHIN 48 HOURS. ROOT BALL SHALL BE COVERED WITH DAMP MATERIAL TO RETAIN MOISTURE UNTIL TIME OF PLANTING. TREES MUST BE PROTECTED/COVERED WHEN TRANSPORTING TO THE PROPOSED LOCATION.

H. TREES SHALL BE PLACED IN THE SAME COMPASS ORIENTATION FROM WITH THEY ORIGINATED. ROOT FLARE SHALL BE AT OR ABOVE THE FINISHED GRADE. ALL ROOT BALL SUPPORTING MATERIALS SHALL BE CUT OFF FROM THE TOP THIRD OF THE ROOT BALL AND REMOVED FROM THE PLANTING PIT PRIOR TO FINAL BACKFILLING. ALL BROKEN, TORN OR DAMAGED ROOTS GREATER THAN ONE INCH IN DIAMETER SHALL BE CLEAN-CUT TO PREVENT ROT AND DISEASE. SEVER ANY CIRCLING OR KINKED ROOTS DISCOVERED DURING PROCEDURE TO PREVENT FUTURE GIRDLING OF THE PLANT.

I. BACKFILL SHALL BE EXISTING SOIL EXCAVATED FROM PLANTING PIT. BACKFILL SHALL BE INSTALLED AND SETTLED IN LAYERED SECTIONS TO LIMIT FUTURE SETTLING AND PREVENT AIR POCKETS. BACKFILL SHALL NOT BE COMPACTED TO A DENSITY THAT INHIBITS ROOT GROWTH. WATER SHALL BE ADDED TO THE ROOT BALL AND BACKFILL TO BRING THE ROOT BALL TO FIELD CAPACITY.

J. PLANTS ARE TO BE MULCHED TO THE LANDSCAPE ARCHITECT'S APPROVAL. ROOT FLARE SHALL BE EXPOSED.

K. CONTRACTOR TO PROVIDE POST-PLANTING CARE FOR A MINIMUM OF ONE YEAR.

SOD/SEEDING NOTES:

A. LAWN TYPE SOD SHALL BE APPLIED TO ALL AREAS EXCEPT PAVED AREAS, PLANTING BED AREAS, AREAS TO BE DISTURBED BY FUTURE CONSTRUCTION (PLAYGROUND, PICKLEBALL COURTS, FUTURE REC. CENTER) OR ANY OTHER AREAS INDICATED TO RECIEVE A SPECIFIC SEED MIXTURE. SEEDBED PREPARATION SHALL BE DETERMINED BY SOIL TEST CONDUCTED PRIOR TO SEEDING AT CONTRACTOR EXPENSE.

B.	LAWN TYPE SOD MIXTURE SHALL BE AS FOLLOWS:	DURABLEND TALL FESCUE SOD AS PRODUCED BY CENTRAL SOD FARMS OR APPROVED EQUAL
C.	SLOPE STABILIZATION MIX SHALL BE AS FOLLOWS:	NATIVE STEEP SLOPE MIX WITH ANNUAL RYEGRASS, ERNMX-181, BY ERNST CONSERVATION SEEDS, INC. OR APPROVED EQUAL
D.	SLOPE STABILIZATION MIX SHALL BE AS FOLLOWS:	OBL WETLAND MIX, ERNX-131, BY ERNST CONERVATION SEEDS, INC. OR APPROVED EQUAL
E.	BASIN SEED MIX SHALL BE AS FOLLOWS:	NATIVE DETENTION AREA MIX, ERNMX-183, BY ERNST CONSERVATION SEED INC. OF APPROVED EQUAL
F.	ATHLETIC FIELD SEED MIX SHALL BE AS FOLLOWS:	ATHLETIC FIELD MIX, ERNM-106, BY ERNST CONSERVATION SEED INC. OR APPROVED EQUAL

G. SEEDING RATE VARIES BY SEED MIX. ALL SEED MIXTURES SHALL BE PLACED IN ACCORDANCE WITH PRODUCER'S RECOMMENDED SEEDING RATES.

H. SEEDING DATES 4/1 TO 5/31 (SPRING) 8/16 TO 10/15 (FALL).

I. ALL LAWN/SEEDED AREAS SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL AND MUST BE ADJUSTED AS PER SOIL TEST RESULTS PRIOR TO SEEDING.

CONSULTANT:
KRISTOPHER A. KEMPER
NY REGISTERED LANDSCAPE ARCHITECT: 002719-1
002719-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:
REV. PER ADDENDUM NO. 1	A	4/8/2021	KAK	RCG

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CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

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7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
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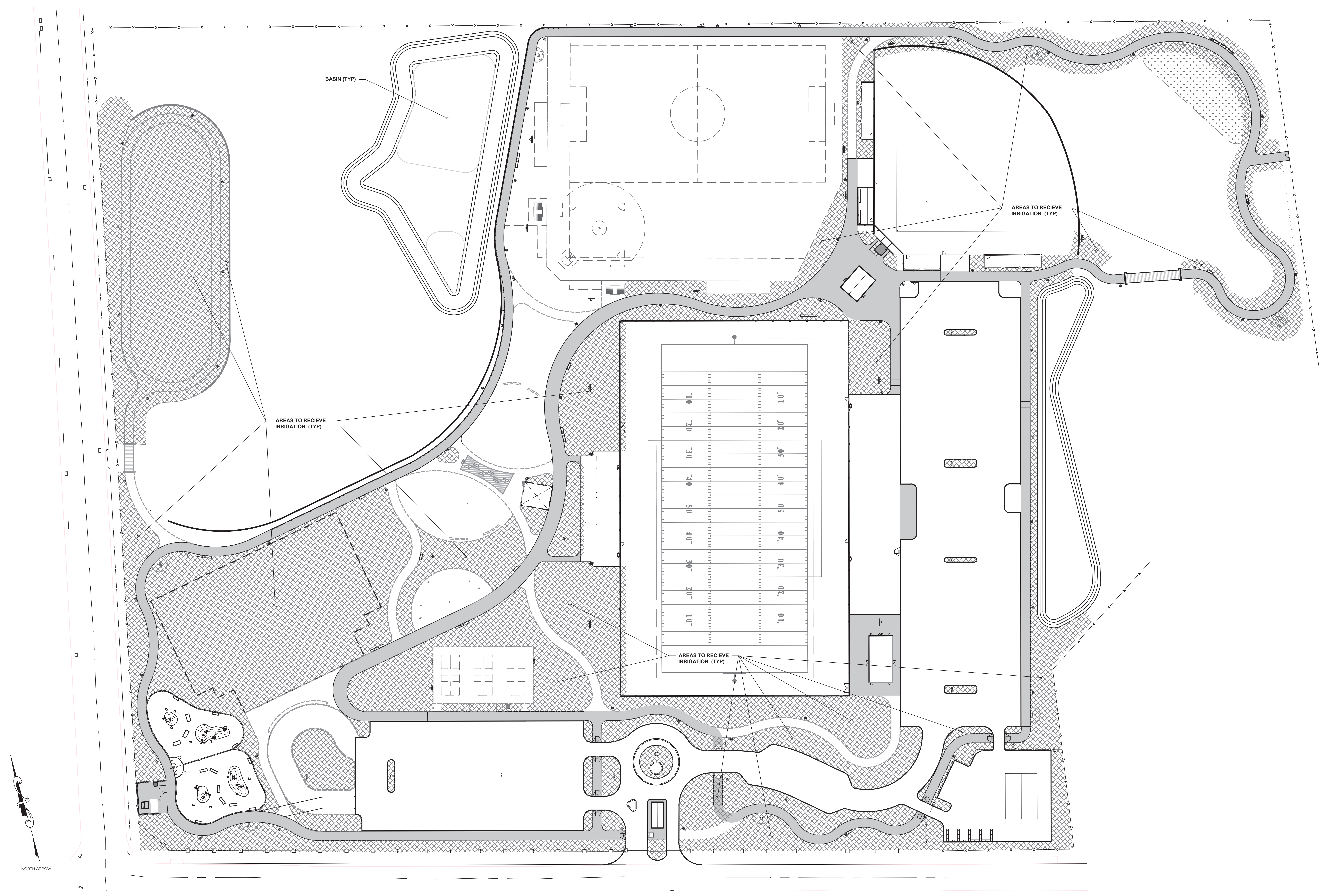
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

LANDSCAPE DETAILS

PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 25 OF 47
REVISION A

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 25 Landscape Details.dwg Thu, Apr 08, 2021 - 1:04pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.


BASIN (TYP)
AREAS TO RECIEVE IRRIGATION (TYP)
AREAS TO RECIEVE IRRIGATION (TYP)
AREAS TO RECIEVE IRRIGATION (TYP)
10
20
30
40
50
40
30
20
10
NORTH ARROW

IRRIGATION NOTES:

1. IRRIGATION PLAN IS DIAGRAMMATIC AND FOR THE PURPOSE OF GRAPHICALLY DISPLAYING COVERAGE AREAS TO RECEIVE SPRAY IRRIGATION.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING IRRIGATION PLANS DESIGNED BY A CERTIFIED IRRIGATION DESIGNER OF FULLY FUNCTIONAL POP-UP SPRAYHEAD IRRIGATION SYSTEM INCLUDING ALL NECESSARY COMPONENTS FOR APPROVAL BY ENGINEER.
3. REFER TO SPECIFICATION SECTION 328400 FOR PERFORMANCE REQUIREMENTS.

LEGEND

▨ IRRIGATION AREA

40 0 40 80 120

SCALE: 1" = 40'

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SITE IRRIGATION PLAN

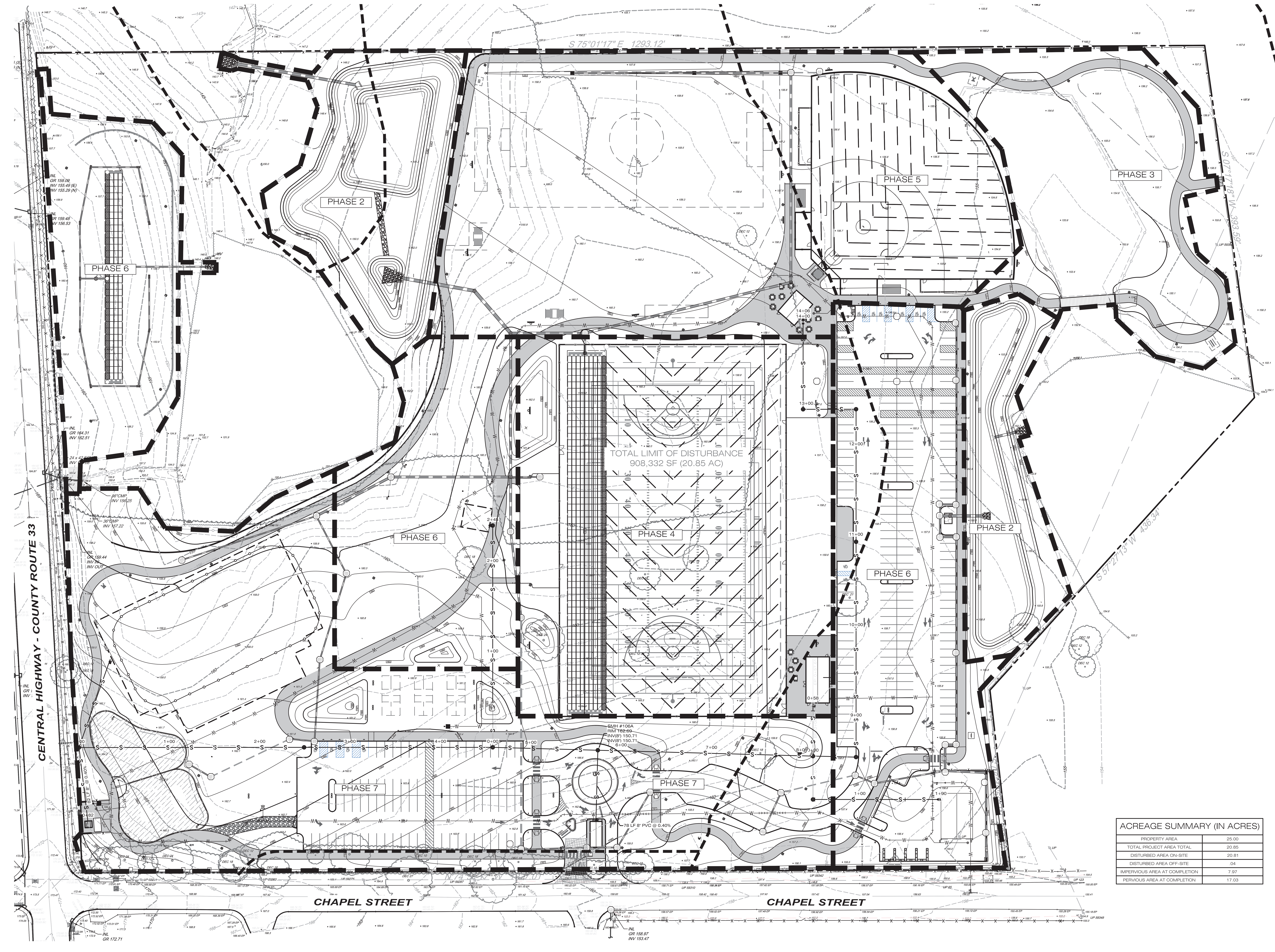
PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=40'

SHEET 26 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 26 Site Irrigation Plan.dwg Tue, Mar 16, 2021 - 1:44pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.



CONSTRUCTION SEQUENCE & PHASING

PHASE 1
- INSTALLATION OF SOIL EROSION AND SEDIMENT CONTROL MEASURES IN ACCESSIBLE AREAS.
    - SILT FENCE
    - CONSTRUCTION ENTRANCE
    - INLET PROTECTION
    - SWPPP INFORMATION SIGN
- CLEARING OF SITE
- TREE CLEARING

PHASE 2
- CONTINUATION OF SESC MEASURES AS ACCESS IS OBTAINED THROUGH TREE CLEARING.
- EXCAVATION AND INSTALLATION OF SEDIMENT BASINS IN PERMANENT BASIN LOCATIONS
- STABILIZATION OF STOCKPILE AREA

PHASE 3
- GRADING FOR NORTH EASTERN WALKWAY AND SENSORY GARDEN
- INSTALLATION OF SENSORY GARDEN PEDESTRIAN FOOTBRIDGE
- INSTALLATION OF ASSOCIATED UTILITIES

PHASE 4
- EXCAVATION & GRADING OF MULTIPURPOSE FIELD
- INSTALLATION OF UNDERGROUND DETENTION BASIN
- INSTALLATION OF ASSOCIATED DRAINAGE & UTILITIES

PHASE 5
- EXCAVATION & GRADING OF BASEBALL/SOCCER FIELD AND CHALLENGER FIELD
- INSTALLATION OF ASSOCIATED DRAINAGE & UTILITIES

PHASE 6
- GRADING FOR EASTERN PARKING LOT, MAINTENANCE BUILDING, AND PLAYGROUNDS
- EXCAVATION & GRADING OF TRACK/SOCCER FIELDS
- INSTALLATION OF ASSOCIATED DRAINAGE & UTILITIES

PHASE 7
- GRADING FOR SOUTHERN PARKING LOT, FUTURE BUILDING, DOG PARK, AND ENTRANCE DRIVEWAYS
- INSTALLATION OF ASSOCIATED DRAINAGE AND UTILITIES

PHASE 8
- INSTALLATION OF CURBING, PARKING AREAS, AND WALKWAYS.
- INSTALLATION OF PLAYGROUND, TURF FIELDS, AND SPLASH PAD.
- INSTALLATION OF SITE & SPORTS LIGHTING.

PHASE 9
- FINALIZATION OF ABOVE-GROUND BASINS
- INSTALLATION OF BUILDINGS
- TIE-IN OF SITE UTILITIES WITHIN PUBLIC ROW
- INSTALLATION OF TOPSOIL, SEED, AND MULCH

PHASE 10
- REMOVAL OF REMAINING SESC MEASURES

ACREAGE SUMMARY (IN ACRES)

PROPERTY AREA	25.00
TOTAL PROJECT AREA TOTAL	20.85
DISTURBED AREA ON-SITE	20.81
DISTURBED AREA OFF-SITE	.04
IMPERVIOUS AREA AT COMPLETION	7.97
PERVIOUS AREA AT COMPLETION	17.03

SOIL LEGEND

SOIL TYPE	LABEL	HSG CLASSIFICATION
WETHERSFIELD GRAVELLY SILT LOAM	WeB	C
WALLINGTON SILT LOAM	Wa	D
ALDEN SILT LOAM	Ad	C/D
URBAN LAND	Ux	N/A

40 0 40 80 120

SCALE: 1" = 40'

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

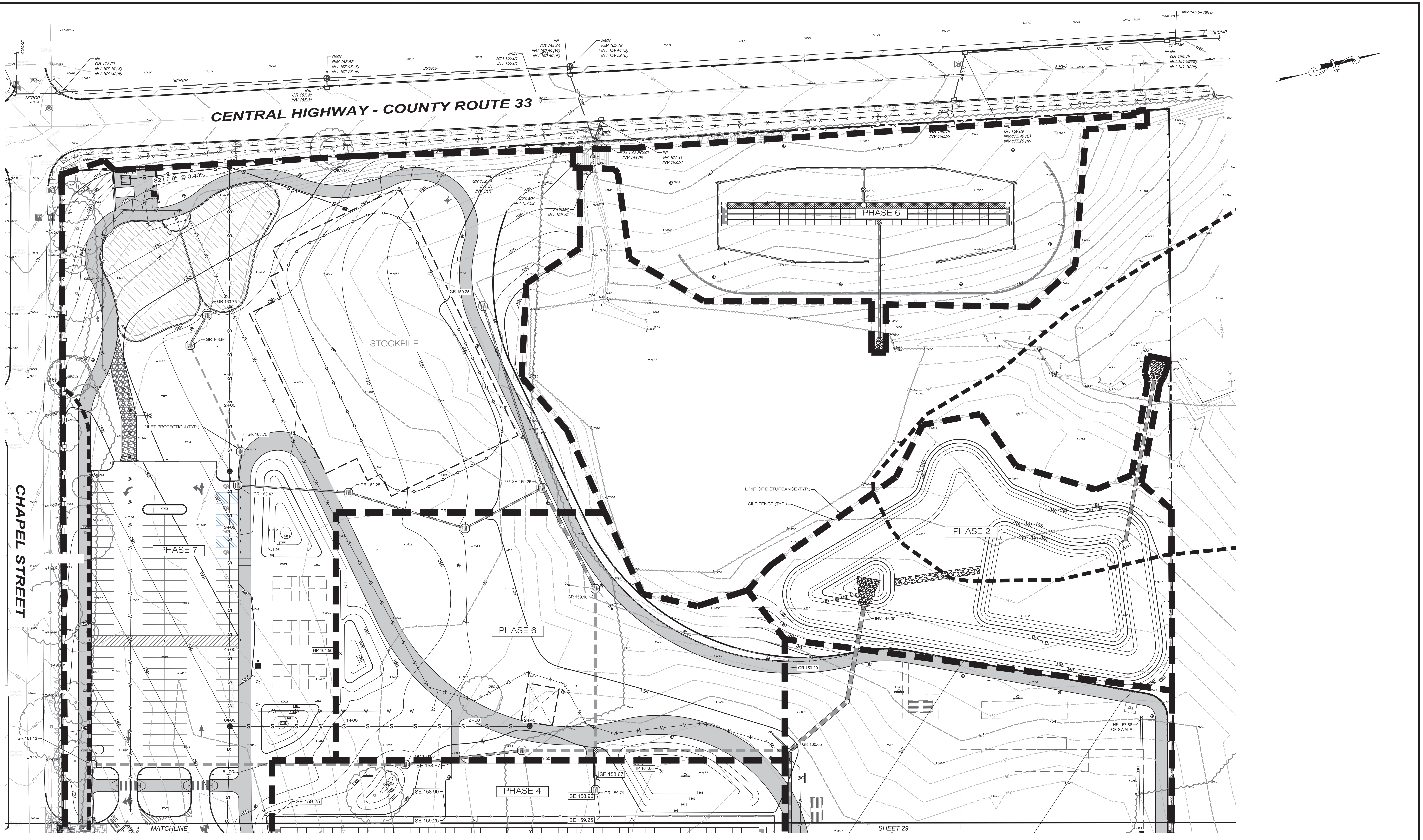
SOIL EROSION AND SEDIMENT CONTROL
PHASING PLAN

PROJECT NUMBER:
SCE-9755.021

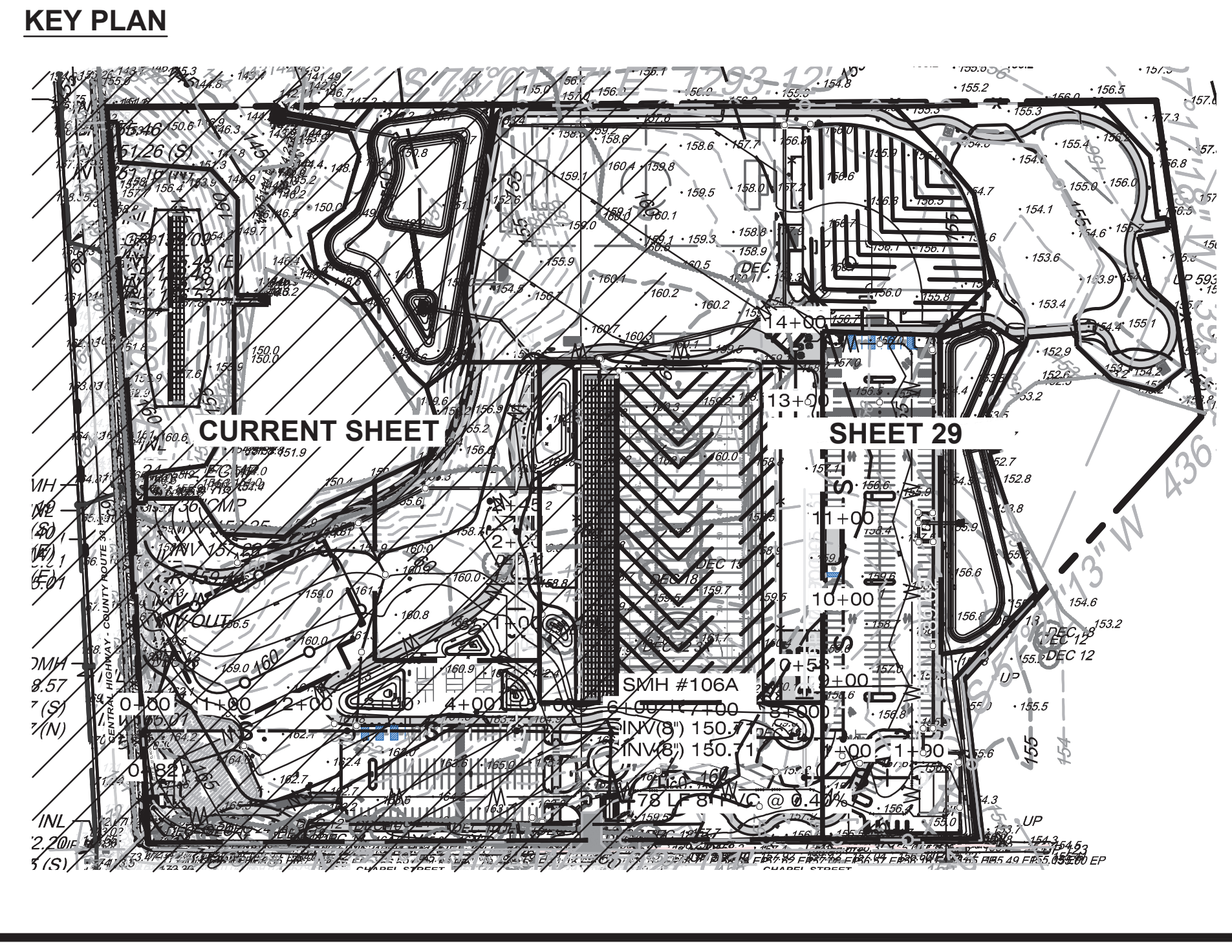
SCALE:
1"=40'

SHEET 27 OF 47

REVISION -



KEY PLAN



SCALE: 1" = 30'

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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ELECTRONIC SUBMISSIONS NOT CONTAINING A VALID DIGITAL SEAL OR PAPER COPIES NOT CONTAINING A RAISED SEAL ARE NOT ORIGINALS AND MAY HAVE BEEN ALTERED.

DESCRIPTION	NO.	DATE:	BY:	CHK:
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SUBURBAN ENGINEERING
- Civil Engineers -
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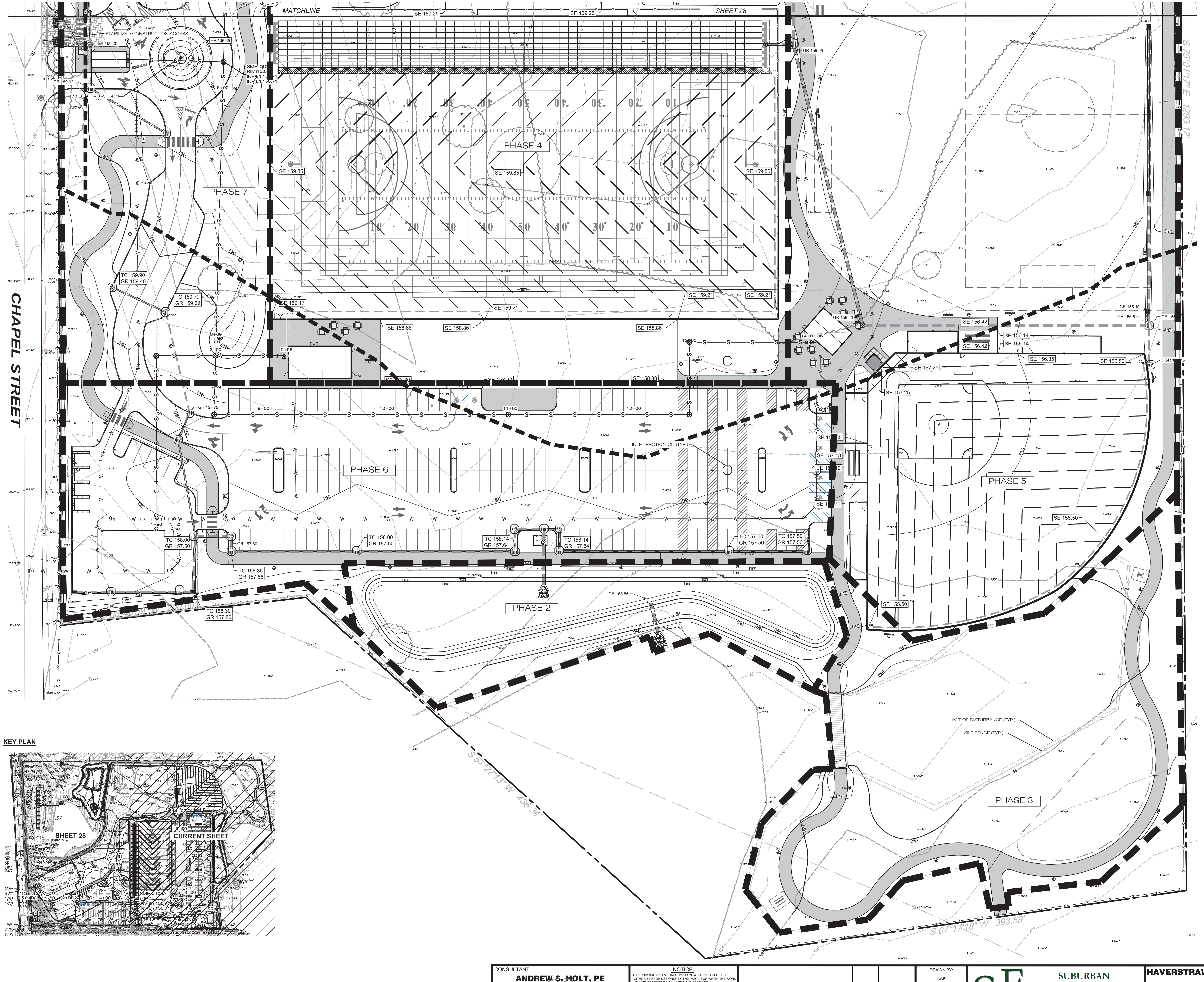
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

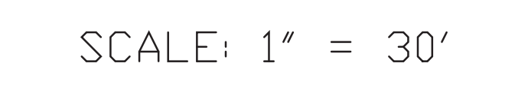
SOIL EROSION AND SEDIMENT CONTROL PLAN

PROJECT NUMBER: SCE-9755.021
SCALE: 1"=30'
SHEET 28 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 27-29 SWPPP 1 2 3 Plan.dwg Thu, Mar 11, 2021 - 2:30pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.



KEY PLAN



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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
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SOIL EROSION AND SEDIMENT CONTROL
PLAN

PROJECT NUMBER:
SCE-9755.021

SCALE:
1"=30'

SHEET 29 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 27-29 SWPPP 1 2 3 Plan.dwg Tue, Mar 23, 2021 - 1:38pm agonzalez SUBURBAN CONSULTING ENGINEERS, INC.

GENERAL EROSION NOTES

1. THE STORMWATER POLLUTION PREVENTION PLAN IS COMPRISED OF THIS DRAWING ("SITE MAP"), THE STANDARD DETAILS, PLUS THE PERMIT AND ALL SUBSEQUENT REPORTS AND RELATED DOCUMENTS.
2. ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH STORM WATER POLLUTION PREVENTION SHALL OBTAIN A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE STATE OR NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT (NPDES PERMIT) AND BECOME FAMILIAR WITH THEIR CONTENTS.
3. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THE SWPPP. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.
4. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.
5. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.
6. CONTRACTOR SHALL MINIMIZE CLEARING TO THE MAXIMUM EXTENT PRACTICAL OR AS REQUIRED BY THE GENERAL PERMIT.
7. GENERAL CONTRACTOR SHALL DENOTE ON PLAN THE TEMPORARY PARKING AND STORAGE AREA WHICH SHALL ALSO BE USED AS THE EQUIPMENT MAINTENANCE AND CLEANING AREA, EMPLOYEE PARKING AREA, AND AREA FOR LOCATING PORTABLE FACILITIES, OFFICE TRAILERS, AND TOILET FACILITIES.
8. ALL WASH WATER (CONCRETE TRUCKS, VEHICLE CLEANING, EQUIPMENT CLEANING, ETC.) SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.
9. SUFFICIENT OIL AND GREASE ABSORBING MATERIALS AND FLOTATION BOOMS SHALL BE MAINTAINED ON SITE OR READILY AVAILABLE TO CONTAIN AND CLEAN-UP FUEL OR CHEMICAL SPILLS AND LEAKS.
10. DUST ON THE SITE SHALL BE CONTROLLED. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
11. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE.
12. ALL STORM WATER POLLUTION PREVENTION MEASURES PRESENTED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE INITIATED AS SOON AS PRACTICABLE.
13. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY WILL BE STOPPED FOR AT LEAST 7 DAYS, SHALL BE TEMPORARILY SEEDED. THESE AREAS SHALL BE SEEDED NO LATER THAN 7 DAYS FROM THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS.
14. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY SEEDED/SODDED. THESE AREAS SHALL BE SEEDED/SODDED NO LATER THAN 7 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.
15. IF THE ACTION OF VEHICLES TRAVELING OVER THE GRAVEL CONSTRUCTION ENTRANCES IS NOT SUFFICIENT TO REMOVE THE MAJORITY OF DIRT OR MUD, THEN THE TIRES MUST BE WASHED BEFORE THE VEHICLES ENTER A PUBLIC ROAD. IF WASHING IS USED, PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP THE SEDIMENT BEFORE IT IS CARRIED OFF THE SITE. ONLY USE INGRESS/EGRESS LOCATIONS AS PROVIDED.
16. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY.
17. CONTRACTORS OR SUBCONTRACTORS WILL BE RESPONSIBLE FOR REMOVING SEDIMENT IN THE DETENTION POND AND ANY SEDIMENT THAT MAY HAVE COLLECTED IN THE STORM SEWER DRAINAGE SYSTEMS IN CONJUNCTION WITH THE STABILIZATION OF THE SITE.
18. ON-SITE & OFFSITE SOIL STOCKPILE AND BORROW AREAS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION THROUGH IMPLEMENTATION OF BEST MANAGEMENT PRACTICES. STOCKPILE AND BORROW AREA LOCATIONS SHALL BE NOTED ON THE SITE MAP AND PERMITTED IN ACCORDANCE WITH GENERAL PERMIT
19. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION.
20. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION. AND POLLUTANT DISCHARGE.
21. SOIL TYPES LISTED ARE BASED ON HISTORICAL DATA. GENERAL CONTRACTOR IS TO REFER TO GEOTECHNICAL REPORT FOR CURRENT SUBSURFACE CONDITIONS.

MAINTENANCE

ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE FOLLOWING:

1. INLET PROTECTION DEVICES AND BARRIERS SHALL BE REPAIRED OR REPLACED IF THEY SHOW SIGNS OF UNDERMINING OR DETERIORATION.
2. ALL SEEDED/SODDED AREAS SHALL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED, WATERED, AND RESEEDED/RESODDED AS NEEDED.
3. SILT FENCES SHALL BE REPAIRED TO THEIR ORIGINAL CONDITIONS IF DAMAGED. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN IT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
4. THE CONSTRUCTION EXITS SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT OF WAY.

EROSION AND SEDIMENT CONTROL NOTES

A. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES AS REQUIRED BY THIS STORM WATER POLLUTION PREVENTION PLAN. ADDITIONAL BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AS DICTATED BY CONDITIONS AT NO ADDITIONAL COST OF OWNER THROUGHOUT ALL PHASES OF CONSTRUCTION.

B. BEST MANAGEMENT PRACTICES (BMP'S) AND CONTROLS SHALL CONFORM TO FEDERAL, STATE, OR LOCAL REQUIREMENTS OR MANUAL OF PRACTICE, AS APPLICABLE. CONTRACTOR SHALL IMPLEMENT ADDITIONAL CONTROLS AS DIRECTED BY PERMITTING AGENCY OR OWNER.

C. SITE MAP MUST CLEARLY DELINEATE ALL STATE WATERS. PERMITS FOR ANY CONSTRUCTION ACTIVITY IMPACTING STATE WATERS OR REGULATED WETLANDS MUST BE MAINTAINED ON SITE AT ALL TIMES.

D. CONTRACTOR TO LIMIT DISTURBANCE OF SITE IN STRICT ACCORDANCE WITH SWPPP IMPLEMENTATION SEQUENCE, OR AS REQUIRED BY THE APPLICABLE GENERAL PERMIT. NO UNNECESSARY OR IMPROPERLY SEQUENCED CLEARING AND/OR GRADING SHALL BE PERMITTED.

E. ALL DENUDED/BARE AREAS THAT WILL BE INACTIVE FOR 14 DAYS OR MORE, MUST BE STABILIZED IMMEDIATELY UPON COMPLETION OF MOST RECENT GRADING ACTIVITY, WITH THE USE OF FAST-GERMINATING ANNUAL GRASS/GRAIN VARIETIES, STRAW/HAY MULCH, WOOD CELLULOSE FIBERS, TACKIFIERS, NETTING AND/OR BLANKETS. COMPLETION MUST BE ACHIEVED WITHIN 14 DAYS.

F. DISTURBED PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED SHALL BE PERMANENTLY STABILIZED AS SHOWN ON THE PLANS. THESE AREAS SHALL BE SEEDED, SODDED, AND/OR VEGETATED IMMEDIATELY, AND COMPLETED NO LATER THAN 14 DAYS AFTER THE LAST CONSTRUCTION ACTIVITY OCCURRING IN THESE AREAS. REFER TO THE GRADING PLAN AND/OR LANDSCAPE PLAN.

G. SLOPES SHALL BE LEFT IN A ROUGHENED CONDITION DURING THE GRADING PHASE TO REDUCE RUNOFF VELOCITIES AND EROSION. TEMPORARY AND/OR PERMANENT STABILIZATION SHALL BE APPLIED PER REQUIREMENTS IN THESE E&S CONTROL NOTES.

H. DUE TO THE GRADE CHANGES DURING THE DEVELOPMENT OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING THE EROSION AND SEDIMENT CONTROL MEASURES (SILT FENCES, ETC.) TO PREVENT EROSION AND POLLUTANT DISCHARGE OFF-SITE.

I. ALL MEASURES STATED ON THIS SITE MAP, AND IN THE STORM WATER POLLUTION PREVENTION PLAN, SHALL BE MAINTAINED IN FULLY FUNCTIONAL CONDITION UNTIL NO LONGER REQUIRED FOR A COMPLETED PHASE OF WORK OR FINAL STABILIZATION OF THE SITE. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED BY A QUALIFIED PERSON IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR THE APPLICABLE PERMIT, WHICHEVER IS MORE STRINGENT, AND REPAIRED IN ACCORDANCE WITH THE SITE PLANS.

J. STORM WATER POLLUTANT CONTROL MEASURES INSTALLED DURING CONSTRUCTION, THAT WILL ALSO PROVIDE STORM WATER MANAGEMENT AFTER CONSTRUCTION, ARE INCLUDED IN THE CONTRACT DOCUMENTS. THE SITE-SPECIFIC POST CONSTRUCTION STORM WATER OPERATION AND MAINTENANCE (O&M) MANUAL IS INCLUDED IN THE CONTRACT DOCUMENTS.

K. ALL PERMANENT CONTROLS AND SYSTEMS MUST BE INSTALLED AND FUNCTIONING AS DESIGNED AND FREE OF ACCUMULATED SEDIMENT AND DEBRIS DURING FINAL PROJECT INSPECTION AND APPROVAL.

HAZARDOUS MATERIAL MANAGEMENT & SPILL REPORTING

ANY HAZARDOUS OR POTENTIALLY HAZARDOUS MATERIAL THAT IS BROUGHT ONTO THE CONSTRUCTION SITE SHALL BE HANDLED PROPERLY TO REDUCE THE POTENTIAL FOR STORMWATER POLLUTION. ALL MATERIALS USED ON THIS CONSTRUCTION SITE SHALL BE PROPERLY STORED, HANDLED, DISPENSED AND DISPOSED OF FOLLOWING ALL APPLICABLE LABEL DIRECTIONS. FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE STORED AND HANDLED ACCORDING TO APPLICABLE REGULATIONS, AND, AT A MINIMUM, ACCORDING TO 29 CFR 1926.152. ONLY APPROVED CONTAINERS AND PORTABLE TANKS SHALL BE USED FOR STORAGE AND HANDLING OF FLAMMABLE AND COMBUSTIBLE LIQUIDS.

MATERIAL SAFETY DATA SHEETS (MSDS) INFORMATION SHALL BE KEPT ON SITE FOR ANY AND ALL APPLICABLE MATERIALS. HOWEVER, MSDS MAY ALSO BE ACCESSED VIA TELEPHONE OR OTHER ELECTRONIC MEANS OR APPARATUS.

IN THE EVENT OF AN ACCIDENTAL SPILL, IMMEDIATE ACTION SHALL BE TAKEN BY THE GC TO CONTAIN AND REMOVE THE SPILLED MATERIAL. THE SPILL SHALL BE REPORTED TO THE APPROPRIATE AGENCIES IN THE REQUIRED TIME FRAMES. AS REQUIRED UNDER THE PROVISIONS OF THE CLEAN WATER ACT, ANY SPILL OR DISCHARGE ENTERING WATERS OF THE UNITED STATES SHALL BE PROPERLY REPORTED.

ALL HAZARDOUS MATERIALS, INCLUDING CONTAMINATED SOIL AND LIQUID CONCRETE WASTE, SHALL BE DISPOSED OF BY THE CONTRACTOR IN THE MANNER SPECIFIED BY FEDERAL, STATE AND LOCAL REGULATIONS AND BY THE MANUFACTURER OF SUCH PRODUCTS.

THE GC SHALL PREPARE A WRITTEN RECORD OF ANY SPILL AND ASSOCIATED CLEAN-UP ACTIVITIES OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF 1 GALLON OR REPORTABLE QUANTITIES, WHICHEVER IS LESS, ON THE DAY OF THE SPILL. THE GC SHALL PROVIDE NOTICE TO OWNER, VIA THE ONLINE CRITICAL INCIDENT REPORT, IMMEDIATELY UPON IDENTIFICATION OF ANY SPILL. SPILL REPORT FORMS ARE AVAILABLE IN THE ONLINE SWPPP REPORTING SYSTEM PROVIDED BY THE OWNER. COPIES OF SPILL CRITICAL INCIDENT REPORTS SHALL BE PRINTED AND MAINTAINED IN THE JOBSITE BINDER.

ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802) AND NYS SPILL HOTLINE (1-800-457-7362).

THE STATE REPORTABLE QUANTITY FOR PETROLEUM PRODUCTS IS:

PETROLEUM SPILLS OF 5 GALLONS OR MORE SHALL BE REPORT TO THE NYS DEC IMMEDIATELY, BUT IN NO CASE LATER THAN TWO HOURS AFTER DISCAHRGE.

THE REPORTABLE QUANTITY FOR HAZARDOUS MATERIALS CAN BE FOUND IN 40 CFR 302 AND 17 CRR-NY 32.3.

TO MINIMIZE THE POTENTIAL FOR A SPILL OF PETROLEUM PRODUCT OR HAZARDOUS MATERIALS TO COME IN CONTACT WITH STORMWATER, THE FOLLOWING STEPS SHALL BE IMPLEMENTED:

1) ALL MATERIALS WITH HAZARDOUS PROPERTIES, SUCH AS PESTICIDES, PETROLEUM PRODUCTS, FERTILIZERS, SOAPS, DETERGENTS, CONSTRUCTION CHEMICALS, ACIDS, BASES, PAINTS, PAINT SOLVENTS, ADDITIVES FOR SOIL STABILIZATION, CONCRETE, CURING COMPOUNDS AND ADDITIVES, ETC., SHALL BE STORED IN A SECURE LOCATION, UNDER COVER AND IN APPROPRIATE, TIGHTLY SEALED CONTAINERS WHEN NOT IN USE.

2) THE MINIMUM PRACTICAL QUANTITY OF ALL SUCH MATERIALS SHALL BE KEPT ON THE JOB SITE AND SCHEDULED FOR DELIVERY AS CLOSE TO TIME OF USE AS PRACTICAL.

3) A SPILL CONTROL AND CONTAINMENT KIT (CONTAINING FOR EXAMPLE, ABSORBENT MATERIAL SUCH AS KITTY LITTER OR SAWDUST, ACID, BASE, NEUTRALIZING AGENT, BROOMS, DUST PANS, MOPS, RAGS, GLOVES, GOGGLES, PLASTIC AND METAL TRASH CONTAINERS, ETC.) SHALL BE PROVIDED AT THE CONSTRUCTION SITE AND ITS LOCATION(S) SHALL BE IDENTIFIED WITH LEGIBLE SIGNAGE AND SHOWN ON SITE MAPS.
   a. THE SPILL CONTROL AND CONTAINMENT KIT SUPPLIES SHALL BE OF SUFFICIENT QUANTITIES AND APPROPRIATE CONTENT TO CONTAIN A SPILL FROM THE LARGEST ANTICIPATED PIECE OF EQUIPMENT AND FROM THE LARGEST ANTICIPATED QUANTITIES OF PRODUCTS STORED ON THE SITE AT ANY GIVEN TIME.
   b. CONTENTS SHALL BE INSPECTED DAILY DURING THE DAILY STORMWATER INSPECTION.

4) ALL PRODUCTS SHALL BE STORED IN AND USED FROM THE ORIGINAL CONTAINER WITH THE ORIGINAL PRODUCT LABEL. CONTAINERS MUST BE STORED IN A MANNER TO PROTECT THEM FROM THE ELEMENTS AND INCIDENTAL DAMAGE.

5) ALL PRODUCTS SHALL BE USED IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL.

6) THE DISPOSAL OF EXCESS OR USED PRODUCTS SHALL BE IN STRICT COMPLIANCE WITH INSTRUCTIONS ON THE PRODUCT LABEL AND REGULATIONS.

SWD SOLID WASTE DISPOSAL

NOTES:

1. **SUBSTANCES THAT HAVE THE POTENTIAL FOR POLLUTING SURFACE AND/OR GROUNDWATER MUST BE CONTROLLED BY ANY MEANS NECESSARY TO ENSURE THAT THOSE DO NOT DISCHARGE FROM THE SITE. IN THIS REGARD, POTENTIALLY POLLUTING SUBSTANCES SHALL BE STORED AND HANDLED IN A MANNER CONSISTENT WITH THE RISK OF IMPACT THOSE REPRESENT, AND ACCORDING WITH THE REGULATIONS.**
2. **NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS, ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORMWATER. ALL SOLID WASTE, INCLUDING DISPOSABLE MATERIALS INCIDENTAL TO THE CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN CONTAINERS. RUBBISH, TRASH, GARBAGE, LITTER, OR OTHER SUCH MATERIALS SHALL BE DEPOSITED INTO SEALED CONTAINERS. MATERIALS SHALL BE PREVENTED FROM LEAVING THE PREMISES THROUGH THE ACTION OF WIND OR STORMWATER DISCHARGE INTO DRAINAGE DITCHES OR WATERS OF THE STATE. THE CONTAINERS SHALL BE HAULED AWAY FROM THE SITE AND EMPTIED WHEN THOSE BECOME 95% FULL, OR AS NECESSARY, BY A CERTIFIED TRASH DISPOSAL SERVICE. LIDS OR COVERS FOR THE CONTAINERS SHALL BE PROVIDED FOR USE DURING RAIN EVENTS TO PREVENT WASTE CONTACT WITH STORMWATER. WASTES THAT CANNOT BE STORED IN A CONTAINER MUST BE STORED UNDER COVER OR INDOORS. THE LOCATION OF SOLID WASTE RECEPTACLES SHALL BE SHOWN ON THE SITE MAPS.**

HWD HAZARDOUS WASTE DISPOSAL

NOTES:

1. CONTRACTOR SHALL PROVIDE DESIGNATED LOCATION FOR SORTING AND SEPARATING HAZARDOUS WASTES.
2. HAZARDOUS WASTE STORAGE MUST BE PROTECTED FROM WEATHER ELEMENTS AND HAVE RESTRICTED ACCESS.
3. HAZARDOUS WASTE STORAGE MUST COMPLY WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
4. HAZARDOUS WASTE STORAGE MUST COMPLY WITH CONTRACT DOCUMENTS.

SAF SANITARY FACILITIES

NOTES:

1. ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH STATE AND LOCAL SANITARY OR SEPTIC SYSTEM REGULATIONS. PORTABLE TOILETS MUST BE LOCATED AT LEAST 30 FEET FROM INLETS, CHANNELS, SWALES, OR PERMITTED LIMITS OF DISTURBANCE, AND MUST BE LOCATED AT LEAST 50 FEET FROM WATERS OF THE STATE, OR WATERS OF THE U.S.. PORTABLE TOILETS MUST BE SECURELY ANCHORED AND/OR TIED DOWN. SECONDARY CONTAINMENT SHALL BE PROVIDED AND FULL CAPACITY SHALL BE RESTORED IMMEDIATELY UPON DISCOVERY OF ITS DIMINISHMENT. THE LOCATION OF SANITARY FACILITIES SHALL BE SHOWN ON THE SITE MAPS.

TP TEMPORARY PARKING

NOTES:

1. THE TEMPORARY PARKING AND STORAGE AREA SHALL BE KEPT IN GOOD CONDITION (SUITABLE FOR PARKING AND STORAGE). THIS MAY REQUIRE PERIODIC TOP DRESSING OF THE TEMPORARY PARKING AREA AS CONDITIONS DEMAND.

DW DEWATERING

NOTES:

1. LOCATION - THE PORTABLE FILTER BAG SHOULD BE LOCATED TO MINIMIZE INTERFERENCE WITH CONSTRUCTION ACTIVITIES AND PEDESTRIAN TRAFFIC. IT SHOULD ALSO BE PLACED IN A LOCATION THAT IS VEGETATED, RELATIVELY LEVEL, AND PROVIDES FOR EASE OF ACCESS BY HEAVY EQUIPMENT, CLEANOUT, DISPOSAL OF TRAPPED SEDIMENT, AND PROPER RELEASE OF FILTERED WATER. THE FILTER BAG SHALL ALSO BE PLACED AT LEAST 50 FEET FROM ALL WETLANDS, STREAMS OR OTHER SURFACE WATERS.
2. GEOTEXTILE FILTER BAG SHALL BE SIZED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS BASED ON THE PUMP DISCHARGE RATE.
3. THE GEOTEXTILE MATERIAL WILL HAVE THE FOLLOWING ATTRIBUTES:

MINIMUM GRAB TENSILE STRENGTH	200 LBS.
MINIMUM GRAB TENSILE ELONGATION	50%
MINIMUM TRAPEZOID TEAR STRENGTH	80 LBS.
MULLEN BURST STRENGTH	380 PSI
MINIMUM PUNCTURE STRENGTH	130 LBS
MINIMUM UV RESISTANCE	70%
MINIMUM FLOW THRU RATE	70 GPM/SF

4.. THE BAG SHALL BE SEWN WITH A DOUBLE NEEDLE MACHINE USING HIGH STRENGTH THREAD, DOUBLE STITCHED “JOE” TYPE CAPABLE OF MINIMUM ROLL STRENGTH OF 100 LBS/INCH (ASTM D4884).
5. THE GEOTEXTILE FILTER BAG SHALL HAVE AN OPENING LARGE ENOUGH TO ACCOMMODATE A 4 INCH DIAMETER DISCHARGE HOSE WITH AN ATTACHED STRAP TO TIE OFF THE BAG TO THE HOSE TO PREVENT BACK FLOW.
6. THE GEOTEXTILE SHALL BE PLACED ON A GRAVEL BED 2 INCHES THICK, A STRAW MAT 4 INCHES THICK, OR A VEGETATED FILTER STRIP TO ALLOW WATER TO FLOW OUT OF THE BAG IN ALL DIRECTIONS.
7. THE GEOTEXTILE FILTER BAG IS CONSIDERED FULL WHEN REMAINING BAG FLOW AREA HAS BEEN REDUCED BY 75%. AT THIS POINT, IT SHOULD BE REPLACED WITH A NEW BAG.
8. DISPOSAL MAY BE ACCOMPLISHED BY REMOVING THE BAG TO AN APPROPRIATE DESIGNATED UPLAND AREA, CUT OPEN, REMOVE THE GEOTEXTILE FOR DISPOSAL, AND SPREAD SEDIMENT CONTENTS AND SEEDED AND MULCHED ACCORDING TO THE VEGETATIVE PLAN.

MLSA MATERIAL LAYDOWN AND STORAGE AREA

NOTES:

1. MATERIAL STORAGE AREAS SHOULD BE LOCATED, WHEN POSSIBLE, TO MINIMIZE EXPOSURE TO WEATHER. INSPECTIONS SHALL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM OR DISCHARGING FROM THE SITE. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS. GC SHALL ADHERE TO ALL STATE AND LOCAL REGULATIONS PERTAINING TO MATERIAL STORAGE AREAS.
2. CHEMICALS, PAINTS, SOLVENTS, FERTILIZERS, AND OTHER TOXIC MATERIALS MUST BE STORED IN WATERPROOF CONTAINERS. EXCEPT DURING APPLICATION, THE CONTAINERS AND THE CONTENTS MUST BE KEPT IN TRUCKS OR INSIDE OF STORAGE FACILITIES. RUNOFF CONTAINING SUCH MATERIAL MUST BE COLLECTED, REMOVED FROM THE SITE, TREATED, AND DISPOSED OF AT AN APPROVED SOLID WASTE AND CHEMICAL DISPOSAL FACILITY.

PSW PAINT AND STUCCO WASHOUT

NOTES:

1. PROVIDE WASH STATION IN A LOCATION PROTECTED FROM WEATHER ELEMENTS.
2. COLLECT ALL USED WASH WATER AND DISPOSE OF IT PROPERLY.
3. PROVIDE ADEQUATE SUPPLY OF WATER AND ANY OTHER SUPPLIES TO ENSURE PROPER OPERATION OF WASH STATION WHEN NEEDED.

ID IRRIGATION OR DISPERSION

NOTES:

1. USING WATER FROM BASINS, TRAPS, TANKS, OR OTHER WATER CONTAINMENT AREAS FOR IRRIGATION MINIMIZES DISCHARGES FROM THE SITE, AND IT MAY SATISFY OTHER NEEDS OF THE CONSTRUCTION PROJECT, SUCH AS DUST CONTROL, VEGETATIVE ESTABLISHMENT, ETC.
2. CARE SHOULD BE TAKEN THAT WATER UTILIZED FROM CONTAINMENT AREAS ON-SITE FOR CONSTRUCTION PURPOSES DOES NOT DISCHARGE OFF-SITE. IF DISCHARGE IS ANTICIPATED OR OBSERVED, DEWATERING PROCEDURES STATED IN THE DEWATERING DETAIL MUST BE FOLLOWED.
3. GC SHALL IMPLEMENT IRRIGATION OR DISPERSION AS PRACTICABLE TO REDUCE WATER VOLUME IN IMPOUNDMENTS AND TO FOSTER VEGETATION GROWTH.

DC DUST CONTROL

NOTES:

1. CONSTRUCTION OPERATIONS SHOULD BE SCHEDULED TO MINIMIZE THE AMOUNT OF AREA DISTURBED AT ONE TIME. BUFFER AREAS OF VEGETATION SHOULD BE LEFT WHERE PRACTICAL. TEMPORARY OR PERMANENT STABILIZATION MEASURES SHALL BE INSTALLED. NO SPECIFIC DESIGN CRITERIA IS GIVEN; SEE CONSTRUCTION SPECIFICATIONS BELOW FOR COMMON METHODS OF DUST CONTROL.
2. WATER QUALITY MUST BE CONSIDERED WHEN MATERIALS ARE SELECTED FOR DUST CONTROL. WHERE THERE IS A POTENTIAL FOR THE MATERIAL TO WASH OFF TO A STREAM, INGREDIENT INFORMATION MUST BE PROVIDED TO THE NYSDEC.
3. NO POLYMER APPLICATION SHALL TAKE PLACE WITHOUT WRITTEN APPROVAL FROM THE NYSDEC.
4. NON-DRIVING AREAS – THESE AREAS USE PRODUCTS AND MATERIALS APPLIED OR PLACED ON SOIL SURFACES TO PREVENT AIRBORNE MIGRATION OF SOIL PARTICLES.
5. VEGETATIVE COVER – FOR DISTURBED AREAS NOT SUBJECT TO TRAFFIC, VEGETATION PROVIDES THE MOST PRACTICAI METHOD OF DUST CONTROL.
6. MULCH (INCLUDING GRAVEL MULCH) – MULCH OFFERS A FAST EFFECTIVE MEANS OF CONTROLLING DUST. THIS CAN ALSO INCLUDE ROLLED EROSION CONTROL BLANKETS.
7. SPRAY ADHESIVES – THESE ARE PRODUCTS GENERALLY COMPOSED OF POLYMERS IN A LIQUID OR SOLID FORM THAT ARE MIXED WITH WATER TO FORM AN EMULSION THAT IS SPRAYED ON THE SOIL SURFACE WITH TYPICAL HYDROSEEDING EQUIPMENT. THE MIXING RATIOS AND APPLICATION RATES WILL BE IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS FOR THE SPECIFIC SOILS ON THE SITE. IN NO CASE SHOULD THE APPLICATION OF THESE ADHESIVES BE MADE ON WET SOILS OR IF THERE IS A PROBABILITY OF PRECIPITATION WITHIN 48 HOURS OF ITS PROPOSED USE. MATERIAL SAFETY DATA SHEETS WILL BE PROVIDED TO ALL APPLICATORS AND OTHERS WORKING WITH THE MATERIAL.
8. DRIVING AREAS – THESE AREAS UTILIZE WATER, POLYMER EMULSIONS, AND BARRIERS TO PREVENT DUST MOVEMENT FROM THE TRAFFIC SURFACE INTO THE AIR. SPRINKLING – THE SITE MAY BE SPRAYED WITH WATER UNTIL THE SURFACE IS WET. THIS IS ESPECIALLY EFFECTIVE ON HAUL ROADS AND ACCESS ROUTE TO PROVIDE SHORT TERM LIMITED DUST CONTROL.
9. POLYMER ADDITIVES – THESE POLYMERS ARE MIXED WITH WATER AND APPLIED TO THE DRIVING SURFACE BY A WATER TRUCK WITH A GRAVITY FEED DRIP BAR, SPRAY BAR OR AUTOMATED DISTRIBUTOR TRUCK. THE MIXING RATIOS AND APPLICATION RATES WILL BE IN ACCORDANCE WITH THE MANUFACTURER’S RECOMMENDATIONS. INCORPORATION OF THE EMULSION INTO THE SOIL WILL BE DONE TO THE APPROPRIATE DEPTH BASED ON EXPECTED TRAFFIC. COMPACTION AFTER INCORPORATION WILL BE BY VIBRATORY ROLLER TO A MINIMUM OF 95%. THE PREPARED SURFACE SHALL BE MOIST AND NO APPLICATION OF THE POLYMER WILL BE MADE IF THERE IS A PROBABILITY OF PRECIPITATION WITHIN 48 HOURS OF ITS PROPOSED USE. MATERIAL SAFETY DATA SHEETS WILL BE PROVIDED TO ALL APPLICATORS WORKING WITH THE MATERIAL.
10. BARRIERS – WOVEN GEO-TEXTILES CAN BE PLACED ON THE DRIVING SURFACE TO EFFECTIVELY REDUCE DUST THROW AND PARTICLE MIGRATION ON HAUL ROADS. STONE CAN ALSO BE USED FOR CONSTRUCTION ROADS FOR EFFECTIVE DUST CONTROL. WINDBREAK – A SILT FENCE OR SIMILAR BARRIER CAN CONTROL AIR CURRENTS AT INTERVALS EQUAL TO TEN TIMES THE BARRIER HEIGHT. PRESERVE EXISTING WIND BARRIER VEGETATION AS MUCH AS PRACTICAL.
11. MAINTAIN DUST CONTROL MEASURES THROUGH DRY WEATHER PERIODS UNTIL ALL DISTURBED AREAS ARE STABILIZED.

IP INLET PROTECTION

NOTES:

1. STORM DRAIN INLET PROTECTION MEASURES SHALL PREVENT SOIL AND DEBRIS FROM ENTERING STORM DRAIN INLETS.
2. TEMPORARY CONTROLS SHALL BE CONSTRUCTED BEFORE THE SURROUNDING AREA IS DISTURBED.
3. TO PREVENT CLOGGING, STORM DRAIN CONTROL STRUCTURES MUST BE MAINTAINED FREQUENTLY.
4. CHECK ALL TEMPORARY CONTROL MEASURES DAILY, AND AFTER EACH STORM EVENT.
5. CONTROL MEASURES MUST BE BUILT PER DETAIL AND PLANS, AND MUST BE IN GOOD WORKING CONDITION AT ALL TIMES.

MA MASONS' AREA

NOTES:

1. THE GC SHALL IDENTIFY MASONS' AREA WITH LEGIBLE SIGNAGE ON THE SITE. TO THE EXTENT PRACTICAL, ALL MASONRY TOOLS, MATERIAL, INCLUDING SAND AND SACKED CEMENT AND/OR MORTAR MATERIALS, MIX, AND EQUIPMENT SHALL BE LOCATED WITHIN THE AREA IDENTIFIED. MATERIALS VULNERABLE TO WEATHER ELEMENTS SHALL BE STORED IN CONTAINERS AT THE END OF EACH WORK DAY; SUCH MATERIALS SHALL REMAIN STORED IN CONTAINERS WHEN NOT IN USE.
2. RUNOFF CONTROL, SUCH AS DIVERSION BERMS, SILT FENCE, SILT DIKE, OR OTHER MEANS OF CONTAINMENT SHALL BE PROVIDED TO PREVENT THE MIGRATION OF STORMWATER POLLUTANTS FROM THE MASONS' AREA. COVERED RECEPTACLES FOR DEBRIS AND TRASH DISPOSAL SHALL ALSO BE PROVIDED.
3. THE MASONS' AREA SHALL MEET OSHA AND OTHER REGULATORY REQUIREMENTS FOR PERSONAL PROTECTIVE EQUIPMENT (PPE), FIRE EXTINGUISHERS, ETC. GC SHALL PROVIDE SCREENING OR OTHER TECHNOLOGIES FOR MASONS' AREA TO PREVENT AIRBORNE TRANSPORT OF CEMENT DUST AND OTHER PARTICULATES DUE TO HIGH SPEED WIND OR OTHER CONDITIONS. THE LOCATION OF THE MASONS' AREA SHALL BE SHOWN ON THE SITE MAPS.

FPSU FUEL AND PETROLEUM STORAGE AND USE

NOTES:

1. THE GC SHALL IDENTIFY FUELING AREAS WITH LEGIBLE SIGNAGE ON THE SITE. TEMPORARY ON-SITE FUEL TANKS FOR CONSTRUCTION VEHICLES SHALL MEET ALL LOCAL, STATE AND FEDERAL REGULATIONS. ALL TANKS, SINGLE AND DOUBLE WALLED, SHALL BE PROVIDED WITH SECONDARY CONTAINMENT (THAT IS CONTAINMENT EXTERNAL TO AND SEPARATE FROM PRIMARY CONTAINMENT). TANKS SHALL HAVE APPROVED SPILL CONTAINMENT WITH THE CAPACITY REQUIRED BY THE APPLICABLE REGULATIONS. SECONDARY CONTAINMENT SHALL BE CONSTRUCTED OF MATERIALS OF SUFFICIENT THICKNESS, DENSITY, AND COMPOSITION SO AS NOT TO BE STRUCTURALLY WEAKENED AS A RESULT OF CONTACT WITH THE FUEL STORED AND CAPABLE OF CONTAINING DISCHARGED FUEL FOR A PERIOD OF TIME EQUAL TO OR LONGER THAN THE MAXIMUM ANTICIPATED TIME SUFFICIENT TO ALLOW RECOVERY OF DISCHARGED FUEL. IT SHALL BE CAPABLE OF CONTAINING 110% OF THE VOLUME OF THE PRIMARY TANK IF A SINGLE TANK IS USED, OR IN THE CASE OF MULTIPLE TANKS, 150% OF THE LARGEST TANK OR 110% OF THE AGGREGATE, WHICHEVER IS LARGER.
2. THE TANKS SHALL BE IN SOUND CONDITION, FREE OF RUST OR OTHER DAMAGE WHICH MIGHT COMPROMISE CONTAINMENT. FUEL STORAGE AREAS SHALL MEET ALL EPA, OSHA AND OTHER REGULATORY REQUIREMENTS FOR SIGNAGE, FIRE EXTINGUISHERS, ETC. HOSES, VALVES, FITTINGS, CAPS, FILLER NOZZLES, AND ASSOCIATED HARDWARE SHALL BE MAINTAINED IN PROPER WORKING CONDITION AT ALL TIMES. TAN`KS SHALL BE LOCATED TO MINIMIZE EXPOSURE TO WEATHER AND SURFACE WATER DRAINAGE FEATURES. THE LOCATION OF FUEL TANKS SHALL BE SHOWN ON THE SITE MAPS.
3. A SPILL PREVENTION, CONTROL AND COUNTERMEASURE (SPCC) PLAN MUST BE DEVELOPED IF ABOVEGROUND OIL STORAGE CAPACITY AT THE CONSTRUCTION SITE EXCEEDS 1,320 GALLONS OR AS SPECIFIED BY STATE.
4. CONTAINERS WITH A STORAGE CAPACITY OF 55-GALLONS OR LESS ARE NOT INCLUDED WHEN CALCULATING SITE STORAGE CAPACITY. THE GC SHALL WORK WITH THE CEC TO DEVELOP AND IMPLEMENT A SPCC PLAN IN ACCORDANCE WITH THE OIL POLLUTION PREVENTION REGULATION AT TITLE 40 OF THE CODE OF FEDERAL REGULATIONS, PART 112, (40 CFR 112).

EMA EQUIPMENT AND VEHICLE CLEANING AND MAINTENANCE AREAS

NOTES:

1. THE GC SHALL DESIGNATE AREAS ON THE SITE MAPS FOR EQUIPMENT CLEANING, MAINTENANCE, AND REPAIR. THE GC AND SUBCONTRACTORS SHALL UTILIZE SUCH DESIGNATED AREAS. CLEANING, MAINTENANCE, AND REPAIR AREAS SHALL BE PROTECTED BY A TEMPORARY PERIMETER BERM, SHALL NOT OCCUR WITHIN 150 FEET OF ANY WATERWAY, WATER BODY OR WETLAND, AND SHALL OCCUR IN AREAS LOCATED AS FAR AS PRACTICAL FROM STORM SEWER INLETS. DRIP PANS SHALL BE USED FOR VEHICLE MAINTENANCE ACTIVITIES AND RESULTANT WASTES SHALL BE DISPOSED OF IN ACCORDANCE WITH THE HAZARDOUS MATERIAL MANAGEMENT AND SPILL REPORTING PLAN NOTES INCLUDED ON THIS PLAN SHEET.
2. USE OF DETERGENTS FOR LARGE SCALE WASHING IS PROHIBITED (FOR EXAMPLE, WASHING VEHICLES, BUILDINGS, PAVEMENT SURFACES, ETC.). ALL WASH WATER SHALL BE DETAINED AND PROPERLY TREATED OR DISPOSED.

TS TEMPORARY SEEDING OR STABILIZATION

NOTES:

TEMPORARY SEEDINGS MAY BE NECESSARY ON CONSTRUCTION SITES TO PROTECT AN AREA, OR SECTION, WHERE FINAL GRADING IS COMPLETE, WHEN PREPARING FOR WINTER WORK SHUTDOWN, OR TO PROVIDE COVER WHEN PERMANENT SEEDINGS ARE LIKELY TO FAIL DUE TO MID-SUMMER HEAT AND DROUGHT. THE INTENT IS TO PROVIDE TEMPORARY PROTECTIVE COVER DURING TEMPORARY SHUTDOWN OF CONSTRUCTION AND/OR WHILE WAITING FOR OPTIMAL PLANTING TIME.

WATER MANAGEMENT PRACTICES MUST BE INSTALLED AS APPROPRIATE FOR SITE CONDITIONS. THE AREA MUST BE ROUGH GRADED AND SLOPES PHYSICALLY STABLE. LARGE DEBRIS AND ROCKS ARE USUALLY REMOVED. SEEDBED MUST BE SEEDED WITHIN 24 HOURS OF DISTURBANCE OR SCARIFICATION OF THE SOIL SURFACE WILL BE NECESSARY PRIOR TO SEEDING.

FERTILIZER OR LIME ARE NOT TYPICALLY USED FOR TEMPORARY SEEDINGS.

IF: SPRING OR SUMMER OR EARLY FALL, THEN SEED THE AREA WITH RYEGRASS (ANNUAL OR PERENNIAL) AT 30 LBS. PER ACRE (APPROXIMATELY 0.7 LB./1000 SQ. FT. OR USE 1 LB./1000 SQ. FT.).

IF: LATE FALL OR EARLY WINTER, THEN SEED CERTIFIED ‘AROOSTOOK’ WINTER RYE (CEREAL RYE) AT 100 LBS. PER ACRE (2.5 LBS./1000 SQ. FT.).

ANY SEEDING METHOD MAY BE USED THAT WILL PROVIDE UNIFORM APPLICATION OF SEED TO THE AREA AND RESULT IN RELATIVELY GOOD SOIL TO SEED CONTACT.

MULCH THE AREA WITH HAY OR STRAW AT 2 TONS/ACRE (APPROX. 90 LBS./1000 SQ. FT. OR 2 BALES). QUALITY OF HAY OR STRAW MULCH ALLOWABLE WILL BE DETERMINED BASED ON LONG TERM USE AND VISUAL CONCERNS. MULCH ANCHORING WILL BE REQUIRED WHERE WIND OR AREAS OF CONCENTRATED WATER ARE OF CONCERN. WOOD FIBER HYDROMULCH OR OTHER SPRAYABLE PRODUCTS APPROVED FOR EROSION CONTROL (NYLON WEB OR MESH) MAY BE USED IF APPLIED ACCORDING TO MANUFACTURERS’ SPECIFICATION. CAUTION IS ADVISED WHEN USING NYLON OR OTHER SYNTHETIC PRODUCTS. THEY MAY BE DIFFICULT TO REMOVE PRIOR TO FINAL SEEDING AND CAN BE A HAZARD TO YOUNG WILDLIFE SPECIES.

SP STOCKPILES

NOTES:

1. ALL ON-SITE TOPSOIL MUST BE PRESERVED FOR REUSE ON THE SITE DURING REVEGETATION, UNLESS IT IS INFEASIBLE OR UNREASONABLE TO DO SO. (NOTE: TOPSOIL STOCKPILING ON-SITE MAY BE INFEASIBLE IF SPACE IS NOT AVAILABLE ON-SITE FOR TOPSOIL STOCKPILING OR IF LITTLE TO NO VEGETATION IS TO REMAIN UNDER POST-CONSTRUCTION CONDITIONS. STOCKPILING OF TOPSOIL AT AN OFF-SITE LOCATION OR TRANSFER OF TOPSOIL TO OTHER LOCATIONS MAY ALSO BE ACCEPTABLE BUT MUST BE AUTHORIZED BY THE ENGINEER).
2. ALL SOIL STOCKPILES MUST BE STABILIZED TO PREVENT EROSION AND FUGITIVE DUST. THE SURFACE OF THE STOCKPILE MUST BE PROPERLY PROTECTED TO ELIMINATE THE RISK OF EROSION. SEE TEMPORARY SEEDING OR STABILIZATION DETAIL. SUITABLE ALTERNATIVE MEANS OF STABILIZATION CAN BE USED, SUCH AS PROPERLY ANCHORED PLASTIC TARPS.
3. PERIMETER SEDIMENT CONTROLS ALSO MUST BE INSTALLED AT STOCKPILE LOCATIONS TO PREVENT CONTACT WITH STORMWATER, INCLUDING RUN-ON.
4. STOCKPILES MUST BE LOCATED OUTSIDE OF ANY VEGETATED BUFFER AREAS AND SHOULD BE LOCATED AS FAR AS PRACTICABLE FROM STORMWATER CONVEYANCES AND IMPOUNDMENTS AND WATER BODIES.
5. STOCKPILE LOCATIONS SHALL BE NOTED ON THE SITE MAPS.

SVR SEEDING/VEGETATION REQUIREMENTS

NOTES:

1. CONSIDERATION MUST BE GIVEN TO ANTICIPATED CLIMATE AND SEASONAL CONDITIONS WHEN PLANTING SEED.
2. SEED SHALL BE FREE OF WEEDY SPECIES AND APPROPRIATE FOR SITE SOILS AND REGIONAL CLIMATE. SEED AND MULCH PER THE CONSTRUCTION DRAWINGS AND THE 02900 PLANTING SPECIFICATION IMMEDIATELY AFTER TOPSOIL IS APPLIED AND FINAL GRADE IS REACHED.
3. THE SITE HAS ACHIEVED FINAL STABILIZATION ONCE ALL AREAS ARE COVERED WITH BUILDING FOUNDATION OR PAVEMENT, OTHER LANDSCAPING COVER (STONE, MULCH, ETC.), OR HAVE A STAND OF GRASS WITH A MINIMUM OF 80 PERCENT DENSITY OVER THE ENTIRE VEGETATED AREA, OR GREATER IN ACCORDANCE WITH THE GENERAL PERMIT REQUIREMENTS.
4. VEGETATED AREAS MUST BE WATERED, FERTILIZED, AND RESEEDED AS NEEDED TO ACHIEVE THIS REQUIREMENT.
5. THE VEGETATIVE DENSITY MUST BE MAINTAINED THROUGH PROJECT COMPLETION TO BE CONSIDERED STABILIZED. AREAS PROTECTED BY EROSION CONTROL BLANKETS ARE NOT PERMANENTLY STABILIZED UNTIL THE APPLICABLE GENERAL PERMIT REQUIREMENT FOR FINAL VEGETATIVE DENSITY IS ACHIEVED.
6. RIP-RAP, MULCH, GRAVEL, DECOMPOSED GRANITE OR OTHER EQUIVALENT PERMANENT STABILIZATION MEASURES MAY BE EMPLOYED IN LIEU OF VEGETATION BASED ON SITE-SPECIFIC CONDITIONS, DESIGN AND GOVERNING AUTHORITY APPROVAL.
7. ALL VEGETATED AREAS SHALL BE INSPECTED REGULARLY TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED.

SP SOIL/ MATERIAL STOCKPILE DETAIL

NOTES:

1. CONSTRUCT SEDIMENT FENCE ON LOW SIDE OF TOPSOIL STOCKPILE TO PREVENT SEDIMENT FROM BEING WASHED INTO THE DRAINAGE SYSTEM. FENCE TO EXTEND AROUND APPROXIMATELY 70% OF THE PERIMETER OF THE STOCKPILE.
2. LOCATE POSTS DOWN SLOPE OF FABRIC TO HELP SUPPORT FENCING.
3. BURY TOE OF FENCE APPROXIMATELY 8" DEEP TO PREVENT UNDERCUTTING.
4. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FABRIC AT A SUPPORT POST WITH OVERLAP TO THE NEXT DOOR.
5. FILTER FABRIC TO BE OF NYLON, POLYESTER, PROPYLENE OR ETHYLENE YARN WITH EXTRA STRENGTH - 50LB/LIN..IN. (MINIMUM)- AND WITH A FLOW RATE OF AT LEAST 0.3 GAL./FT^2/ MINUTE. FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS.
6. POST TO BE 4" DIAMETER PINE WITH A MINIMUM LENGTH OF 4' FEET.

PS PERMANENT SEEDING, SOD OR MULCHING

NOTES:

1. PERMANENT STABILIZATION SHALL BE ACCOMPLISHED IN ALL DISTURBED AREAS BY COVERING THE SOIL WITH PAVEMENT, BUILDING STRUCTURES, VEGETATION, OR OTHER FORMS OF SOIL STABILIZATION.
2. THE GC IS REQUIRED TO INITIATE PERMANENT SOIL STABILIZATION MEASURES IMMEDIATELY UPON REACHING FINAL GRADE. FOR THOSE AREAS NOT AT FINAL GRADE THAT WILL NOT BE DISTURBED FOR GREATER THAN 14 DAYS , THE CONTRACTOR SHOULD INITIATE TEMPORARY STABILIZATION PER THE TEMPORARY SEEDING OR STABILIZATION DETAIL.
3. THE GC HAS 7 DAYS FROM INITIATION OF STABILIZATION TO COMPLETE SOIL PREPARATION, SEEDING, MULCHING, AND ANY OTHER REQUIRED ACTIVITIES RELATED TO THE PLANTING AND ESTABLISHMENT OF VEGETATION. THE GC ALSO HAS 7 DAYS FROM INITIATION OF STABILIZATION TO COMPLETELY INSTALL NON-VEGETATED MEASURES, IF UTILIZED.
4. SOILS MUST BE PREPARED BEFORE INSTALLATION OF SOD OR SEED. SEE 02900 SPECIFICATION FOR INSTRUCTION ON PROPER SEEDING REQUIREMENTS.
5. AT THE COMPLETION OF GROUND-DISTURBING ACTIVITIES, THE ENTIRE SITE MUST HAVE PERMANENT VEGETATIVE COVER MEETING VEGETATIVE DENSITY REQUIREMENTS IN THE GENERAL PERMIT, OR MULCH PER LANDSCAPE PLAN, IN ALL AREAS NOT COVERED BY HARDSCAPE (STONE, PAVEMENT, BUILDINGS, ETC.).
6. SEEDED AREAS SHALL BE PROTECTED WITH STRAW MULCH, HYDRAULIC MULCH OR A ROLLED EROSION CONTROL PRODUCT. STRAW MULCH MUST BE TACKIFIED OR CRIMPED BY DISC OR OTHER MACHINERY, AND ROLLED EROSION CONTROL PRODUCTS MUST BE INSTALLED PER MANUFACTURER RECOMMENDATIONS. ONLY ROLLED EROSION CONTROL PRODUCTS ARE PERMITTED TO BE USED IN FLOW CONVEYANCES.
7. ALL AREAS TO BE SEEDED MUST MEET TOPSOIL DEPTH, PH AND ORGANIC CONTENT REQUIREMENTS. SEE 02900 SPECIFICATION FOR INSTRUCTION ON PROPER SEEDING REQUIREMENTS.
8. FINAL SITE STABILIZATION IS ACHIEVED WHEN PERENNIAL VEGETATIVE COVER PROVIDES PERMANENT STABILIZATION WITH A UNIFORM DENSITY GREATER THAN 80 PERCENT OVER THE ENTIRE AREA TO BE STABILIZED BY VEGETATIVE COVER. THIS AREA IS EXCLUSIVE OF AREAS THAT ARE COVERED WITH ROCK (CRUSHED GRANITE, GRAVEL, ETC.) OR LANDSCAPE MULCH, PAVED OR HAVE A BUILDING OR OTHER PERMANENT STRUCTURE ON THEM.

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
ANDREW S. HOLT
095020-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:

REVISIONS

DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

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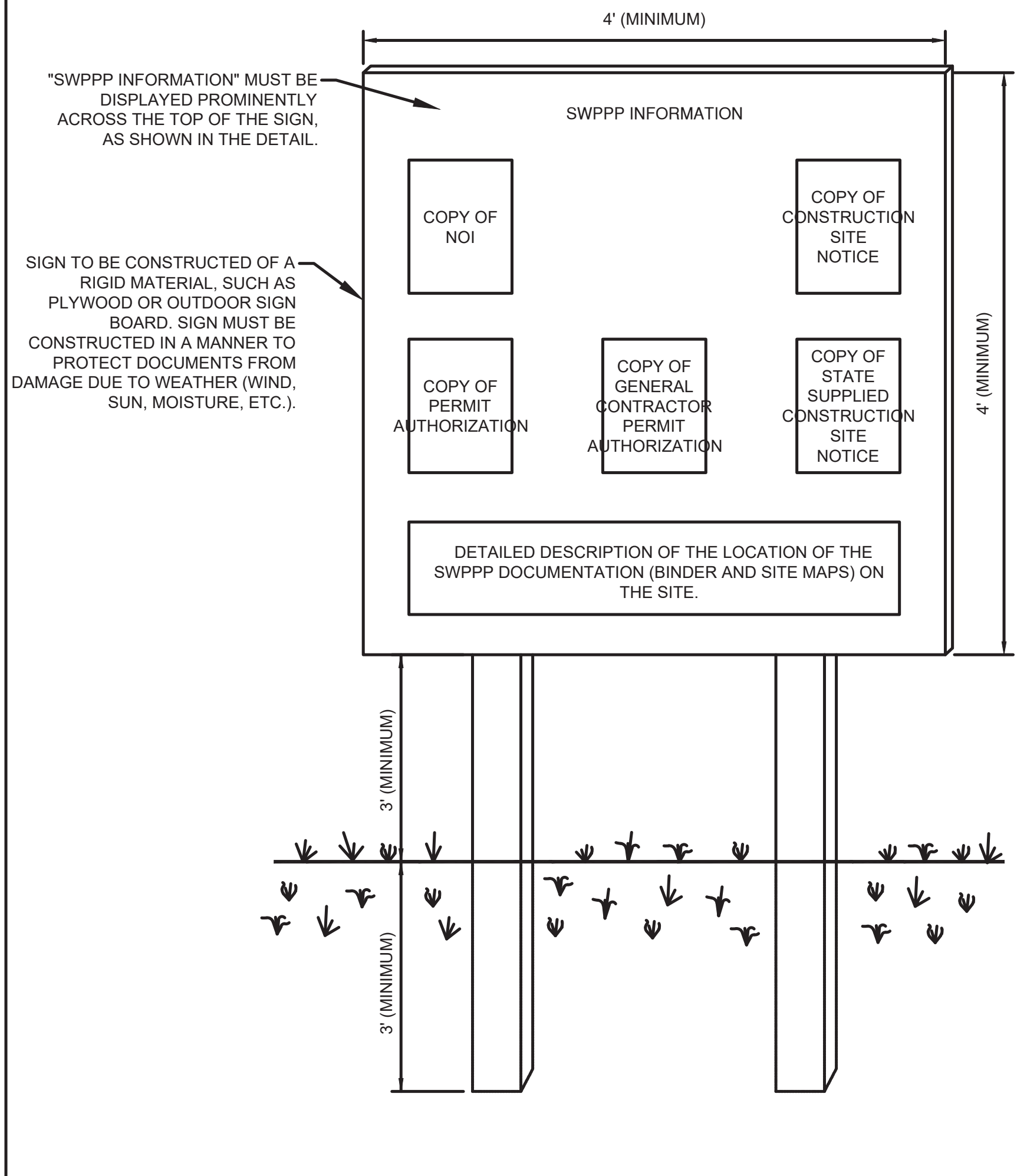
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SOIL EROSION AND SEDIMENT CONTROL NOTES

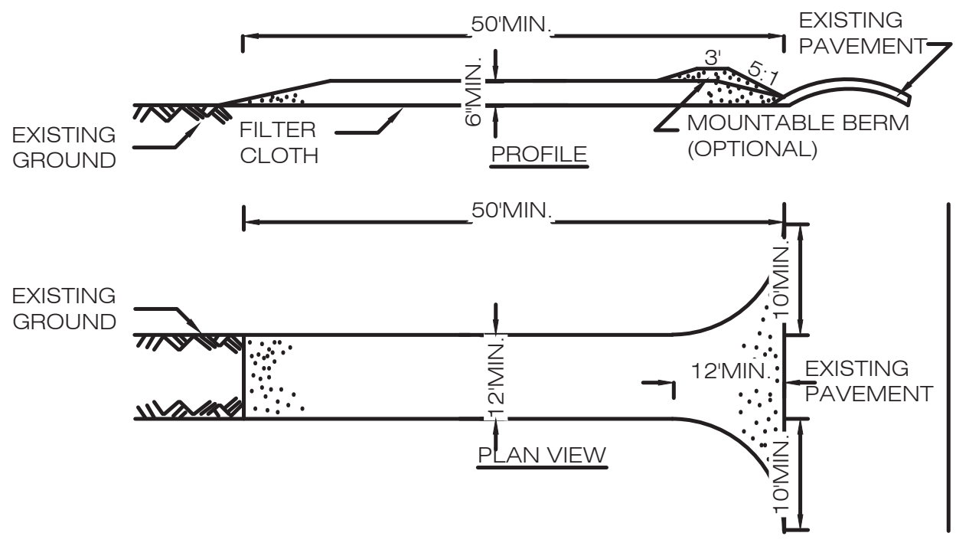
PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 30 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 30 SWPPP 4 Notes.dwg Thu, Mar 11, 2021 - 2:41pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.


4' (MINIMUM)
"SWPPP INFORMATION" MUST BE DISPLAYED PROMINENTLY ACROSS THE TOP OF THE SIGN, AS SHOWN IN THE DETAIL.
SWPPP INFORMATION
COPY OF NOI
COPY OF CONSTRUCTION SITE NOTICE
SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE CONSTRUCTED IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.).
COPY OF PERMIT AUTHORIZATION
COPY OF GENERAL CONTRACTOR PERMIT AUTHORIZATION
COPY OF STATE SUPPLIED CONSTRUCTION SITE NOTICE
4' (MINIMUM)
DETAILED DESCRIPTION OF THE LOCATION OF THE SWPPP DOCUMENTATION (BINDER AND SITE MAPS) ON THE SITE.
3' (MINIMUM)
3' (MINIMUM)

SWPPP INFORMATION SIGN

N.T.S.



CONSTRUCTION ENTRANCE SPECIFICATIONS

1. STONE SIZE - USE 1-4 INCH STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH - NOT LESS THAN 50 FEET (EXCEPT ON A SINGLE RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY).
3. THICKNESS - NOT LESS THAN SIX (6) INCHES.
4. WIDTH - TWELVE (12) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS. TWENTY-FOUR (24) FOOT IF SINGLE ENTRANCE TO SITE.
5. GEOTEXTILE - WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY, ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACTED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON A AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

CONSTRUCTION ENTRANCE DETAIL

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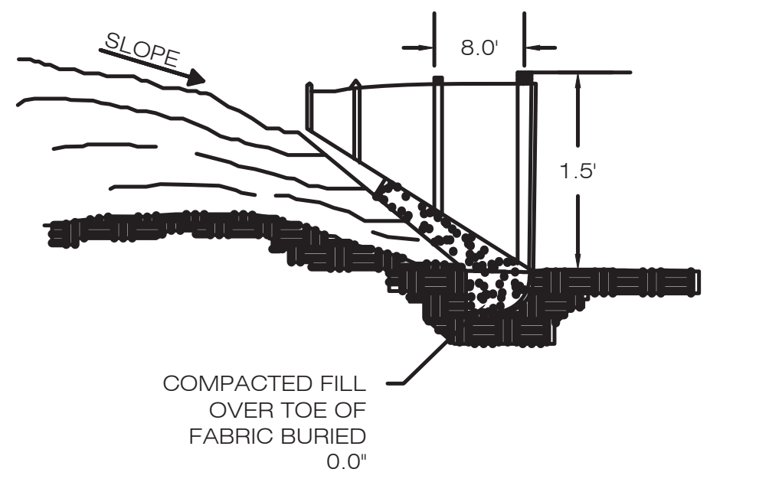
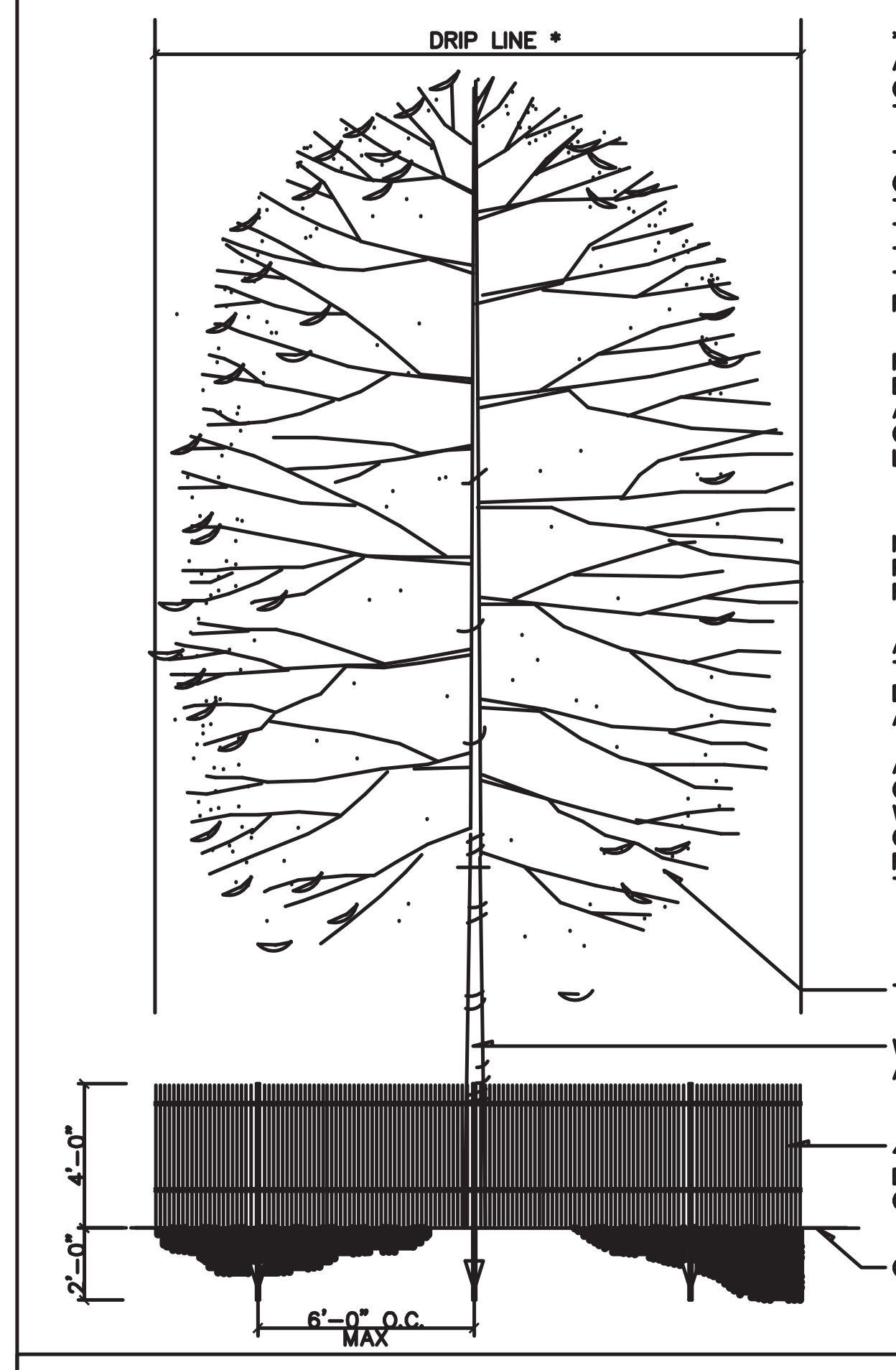


NOTES:

1. CONSTRUCT SEDIMENT FENCE ON LOW SIDE OF TOPSOIL STOCKPILE TO PREVENT SEDIMENT FROM BEING WASHED INTO THE DRAINAGE SYSTEM. FENCE TO EXTEND AROUND APPROXIMATELY 70% OF THE PERIMETER OF THE STOCKPILE.
2. LOCATE POSTS DOWN SLOPE OF FABRIC TO HELP SUPPORT FENCING.
3. BURY TOE OF FENCE APPROXIMATELY 8" DEEP TO PREVENT UNDERCUTTING.
4. WHEN JOINTS ARE NECESSARY, SECURELY FASTEN THE FABRIC AT A SUPPORT POST WITH OVERLAP TO THE NEXT DOOR.
5. FILTER FABRIC TO BE OF NYLON, POLYESTER, PROPYLENE OR ETHYLENE YARN WITH EXTRA STRENGTH - 50LB/LIN..IN. (MINIMUM)- AND WITH A FLOW RATE OF AT LEAST 0.3 GAL./FT^2/ MINUTE. FABRIC SHOULD CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS.
6. POST TO BE 4" DIAMETER PINE WITH A MINIMUM LENGTH OF 4' FEET.

SOIL/MATERIAL STOCKPILE DETAIL

N.T.S.



* PROTECTIVE FENCE TO BE PLACE ALONG DRIP LINE OF TREE AND NO CLOSER THAN 8' TO THE TREE TRUNK.

TREES TO BE PROTECTED DURING CONSTRUCTION WILL BE TAGGED PRIOR TO THE START OF CONSTRUCTION. THE FINAL DETERMINATION OF THOSE TO BE PROTECTED WILL BE MADE BY THE LANDSCAPE ARCHITECT IN THE FIELD.

PROTECTIVE FENCING IS TO BE ERECTED PRIOR TO CONSTRUCTION AND MAINTAINED DURING CONSTRUCTION AS DIRECTED BY THE LANDSCAPE ARCHITECT.

NO CONSTRUCTION ACTIVITY IS PERMITTED WITHIN THE PROTECTIVE FENCING.

AS CONSTRUCTION NEARS COMPLETION THE FENCING WILL BE REMOVED AS DIRECTED BY THE LANDSCAPE ARCHITECT.

AT THE COMPLETION OF CONSTRUCTION ALL PRESERVED TREES WILL BE PRUNED AS NECESSARY TO CORRECT ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITY UNDER THE DIRECTION OF AN ARBORIST.

TREE(S) TO BE PROTECTED

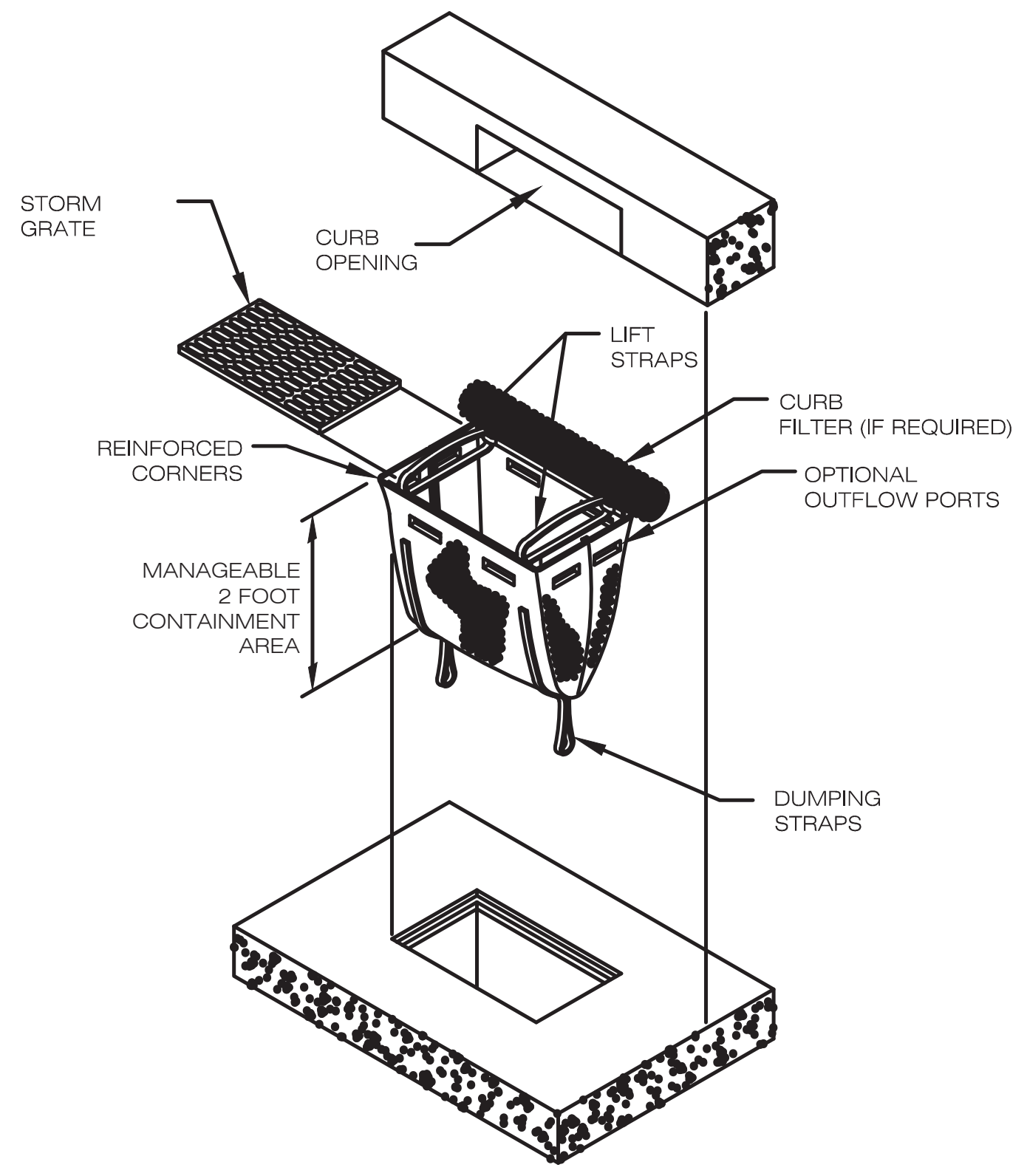
WRAP 2 LAYERS OF SNOWFENCE AROUND TRUNK OF SPECIMEN TREES.

4'-0" HIGH SNOWFENCE WITH POST DRIVEN INTO GROUND EVERY 6'-0" O.C. AT ALL CHANGES IN DIRECTION.

GRADE

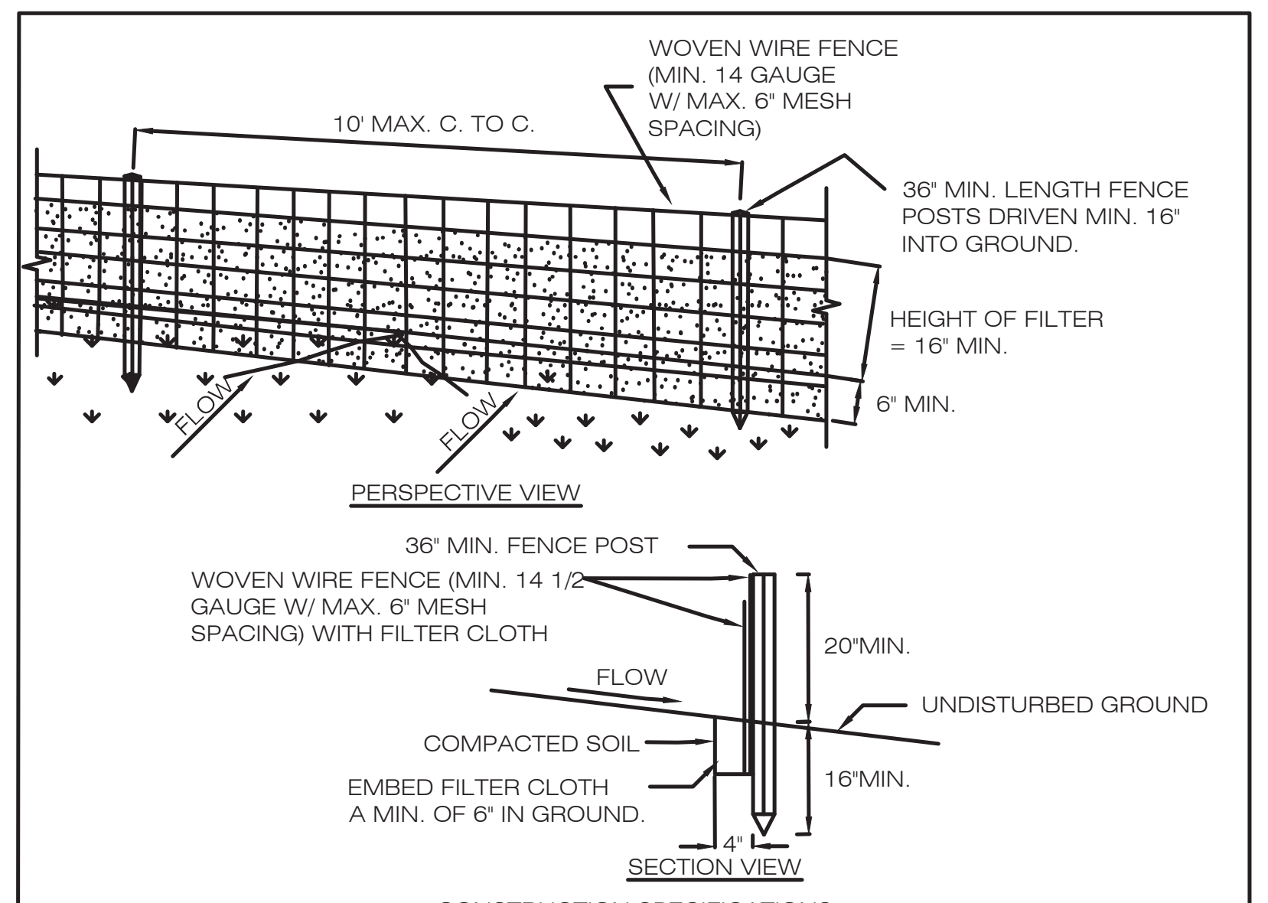
TREE PROTECTION DETAIL

N.T.S.



INLET FILTER DETAIL

N.T.S.

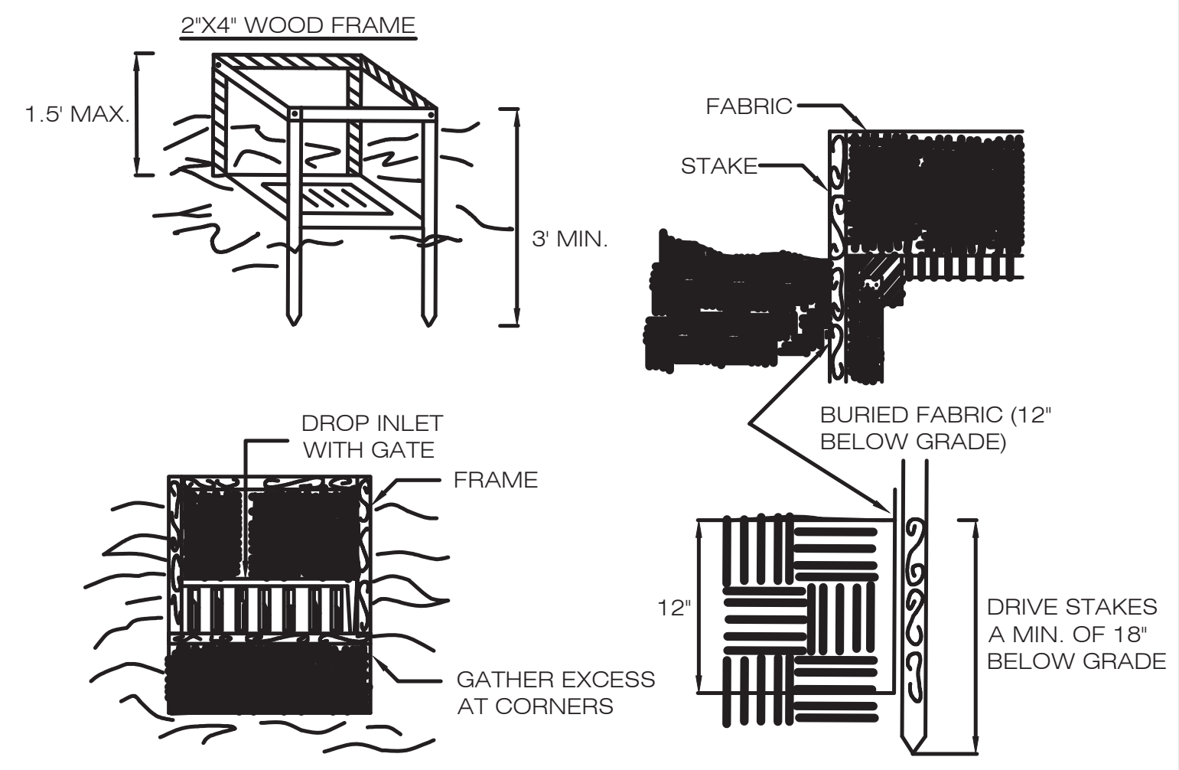

WOVEN WIRE FENCE (MIN. 14 GAUGE W/ MAX. 6" MESH SPACING)
10' MAX. C. TO C.
36" MIN. LENGTH FENCE POSTS DRIVEN MIN. 16" INTO GROUND.
HEIGHT OF FILTER = 16" MIN.
6" MIN.
FLOW
FLOW
PERSPECTIVE VIEW
36" MIN. FENCE POST
WOVEN WIRE FENCE (MIN. 14 1/2 GAUGE W/ MAX. 6" MESH SPACING) WITH FILTER CLOTH
20"MIN.
FLOW
UNDISTURBED GROUND
COMPACTED SOIL
16"MIN.
EMBED FILTER CLOTH A MIN. OF 6" IN GROUND.
4"
SECTION VIEW

CONSTRUCTION SPECIFICATIONS

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES. POSTS SHALL BE STEEL EITHER "T" OR "U" TYPE OR HARDWOOD.
2. FILTER CLOTH TO BE TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION. FENCE SHALL BE WOVEN WIRE, 6" MAXIMUM MESH OPENING.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED. FILTER CLOTH SHALL BE EITHER FILTER X, MIRAFI 100X, STABILINKA T140N, OR APPROVED EQUIVALENT.
4. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUIVALENT.
5. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SILT FENCE

N.T.S.



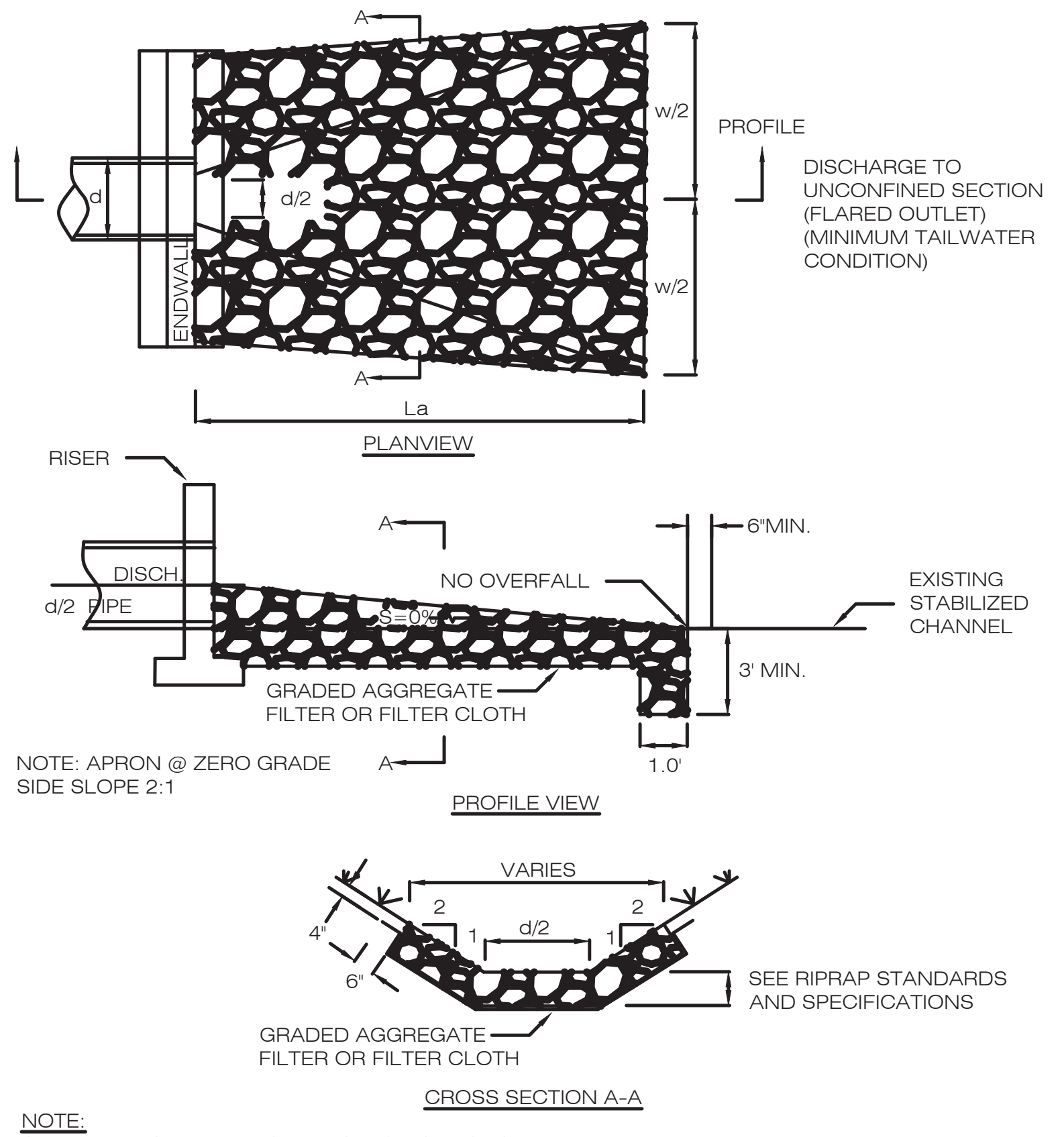
CONSTRUCTION SPECIFICATIONS

1. FABRIC SHALL HAVE AN EOS OF 40-85. BURLAP MAY BE USED FOR SHORT TERM APPLICATIONS.
2. CUT FABRIC FROM A CONTINUOUS ROLL TO ELIMINATE JOINTS. IF JOINTS ARE NEEDED THEY WILL BE OVERLAPPED TO THE NEXT STAKE.
3. STAKE MATERIALS WILL BE STANDARD 2" x 4" WOOD OR EQUIVALENT. METAL WITH A MINIMUM LENGTH OF 3 FEET.
4. SPACE STAKES EVENLY AROUND INLET 3 FEET APART AND DRIVE A MINIMUM 18 INCHES DEEP. SPANS GREATER THAN 3 FEET MAY BE BRIDGED WITH THE USE OF WIRE MESH BEHIND THE FILTER FABRIC FOR SUPPORT.
5. FABRIC SHALL BE EMBEDDED 1 FOOT MINIMUM BELOW GROUND AND BACKFILLED. IT SHALL BE SECURELY FASTENED TO THE STAKES AND FRAME.
6. A 2" x 4" WOOD FRAME SHALL BE COMPLETED AROUND THE CREST OF THE FABRIC FOR OVER FLOW STABILITY.

MAXIMUM DRAINAGE AREA 1 ACRE

FABRIC DROP INLET PROTECTION

N.T.S.


A
w/2
PROFILE
DISCHARGE TO UNCONFINED SECTION (FLARED OUTLET) (MINIMUM TAILWATER CONDITION)
d
d/2
ENDWALL
w/2
A
La
PLANVIEW
RISER
A
6"MIN.
DISCH. PIPE
d/2
NO OVERFALL
S=0%
EXISTING STABILIZED CHANNEL
3' MIN.
GRADED AGGREGATE FILTER OR FILTER CLOTH
NOTE: APRON @ ZERO GRADE SIDE SLOPE 2:1
A
1.0'
PROFILE VIEW
VARIES
2
2
1
d/2
1
4"
6"
SEE RIPRAP STANDARDS AND SPECIFICATIONS
GRADED AGGREGATE FILTER OR FILTER CLOTH
CROSS SECTION A-A

NOTE:
SEE RIPRAP STANDARDS AND SPECIFICATIONS
MINIMUM TAILWATER CONDITIONS

ROCK OUTLET PROTECTION

N.T.S.

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1

095020-1

DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:

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03/19/2021
CHECKED BY:
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03/19/2021

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EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

SOIL EROSION AND SEDIMENT CONTROL
DETAILS

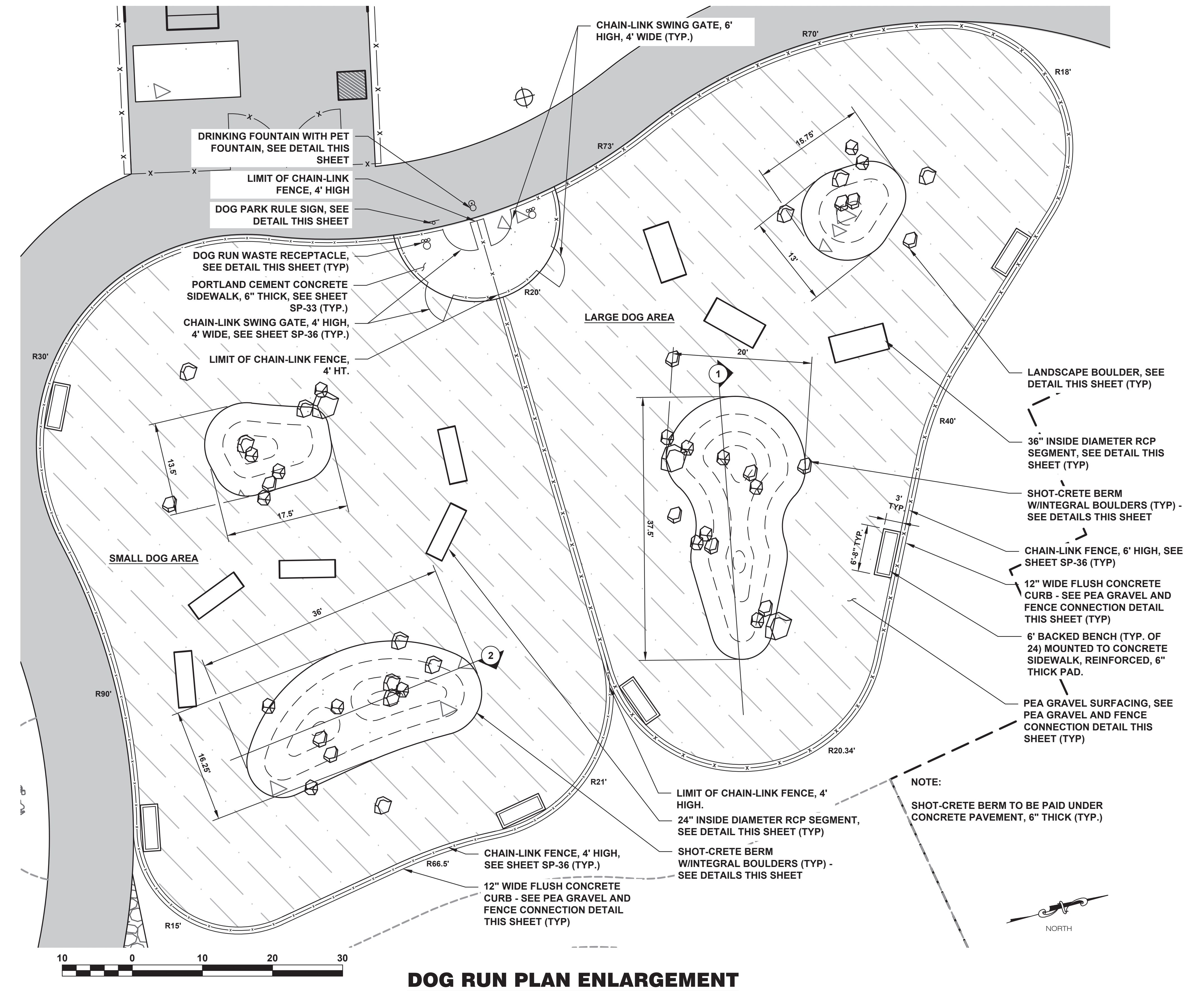
PROJECT NUMBER:
SCE-9755.021

SCALE:
N.T.S.

SHEET 31 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 31 SWPPP 5 Details.dwg Thu, Mar 11, 2021 - 2:43pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.


CHAIN-LINK SWING GATE, 6' HIGH, 4' WIDE (TYP.)
DRINKING FOUNTAIN WITH PET FOUNTAIN, SEE DETAIL THIS SHEET
LIMIT OF CHAIN-LINK FENCE, 4' HIGH
DOG PARK RULE SIGN, SEE DETAIL THIS SHEET
DOG RUN WASTE RECEPTACLE, SEE DETAIL THIS SHEET (TYP)
PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK, SEE SHEET SP-33 (TYP.)
CHAIN-LINK SWING GATE, 4' HIGH, 4' WIDE, SEE SHEET SP-36 (TYP.)
LIMIT OF CHAIN-LINK FENCE, 4' HT.
R70'
R18'
R73'
R20'
R30'
R40'
R90'
R21'
R20.34'
R66.5'
R15'
LARGE DOG AREA
SMALL DOG AREA
15.75'
13'
20'
37.5'
13.5'
17.5'
36'
16.25'
3' TYP.
6'-8" TYP.
1
2
LANDSCAPE BOULDER, SEE DETAIL THIS SHEET (TYP)
36" INSIDE DIAMETER RCP SEGMENT, SEE DETAIL THIS SHEET (TYP)
SHOT-CRETE BERM W/INTEGRAL BOULDERS (TYP) - SEE DETAILS THIS SHEET
CHAIN-LINK FENCE, 6' HIGH, SEE SHEET SP-36 (TYP)
12" WIDE FLUSH CONCRETE CURB - SEE PEA GRAVEL AND FENCE CONNECTION DETAIL THIS SHEET (TYP)
6' BACKED BENCH (TYP. OF 24) MOUNTED TO CONCRETE SIDEWALK, REINFORCED, 6" THICK PAD.
PEA GRAVEL SURFACING, SEE PEA GRAVEL AND FENCE CONNECTION DETAIL THIS SHEET (TYP)
LIMIT OF CHAIN-LINK FENCE, 4' HIGH.
24" INSIDE DIAMETER RCP SEGMENT, SEE DETAIL THIS SHEET (TYP)
SHOT-CRETE BERM W/INTEGRAL BOULDERS (TYP) - SEE DETAILS THIS SHEET
CHAIN-LINK FENCE, 4' HIGH, SEE SHEET SP-36 (TYP.)
12" WIDE FLUSH CONCRETE CURB - SEE PEA GRAVEL AND FENCE CONNECTION DETAIL THIS SHEET (TYP)
NORTH
10
0
10
20
30

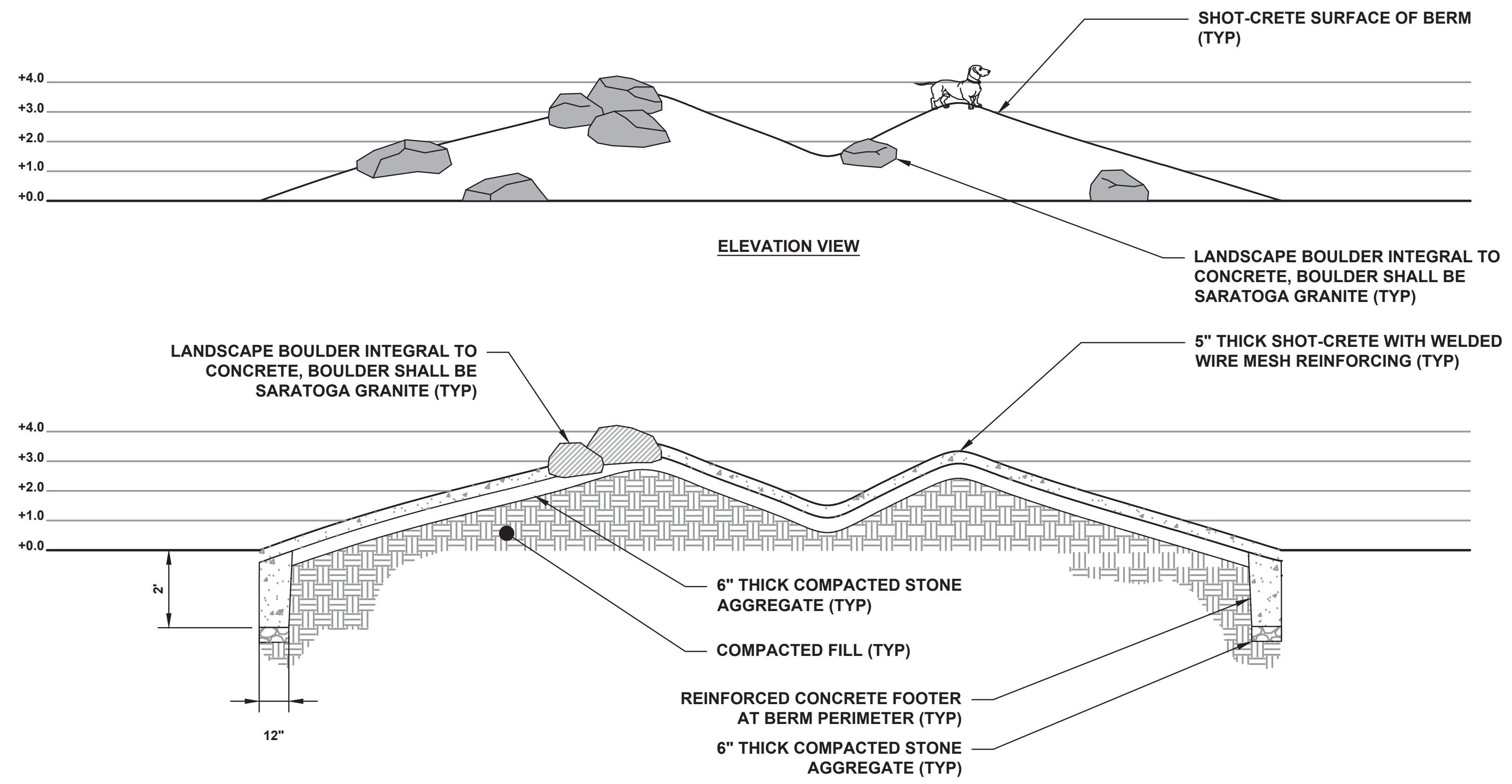
NOTE:

SHOT-CRETE BERM TO BE PAID UNDER CONCRETE PAVEMENT, 6" THICK (TYP.)

SCALE: 1" = 10'

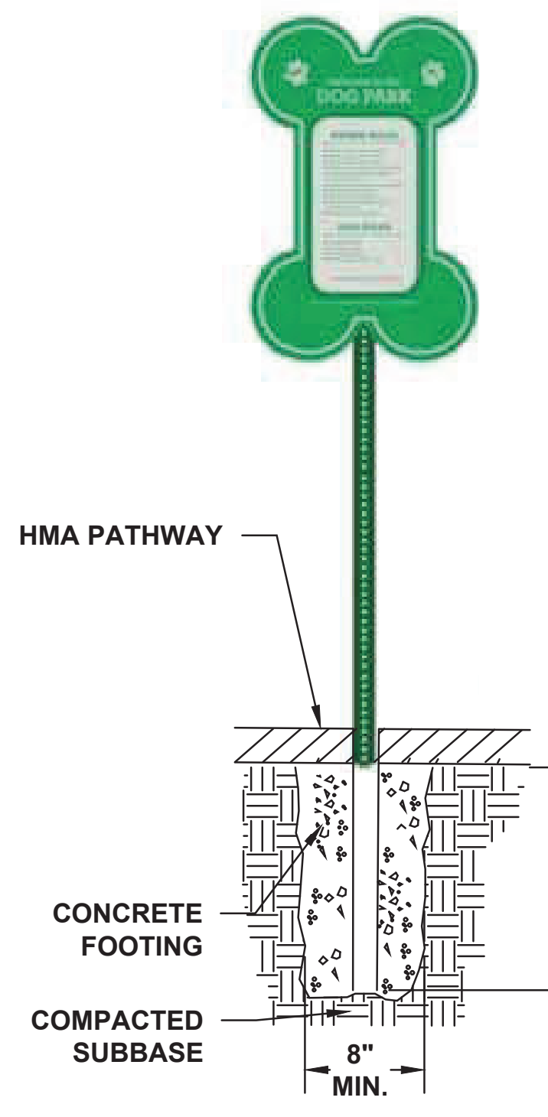
DOG RUN PLAN ENLARGEMENT

1" = 10'-0"


SHOT-CRETE SURFACE OF BERM (TYP)
+4.0
+3.0
+2.0
+1.0
+0.0
ELEVATION VIEW
LANDSCAPE BOULDER INTEGRAL TO CONCRETE, BOULDER SHALL BE SARATOGA GRANITE (TYP)
LANDSCAPE BOULDER INTEGRAL TO CONCRETE, BOULDER SHALL BE SARATOGA GRANITE (TYP)
5" THICK SHOT-CRETE WITH WELDED WIRE MESH REINFORCING (TYP)
2'
12"
6" THICK COMPACTED STONE AGGREGATE (TYP)
COMPACTED FILL (TYP)
REINFORCED CONCRETE FOOTER AT BERM PERIMETER (TYP)
6" THICK COMPACTED STONE AGGREGATE (TYP)

DOG RUN BERM SECTION 1

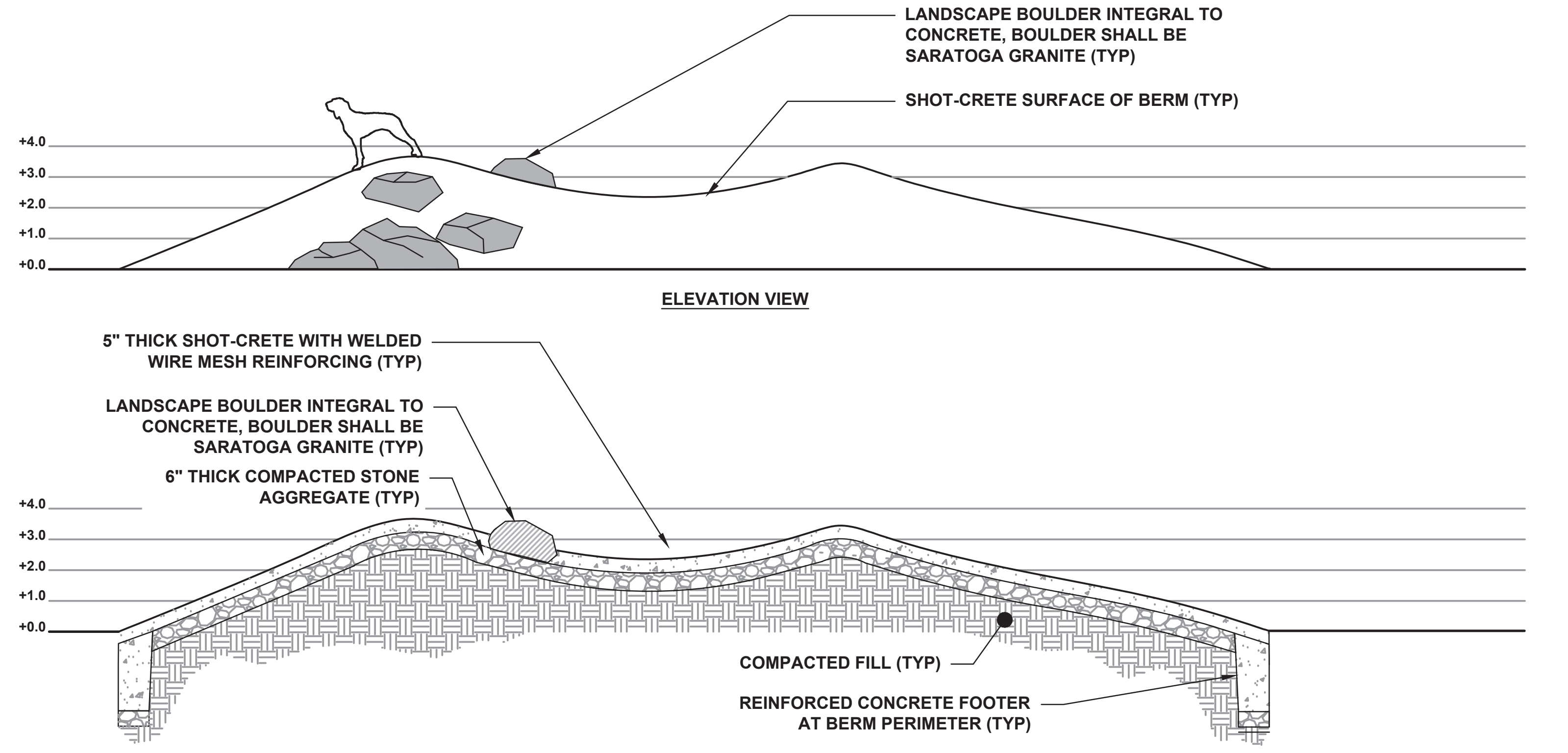
N.T.S.



NOTE
1. RULE SIGN SHALL BE MODEL NUMBER PBARK-477 MANUFACTURED BY BARK PARK, TEL. 1.800.458.5872 OR APPROVED EQUAL.
2. THE CONTRACTOR IS TO BE ADVISED THAT ALL LOCATIONS OF PROPOSED EQUIPMENT IS TO BE APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO ANY EXCAVATION OR INSTALLATION MEASURES.
3. COLOR TO BE SELECTED AND APPROVED BY OWNER/LANDSCAPE ARCHITECT.

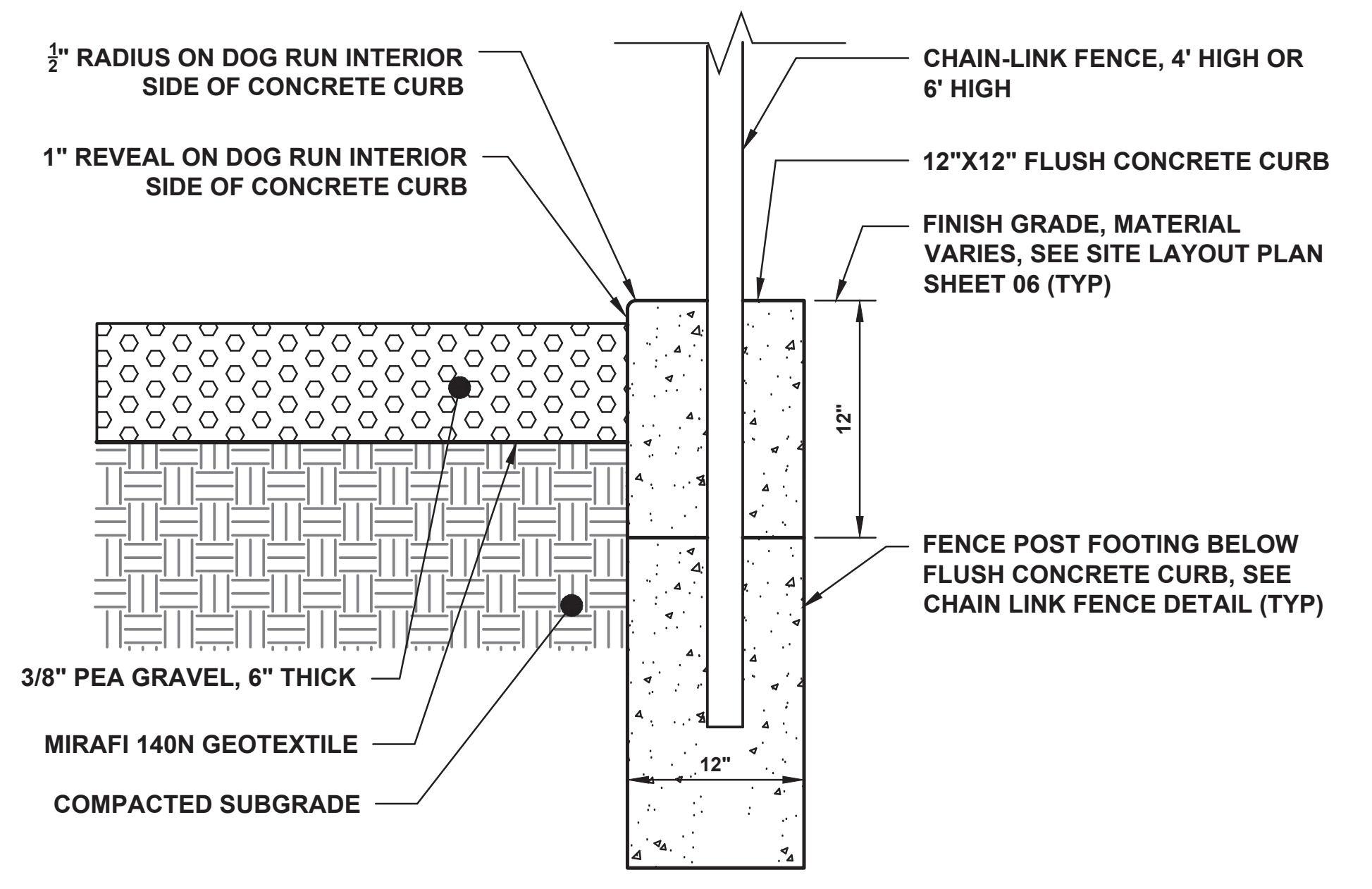
DOG PARK RULE SIGN

N.T.S.


LANDSCAPE BOULDER INTEGRAL TO CONCRETE, BOULDER SHALL BE SARATOGA GRANITE (TYP)
SHOT-CRETE SURFACE OF BERM (TYP)
+4.0
+3.0
+2.0
+1.0
+0.0
ELEVATION VIEW
5" THICK SHOT-CRETE WITH WELDED WIRE MESH REINFORCING (TYP)
LANDSCAPE BOULDER INTEGRAL TO CONCRETE, BOULDER SHALL BE SARATOGA GRANITE (TYP)
6" THICK COMPACTED STONE AGGREGATE (TYP)
COMPACTED FILL (TYP)
REINFORCED CONCRETE FOOTER AT BERM PERIMETER (TYP)

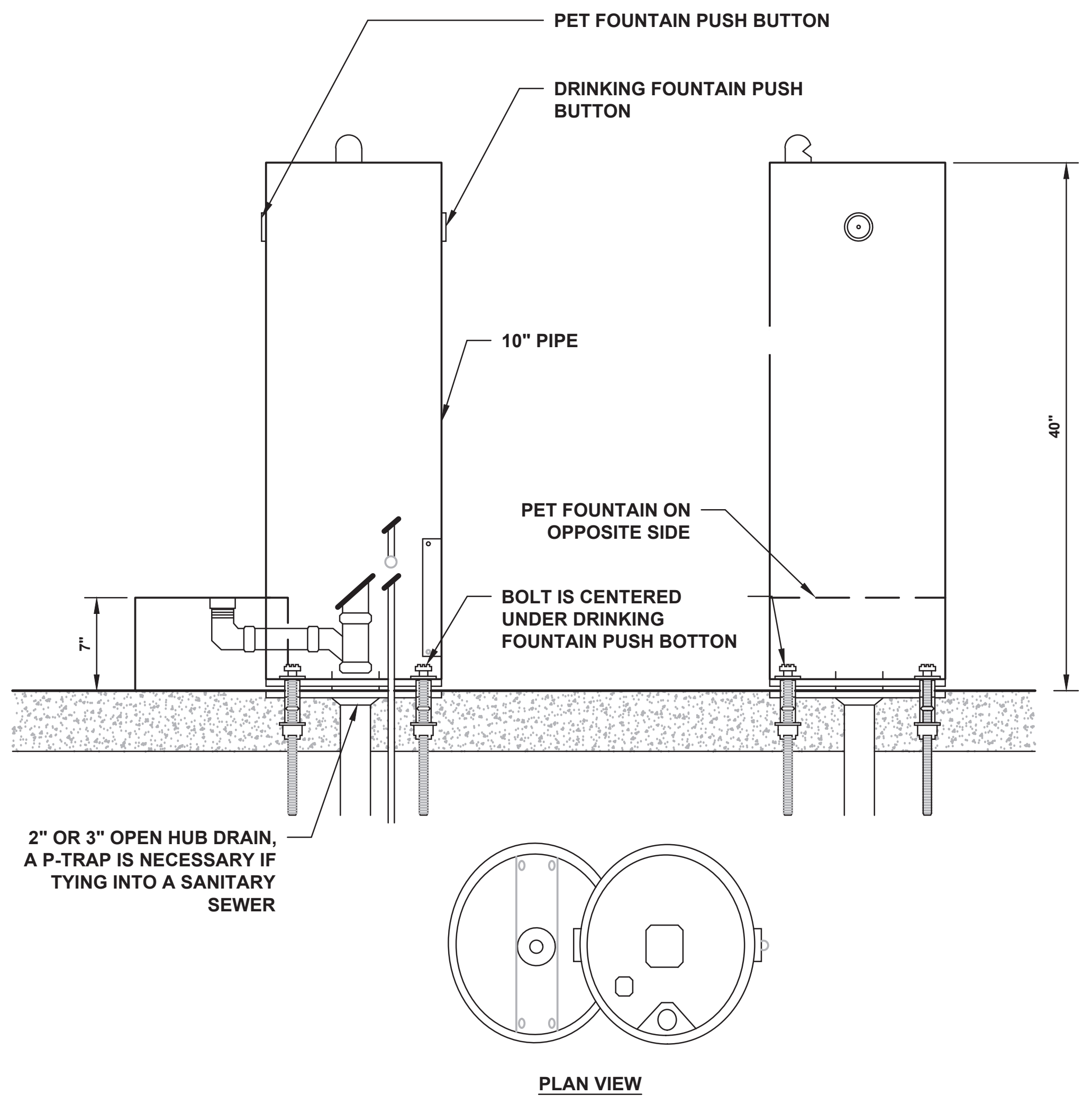
DOG RUN BERM SECTION 2

N.T.S.


½" RADIUS ON DOG RUN INTERIOR SIDE OF CONCRETE CURB
1" REVEAL ON DOG RUN INTERIOR SIDE OF CONCRETE CURB
CHAIN-LINK FENCE, 4' HIGH OR 6' HIGH
12"X12" FLUSH CONCRETE CURB
FINISH GRADE, MATERIAL VARIES, SEE SITE LAYOUT PLAN SHEET 06 (TYP)
12"
FENCE POST FOOTING BELOW FLUSH CONCRETE CURB, SEE CHAIN LINK FENCE DETAIL (TYP)
3/8" PEA GRAVEL, 6" THICK
MIRAFI 140N GEOTEXTILE
COMPACTED SUBGRADE
12"

PEA GRAVEL SURFACING AND FENCE CONNECTION DETAIL

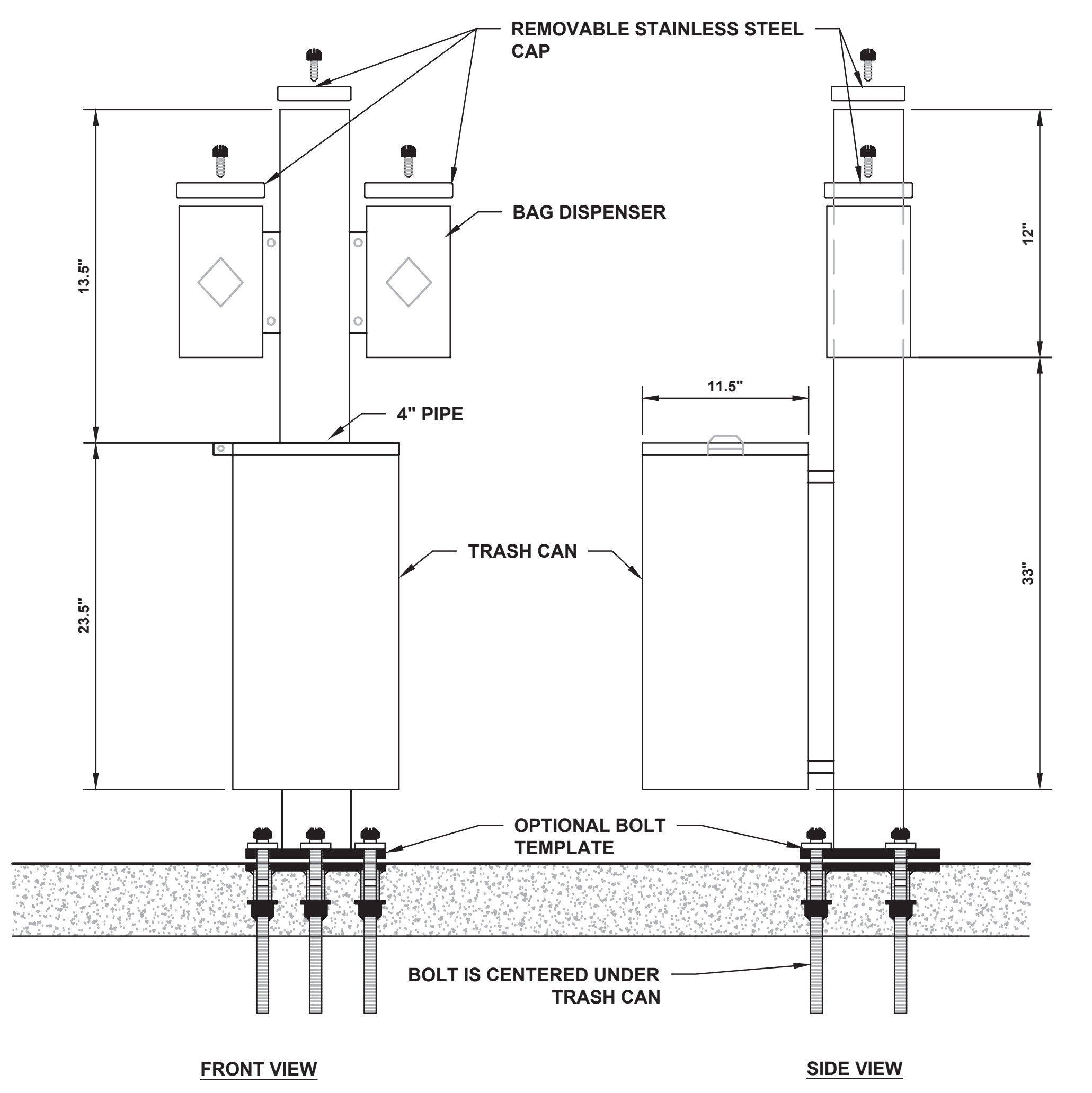
N.T.S.


PET FOUNTAIN PUSH BUTTON
DRINKING FOUNTAIN PUSH BUTTON
10" PIPE
40"
PET FOUNTAIN ON OPPOSITE SIDE
7"
BOLT IS CENTERED UNDER DRINKING FOUNTAIN PUSH BOTTON
2" OR 3" OPEN HUB DRAIN, A P-TRAP IS NECESSARY IF TYING INTO A SANITARY SEWER
PLAN VIEW

NOTES:
1. DRINKING FOUNTAIN SHALL BE MODEL NUMBER 400 SMSS WITH PET FILLER AS MANUFACTURED BY MOST DEPENDABLE FOUNTAINS, INC. TELEPHONE, 901-867-0039 OR APPROVED EQUAL.
2. COLOR TO BE SELECTED AND APPROVED BY OWNER/LANDSCAPE ARCHITECT.
3. SHOWN WITH ATTACHED PET FOUNTAIN.
4. INSTALL STAINLESS STEEL SURFACE CARRIER.
5. PET FOUNTAIN IS PROVIDED WITH AN IN LINE VACUUM BREAKER, PLUS 1 GPM FLOW RESTRICTOR.
6. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

DRINKING FOUNTAIN WITH PET FOUNTAIN

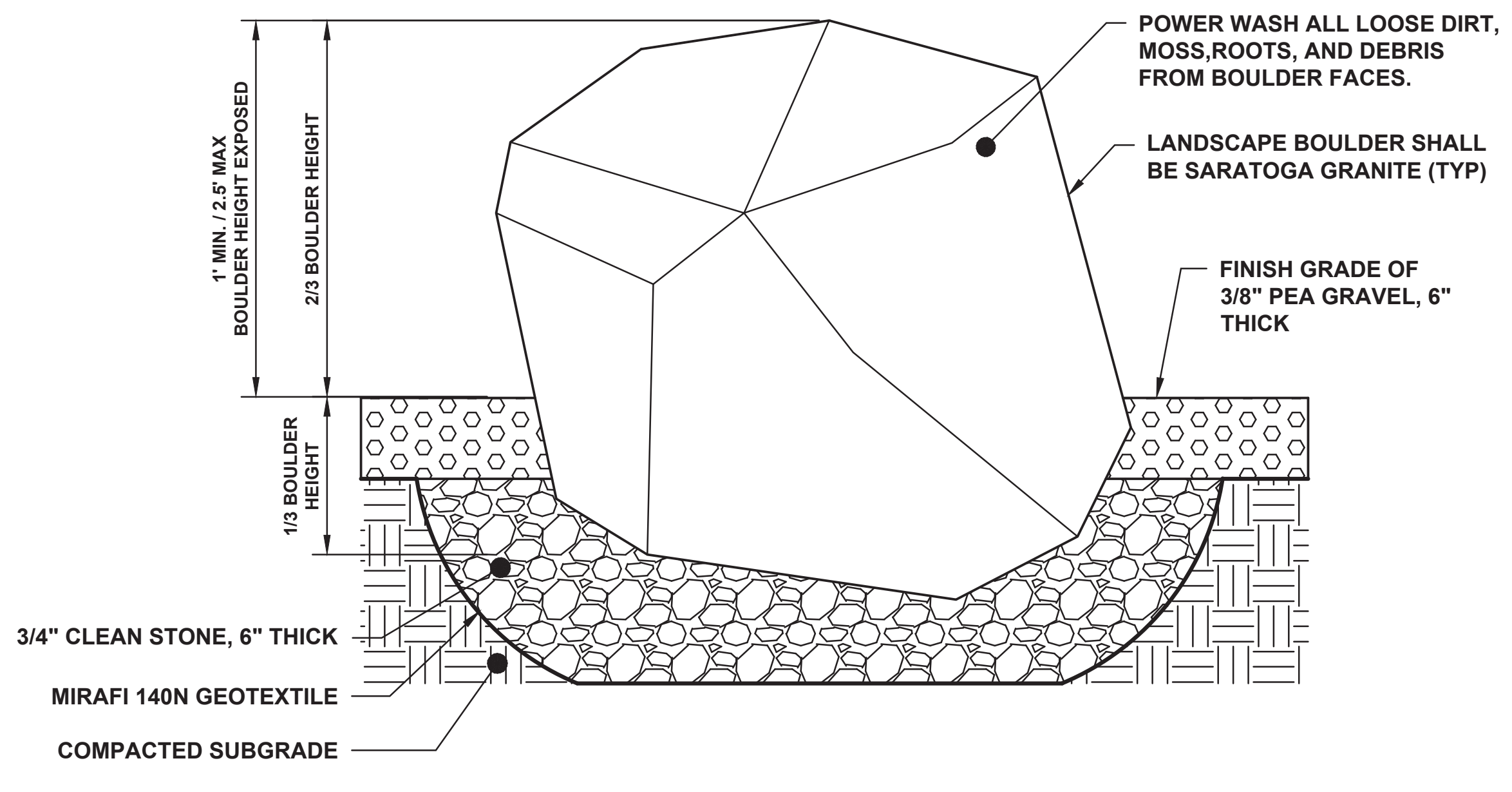
N.T.S.



NOTE
1. WASTE STATION SHALL BE MODEL NUMBER 395 SM AS MANUFACTURED BY MOST DEPENDABLE FOUNTAINS, INC. TELEPHONE, 901-867-0039 OR APPROVED EQUAL.
3. ASSEMBLY AND INSTALLATION OF WASTE STATION SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
4. THE CONTRACTOR IS TO BE ADVISED THAT ALL LOCATIONS OF PROPOSED EQUIPMENT IS TO BE APPROVED BY THE OWNER AND LANDSCAPE ARCHITECT IN THE FIELD PRIOR TO ANY EXCAVATION OR INSTALLATION MEASURES.
5. COLOR TO BE SELECTED AND APPROVED BY OWNER/LANDSCAPE ARCHITECT.

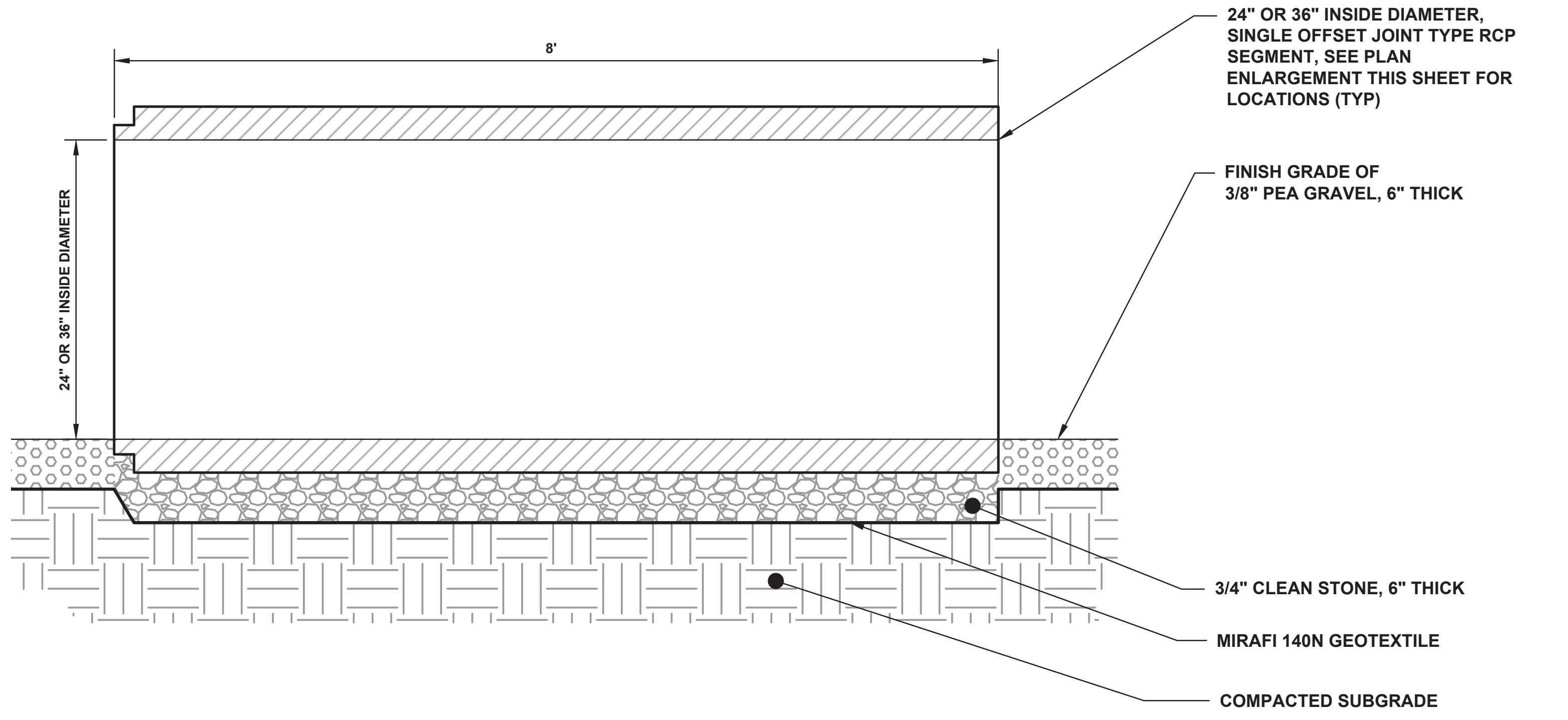
DOG RUN WASTE RECEPTACLE (TYP.)

N.T.S.


1' MIN. / 2.5' MAX BOULDER HEIGHT EXPOSED
2/3 BOULDER HEIGHT
1/3 BOULDER HEIGHT
POWER WASH ALL LOOSE DIRT, MOSS,ROOTS, AND DEBRIS FROM BOULDER FACES.
LANDSCAPE BOULDER SHALL BE SARATOGA GRANITE (TYP)
FINISH GRADE OF 3/8" PEA GRAVEL, 6" THICK
3/4" CLEAN STONE, 6" THICK
MIRAFI 140N GEOTEXTILE
COMPACTED SUBGRADE

LANDSCAPE BOULDER (TYP)

N.T.S.


8'
24" OR 36" INSIDE DIAMETER
24" OR 36" INSIDE DIAMETER, SINGLE OFFSET JOINT TYPE RCP SEGMENT, SEE PLAN ENLARGEMENT THIS SHEET FOR LOCATIONS (TYP)
FINISH GRADE OF 3/8" PEA GRAVEL, 6" THICK
3/4" CLEAN STONE, 6" THICK
MIRAFI 140N GEOTEXTILE
COMPACTED SUBGRADE

RCP SEGMENT DETAIL

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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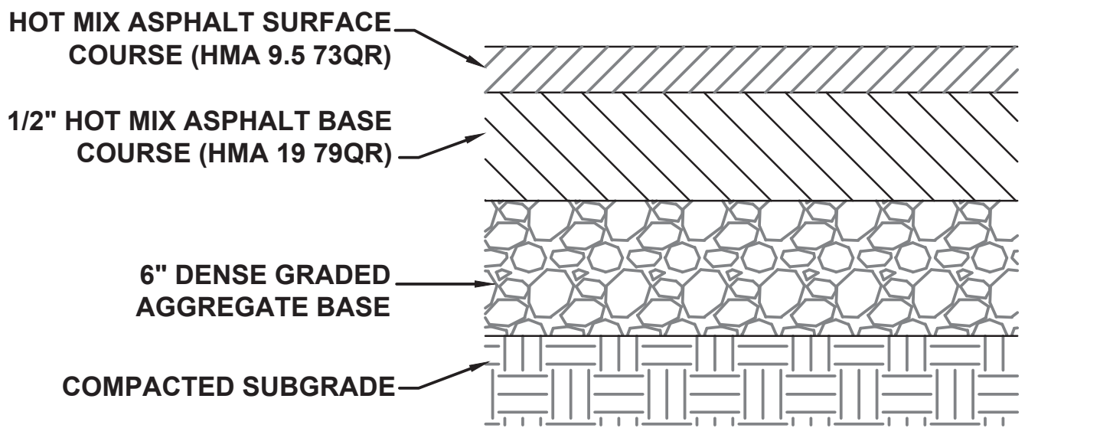
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

DOG RUN DETAILS

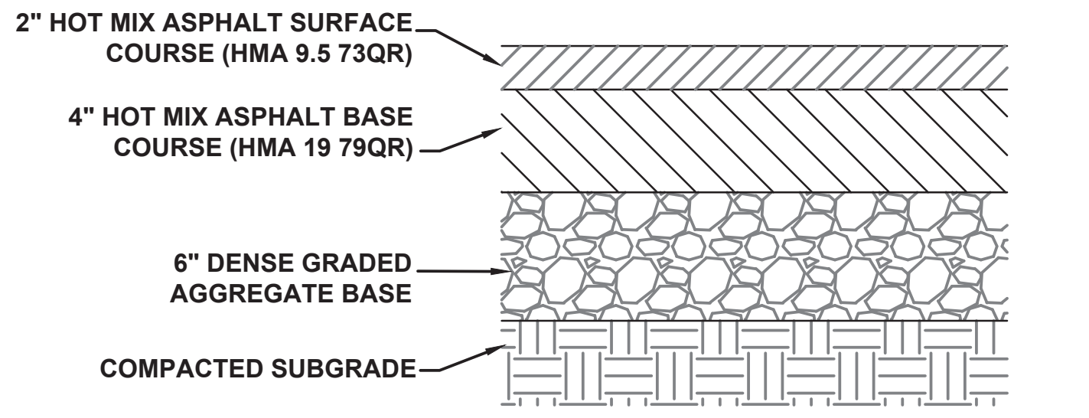
PROJECT NUMBER:
SCE-9755.021
SCALE:
N.T.S.
SHEET 32 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 32 Dog Run Details.dwg Wed, Mar 17, 2021 - 9:05am kkemper SUBURBAN CONSULTING ENGINEERS, INC.


1 1/2" HOT MIX ASPHALT SURFACE COURSE (HMA 9.5 73QR)
3 1/2" HOT MIX ASPHALT BASE COURSE (HMA 19 79QR)
6" DENSE GRADED AGGREGATE BASE
COMPACTED SUBGRADE

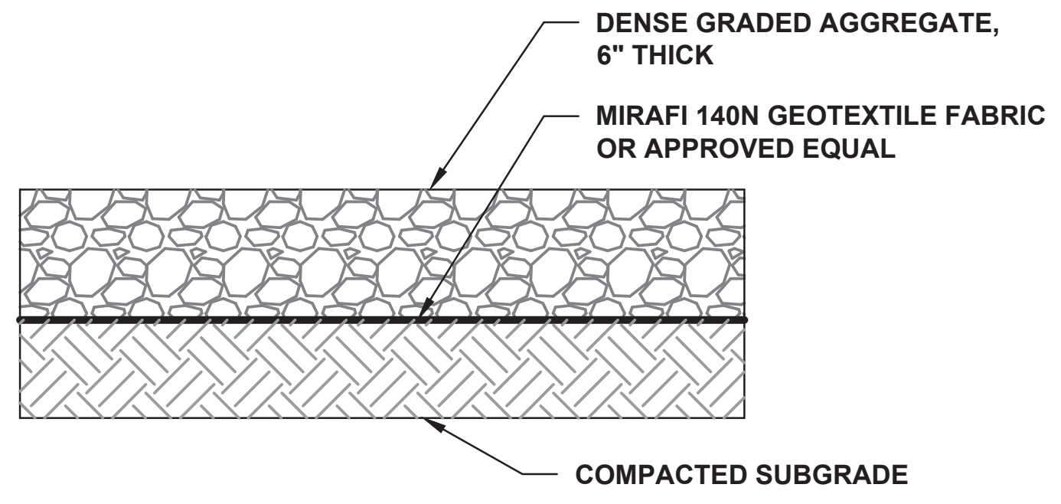
10' WIDE HOT MIX ASPHALT PAVEMENT WALKWAY, 5" THICK

N.T.S.


2" HOT MIX ASPHALT SURFACE COURSE (HMA 9.5 73QR)
4" HOT MIX ASPHALT BASE COURSE (HMA 19 79QR)
6" DENSE GRADED AGGREGATE BASE
COMPACTED SUBGRADE

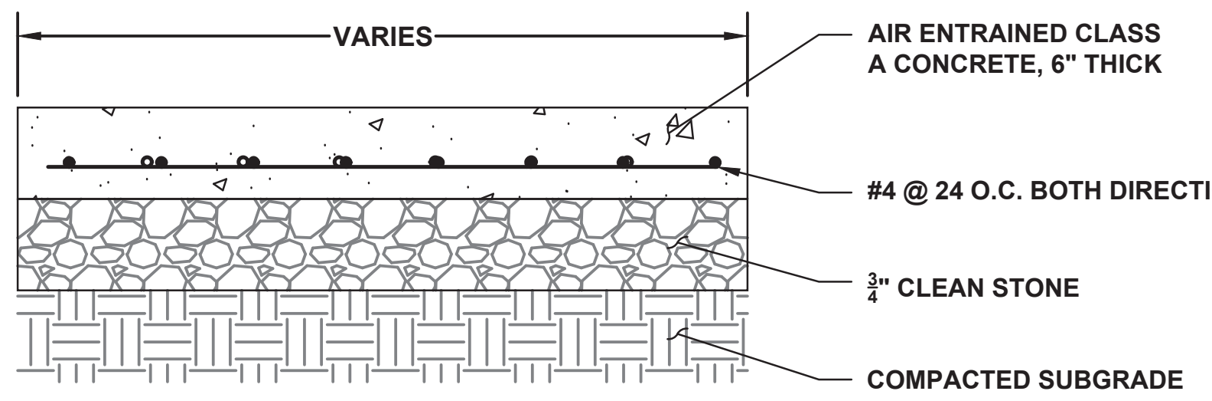
HOT MIX ASPHALT PAVEMENT, 6" THICK

N.T.S.


DENSE GRADED AGGREGATE, 6" THICK
MIRAFI 140N GEOTEXTILE FABRIC OR APPROVED EQUAL
COMPACTED SUBGRADE

DENSE GRADED AGGREGATE, 6" THICK SECTION DETAIL

N.T.S.

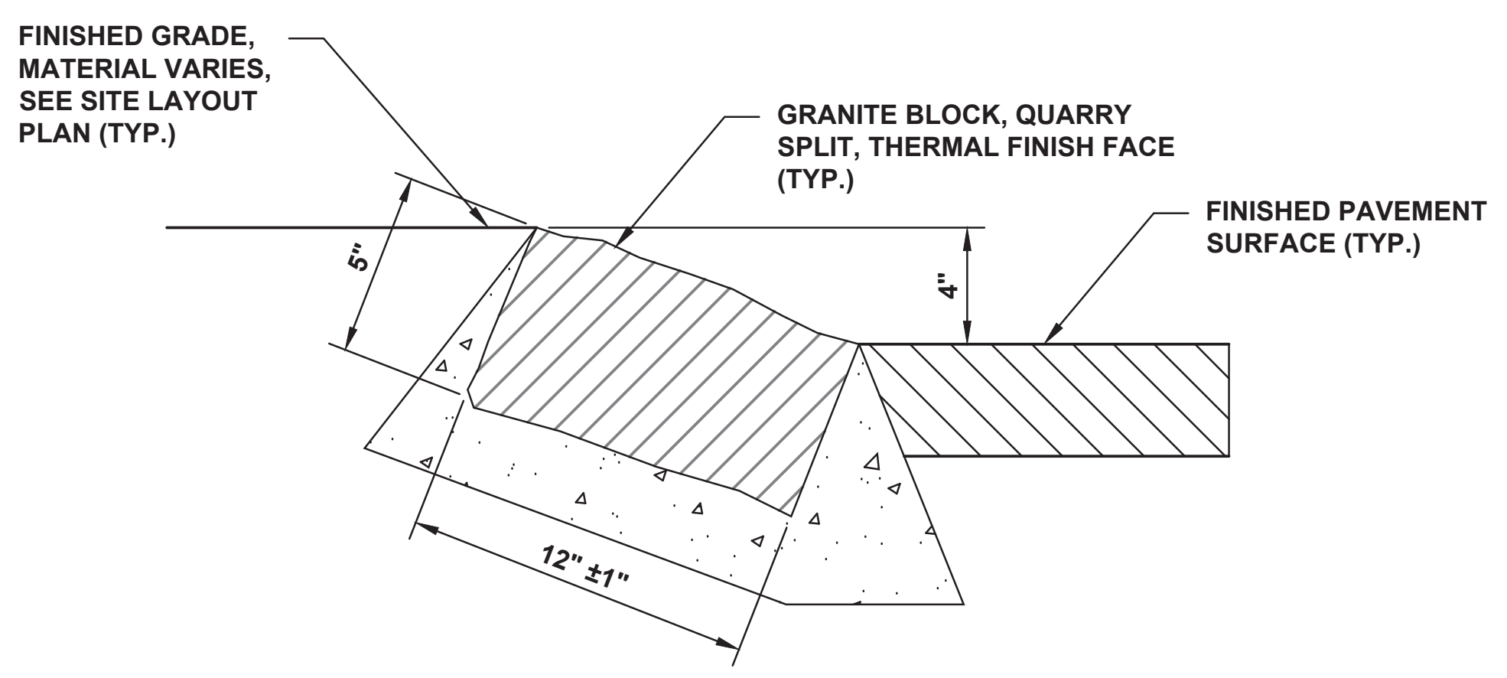

VARIES
AIR ENTRAINED CLASS A CONCRETE, 6" THICK
#4 @ 24 O.C. BOTH DIRECTIONS
¾" CLEAN STONE
COMPACTED SUBGRADE

NOTES:

1. SUBBASE SHALL BE COMPACTED TO THE SATISFACTION OF THE ENGINEER.
2. ALL CONTROL JOINTS SHALL BE ¼" WIDE X ¾" DEEP IN A 10' X 10' MAXIMUM GRID. ALL CONTROL JOINTS SHALL BE FILLED WITH TRAFFIC-GRADE ELASTOMERIC CAULK.
3. ALL CONCRETE SHALL BE NYSDOT CLASS A AIR ENTRAINED MINIMUM 4,000 PSI STRENGTH.
4. SURFACE SHALL BE BRUSHED TO A LIGHT BROOM FINISH.
5. ALL JOINTS AND EDGES ARE TO BE LIGHTLY BROOMED.
6. PROVIDE EXPANSION JOINTS WITH ½" WIDE BITUMINOUS CELLULAR TYPE JOINT FILLER BETWEEN ANY ABUTTING STRUCTURES.
7. PROVIDE CONCRETE CHAIRS UNDER REINFORCING STEEL.

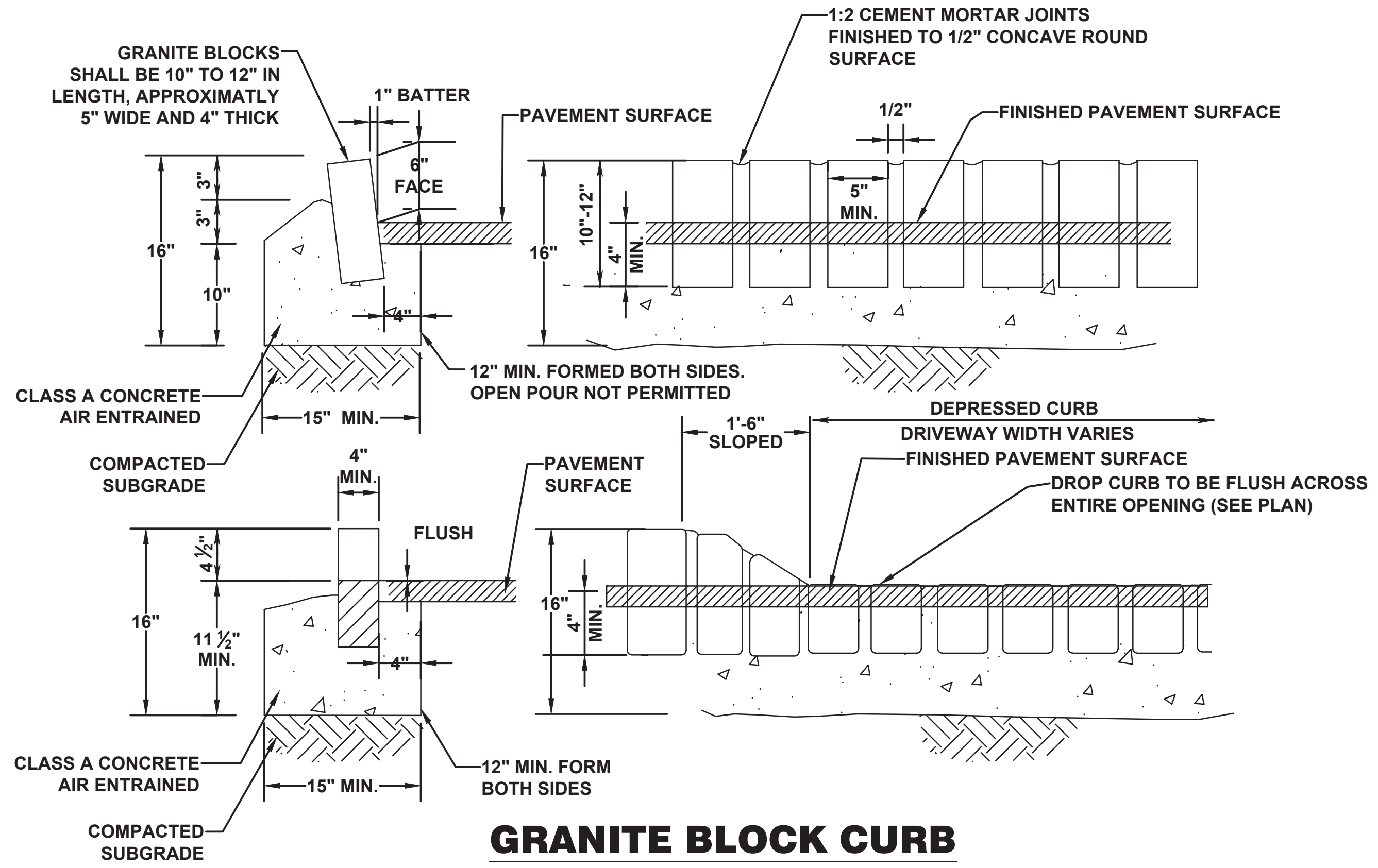
PORTLAND CEMENT CONCRETE SIDEWALK, REINFORCED, 6" THICK

N.T.S.


FINISHED GRADE, MATERIAL VARIES, SEE SITE LAYOUT PLAN (TYP.)
GRANITE BLOCK, QUARRY SPLIT, THERMAL FINISH FACE (TYP.)
FINISHED PAVEMENT SURFACE (TYP.)
5"
4"
12" ±1"

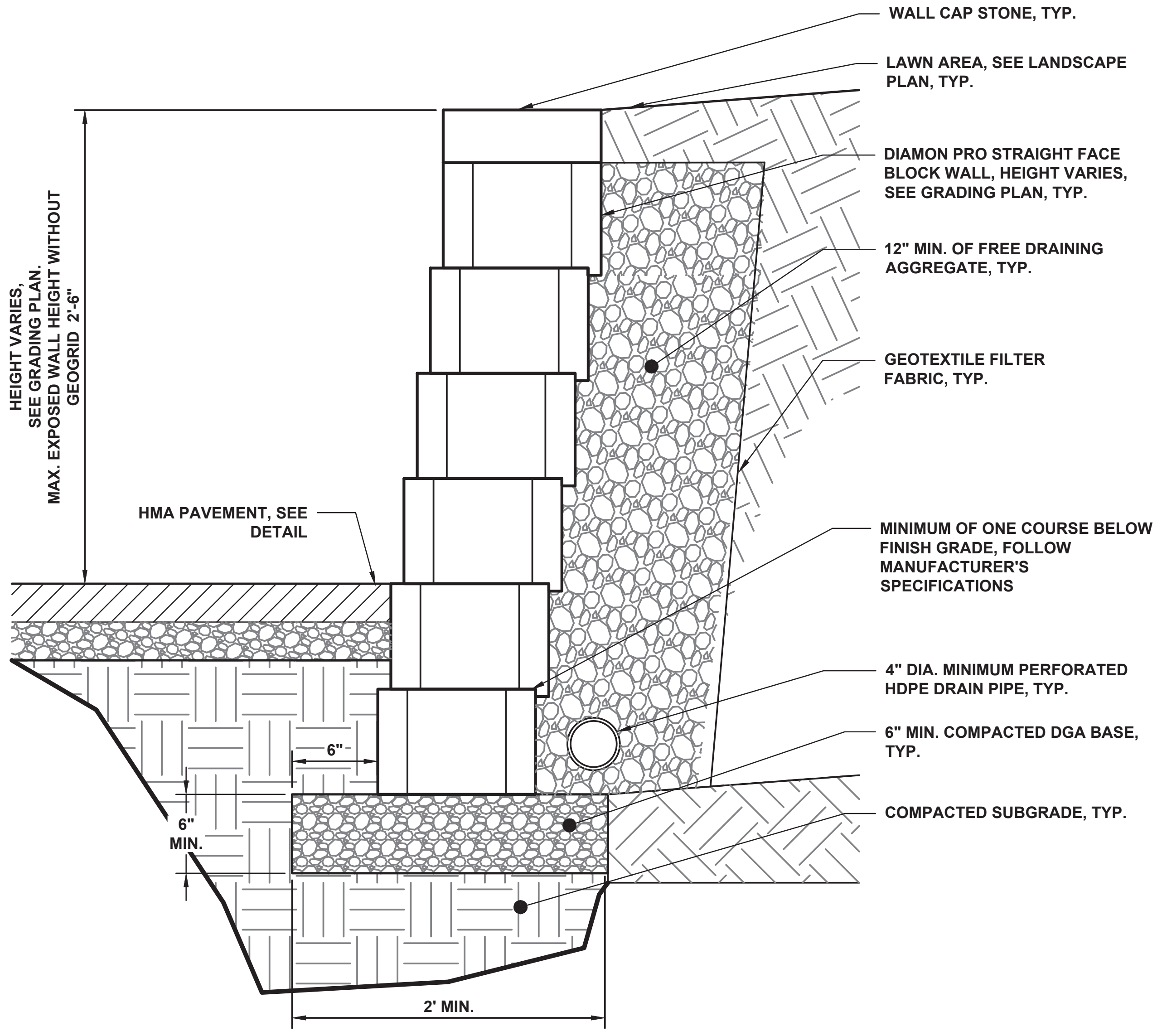
SLOPED GRANITE CURB DETAIL

N.T.S.


GRANITE BLOCKS SHALL BE 10" TO 12" IN LENGTH, APPROXIMATLY 5" WIDE AND 4" THICK
1" BATTER
6" FACE
PAVEMENT SURFACE
1:2 CEMENT MORTAR JOINTS FINISHED TO 1/2" CONCAVE ROUND SURFACE
1/2"
FINISHED PAVEMENT SURFACE
5" MIN.
3"
3"
16"
10"
4"
10"-12"
4" MIN.
16"
CLASS A CONCRETE AIR ENTRAINED
12" MIN. FORMED BOTH SIDES. OPEN POUR NOT PERMITTED
15" MIN.
COMPACTED SUBGRADE
DEPRESSED CURB
DRIVEWAY WIDTH VARIES
1'-6" SLOPED
FINISHED PAVEMENT SURFACE
DROP CURB TO BE FLUSH ACROSS ENTIRE OPENING (SEE PLAN)
4" MIN.
PAVEMENT SURFACE
FLUSH
4 ½"
16"
11 ½" MIN.
4"
16"
4" MIN.
CLASS A CONCRETE AIR ENTRAINED
12" MIN. FORM BOTH SIDES
15" MIN.
COMPACTED SUBGRADE

GRANITE BLOCK CURB

N.T.S.

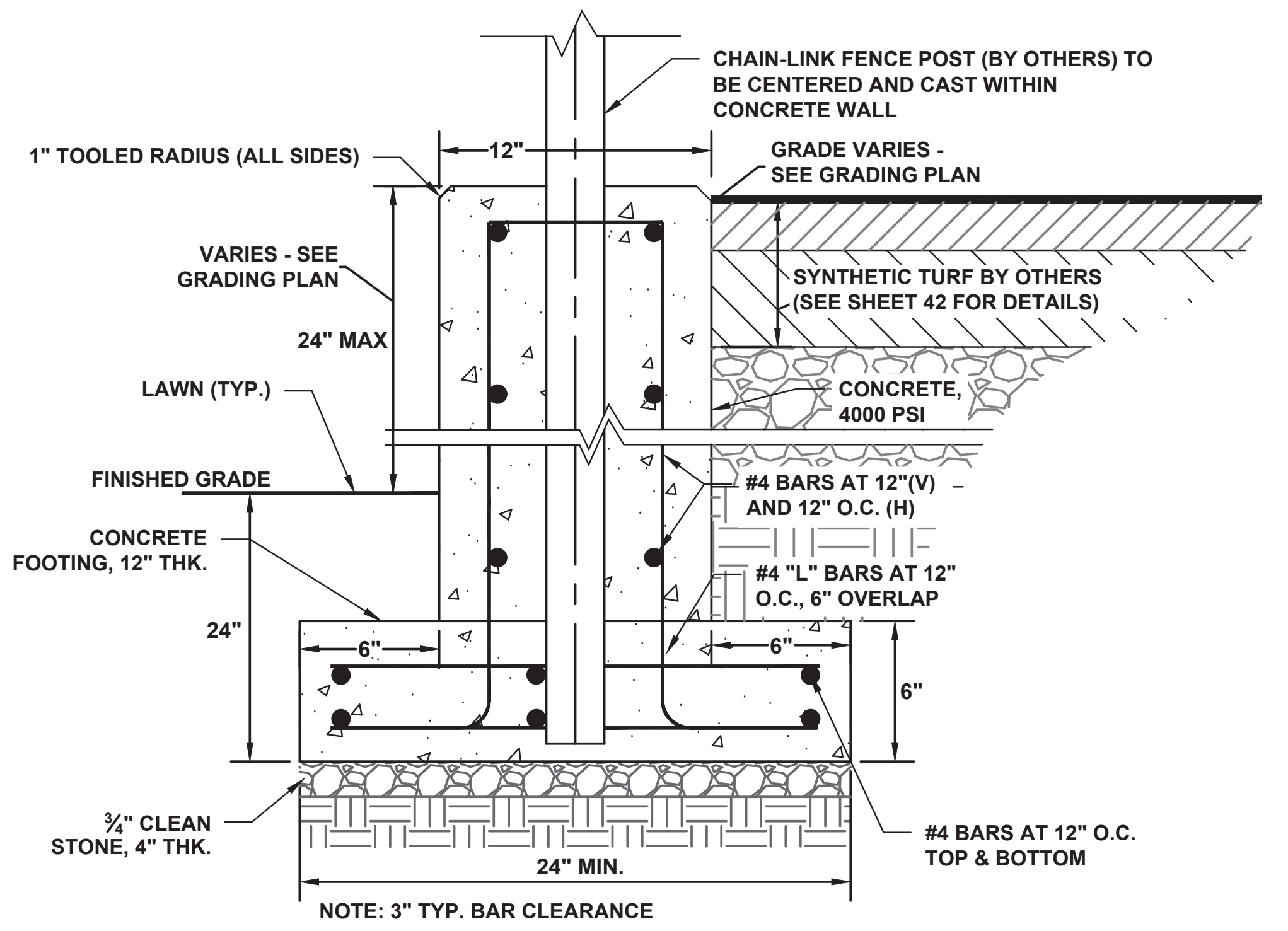

WALL CAP STONE, TYP.
LAWN AREA, SEE LANDSCAPE PLAN, TYP.
DIAMON PRO STRAIGHT FACE BLOCK WALL, HEIGHT VARIES, SEE GRADING PLAN, TYP.
12" MIN. OF FREE DRAINING AGGREGATE, TYP.
GEOTEXTILE FILTER FABRIC, TYP.
HEIGHT VARIES, SEE GRADING PLAN. MAX. EXPOSED WALL HEIGHT WITHOUT GEOGRID 2'-6"
HMA PAVEMENT, SEE DETAIL
MINIMUM OF ONE COURSE BELOW FINISH GRADE, FOLLOW MANUFACTURER'S SPECIFICATIONS
4" DIA. MINIMUM PERFORATED HDPE DRAIN PIPE, TYP.
6" MIN. COMPACTED DGA BASE, TYP.
COMPACTED SUBGRADE, TYP.
6"
6" MIN.
2' MIN.

GENERAL NOTES:

1. WALLS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. HEIGHT OF WALL SHALL BE AS SHOWN ON THE GRADING PLAN. THE NUMBER OF COURSES OF BLOCK SHALL BE AS DETERMINED IN THE FIELD.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND STRUCTURAL DESIGN CALCULATIONS SIGNED AND SEALED BY A NY LICENSED PROFESSIONAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
4. SOIL PARAMETERS SPECIFIED IN RETAINING WALL DESIGN SHALL BE APPROVED BY A GEOTECHNICAL PROFESSIONAL ENGINEER LICENSED IN THE STATE OF NEW YORK
5. WALL DESIGN SHALL BE COORDINATED WITH THE INSTALLATION OF THE PROPOSED FENCING.
7. WALL SHALL BE DIAMOND PRO STRAIGHT FACE BY EP HENRY, DAKOTA BLEND, OR APPROVED EQUAL.

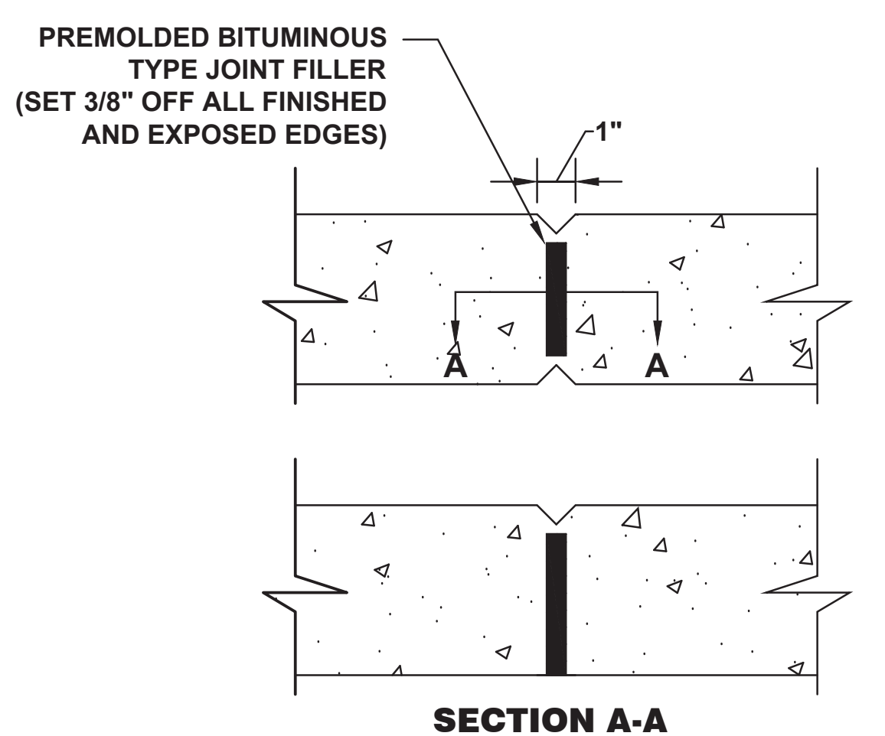
SEGMENTAL BLOCK RETAINING WALL

N.T.S.


CHAIN-LINK FENCE POST (BY OTHERS) TO BE CENTERED AND CAST WITHIN CONCRETE WALL
1" TOOLED RADIUS (ALL SIDES)
12"
GRADE VARIES - SEE GRADING PLAN
VARIES - SEE GRADING PLAN
SYNTHETIC TURF BY OTHERS (SEE SHEET 42 FOR DETAILS)
24" MAX
LAWN (TYP.)
CONCRETE, 4000 PSI
FINISHED GRADE
#4 BARS AT 12"(V) AND 12" O.C. (H)
CONCRETE FOOTING, 12" THK.
#4 "L" BARS AT 12" O.C., 6" OVERLAP
24"
6"
6"
6"
¾" CLEAN STONE, 4" THK.
#4 BARS AT 12" O.C. TOP & BOTTOM
24" MIN.
NOTE: 3" TYP. BAR CLEARANCE

CONCRETE CURB WALL (BY OTHERS)

N.T.S.

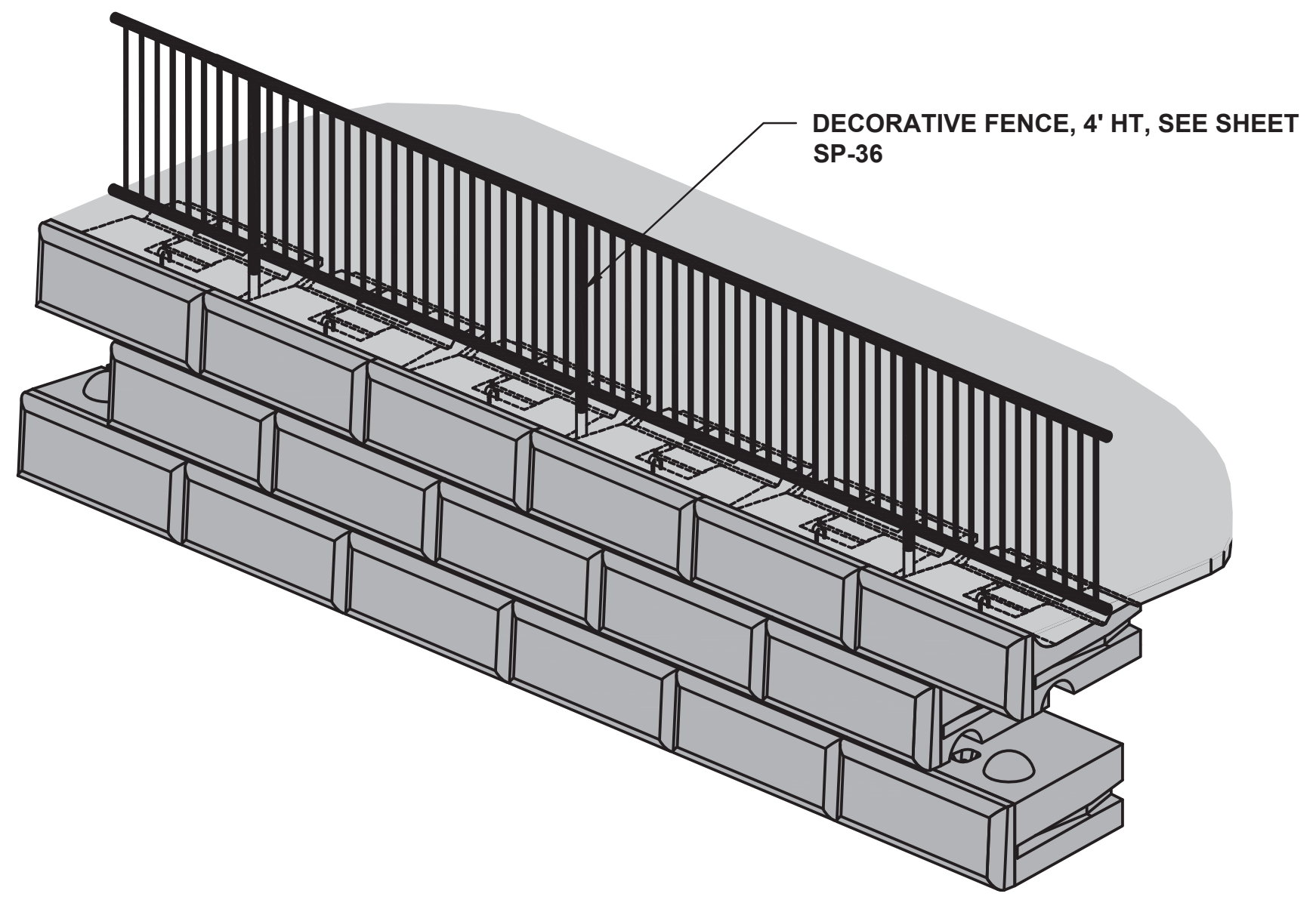

PREMOLDED BITUMINOUS TYPE JOINT FILLER (SET 3/8" OFF ALL FINISHED AND EXPOSED EDGES)
1"
A
A
SECTION A-A

NOTES:

1. EXPANSION JOINTS SPACED EVERY 6-8' O.C.
2. V-NOTCH TO BE CAST IN PLACED, NOT TOOLED.
3. PLACE AT CRITICAL LOCATIONS SUCH AS FENCE POSTS AND CORNERS.

CONCRETE CURB/ CURB WALL EXPANSION JOINT

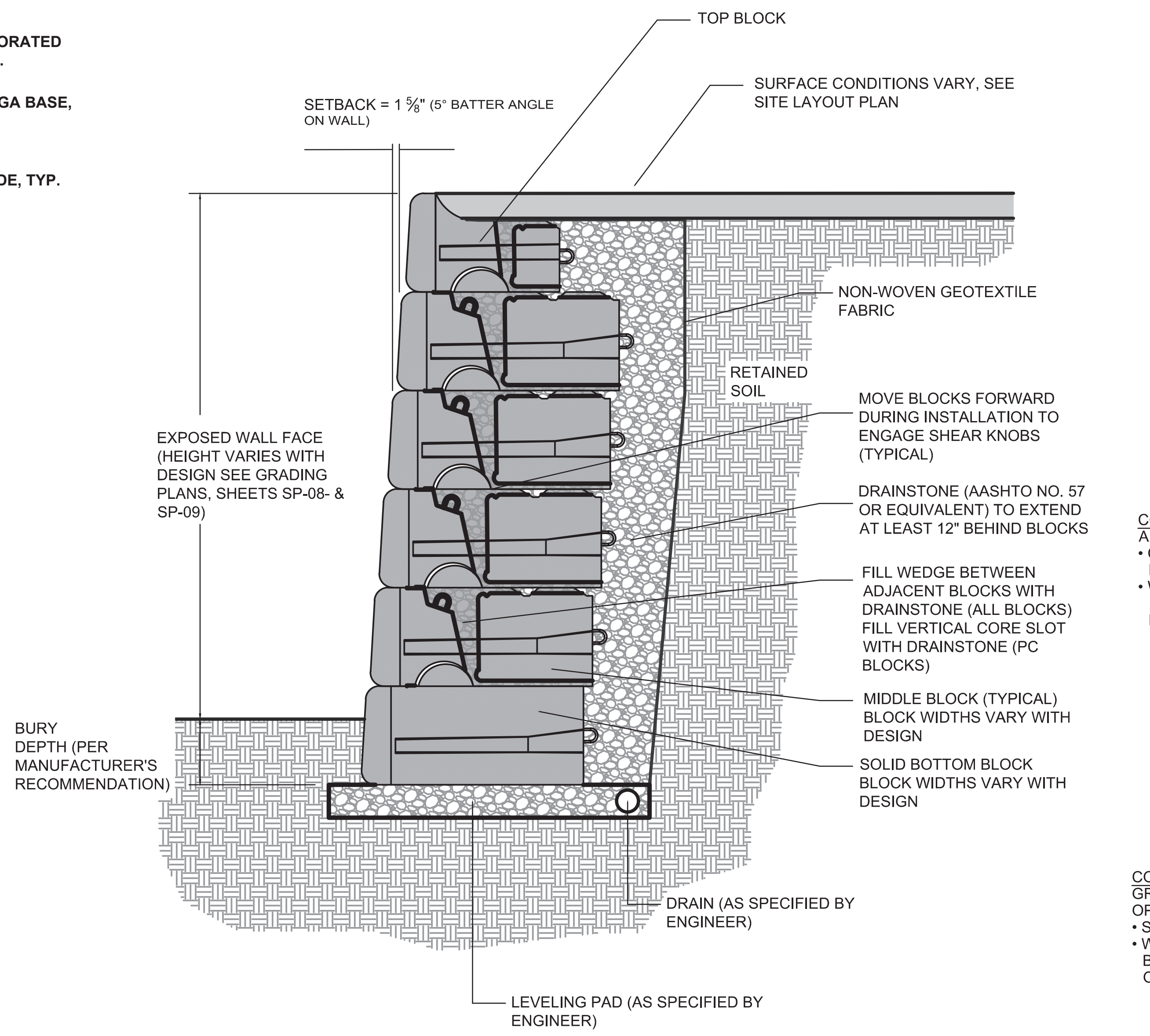
N.T.S.



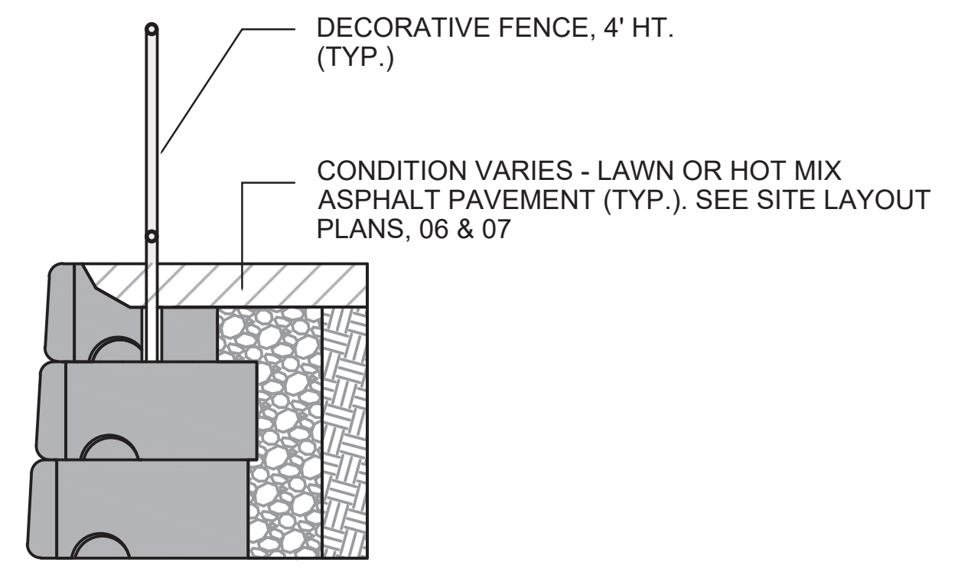
AXONOMETRIC VIEW OF FENCE INSTALLATION AT RETAINING WALL

WALL NOTES:

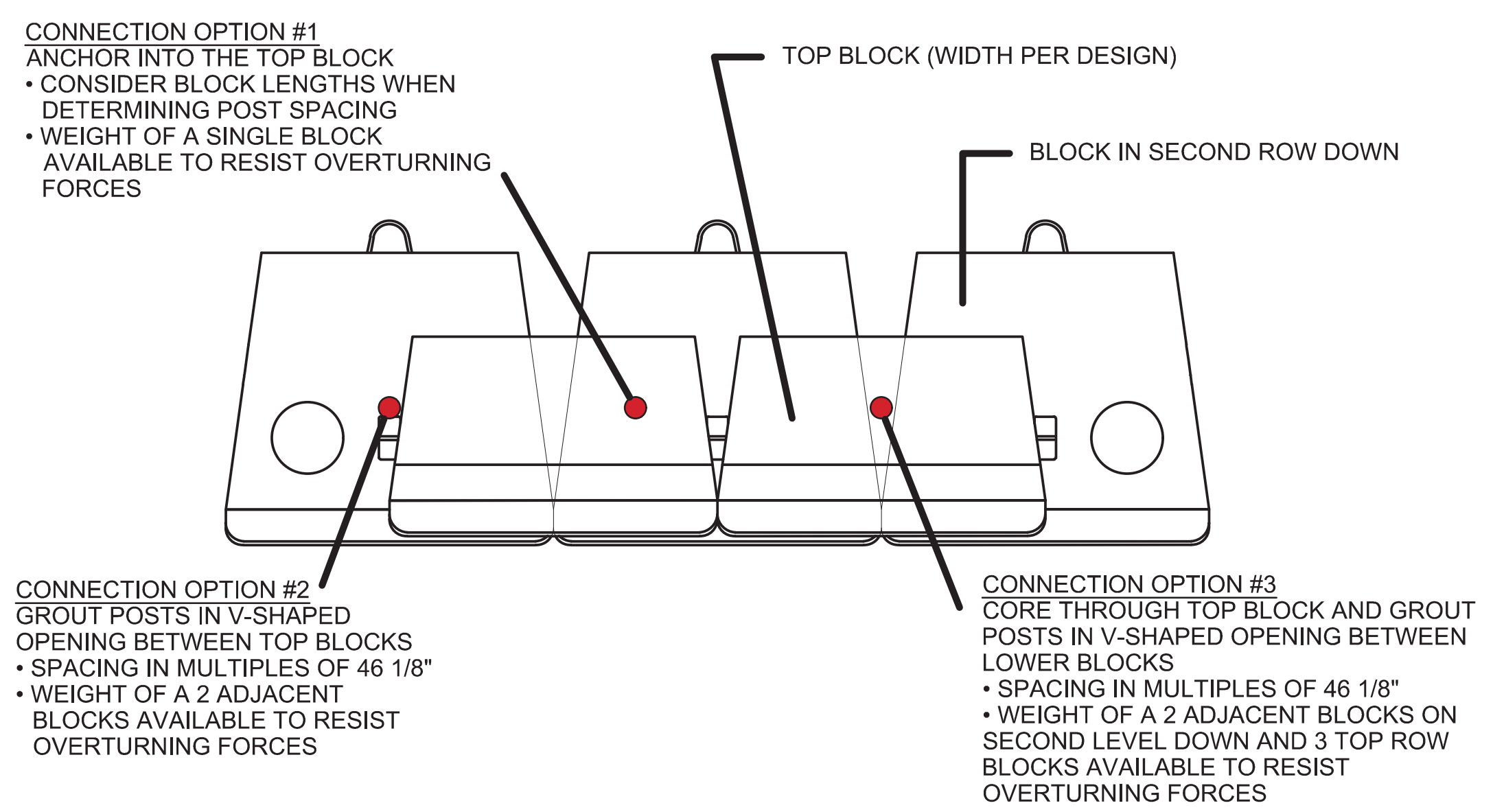
1. CONTRACTOR TO PROVIDE SITE SPECIFIC WALL CROSS SECTIONS, WALL PROFILE WITH ELEVATIONS, HEAL/TOE DRAIN AND CONSTRUCTION SPECIFICATIONS AS PART OF THE SHOP DRAWINGS REVIEW TO THE ENGINEER FOR APPROVAL.
2. CONSTRUCTION TO ADHERE TO MANUFACTURER'S REQUIREMENTS FOR WALL INSTALLATION, INCLUDING BACKFILL AND COMPACTION TESTING TO VERIFY FIELD PARAMETERS MATCH DESIGN.
3. PROPOSED RETAINING WALL SHALL BE LARGE BLOCK GRAVITY RETAINING WALL SYSTEM AS MANUFACTURED BY REDI-ROCK, TEL. 1.866.222.8400, OR APPROVED EQUAL.


TOP BLOCK
SETBACK = 1 ⅝" (5° BATTER ANGLE ON WALL)
SURFACE CONDITIONS VARY, SEE SITE LAYOUT PLAN
NON-WOVEN GEOTEXTILE FABRIC
RETAINED SOIL
MOVE BLOCKS FORWARD DURING INSTALLATION TO ENGAGE SHEAR KNOBS (TYPICAL)
EXPOSED WALL FACE (HEIGHT VARIES WITH DESIGN SEE GRADING PLANS, SHEETS SP-08- & SP-09)
DRAINSTONE (AASHTO NO. 57 OR EQUIVALENT) TO EXTEND AT LEAST 12" BEHIND BLOCKS
FILL WEDGE BETWEEN ADJACENT BLOCKS WITH DRAINSTONE (ALL BLOCKS) FILL VERTICAL CORE SLOT WITH DRAINSTONE (PC BLOCKS)
MIDDLE BLOCK (TYPICAL) BLOCK WIDTHS VARY WITH DESIGN
BURY DEPTH (PER MANUFACTURER'S RECOMMENDATION)
SOLID BOTTOM BLOCK BLOCK WIDTHS VARY WITH DESIGN
DRAIN (AS SPECIFIED BY ENGINEER)
LEVELING PAD (AS SPECIFIED BY ENGINEER)

TYPICAL GRAVITY WALL SECTION


DECORATIVE FENCE, 4' HT. (TYP.)
CONDITION VARIES - LAWN OR HOT MIX ASPHALT PAVEMENT (TYP.). SEE SITE LAYOUT PLANS, 06 & 07

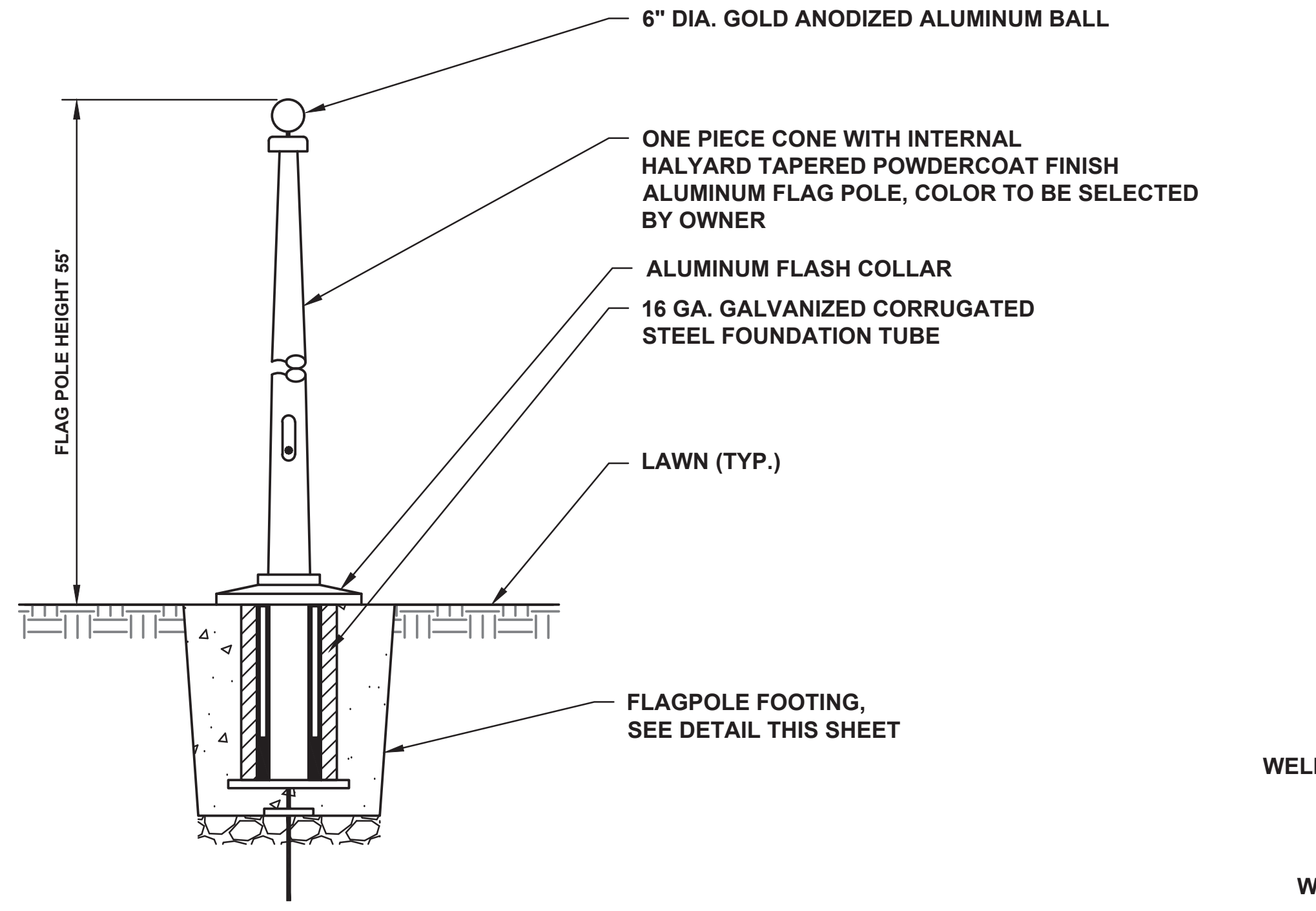
FENCE INSTALLATION BEHIND WALL SECTION DETAIL


CONNECTION OPTION #1
ANCHOR INTO THE TOP BLOCK
• CONSIDER BLOCK LENGTHS WHEN DETERMINING POST SPACING
• WEIGHT OF A SINGLE BLOCK AVAILABLE TO RESIST OVERTURNING FORCES
TOP BLOCK (WIDTH PER DESIGN)
BLOCK IN SECOND ROW DOWN
CONNECTION OPTION #2
GROUT POSTS IN V-SHAPED OPENING BETWEEN TOP BLOCKS
• SPACING IN MULTIPLES OF 46 1/8"
• WEIGHT OF A 2 ADJACENT BLOCKS AVAILABLE TO RESIST OVERTURNING FORCES
CONNECTION OPTION #3
CORE THROUGH TOP BLOCK AND GROUT POSTS IN V-SHAPED OPENING BETWEEN LOWER BLOCKS
• SPACING IN MULTIPLES OF 46 1/8"
• WEIGHT OF A 2 ADJACENT BLOCKS ON SECOND LEVEL DOWN AND 3 TOP ROW BLOCKS AVAILABLE TO RESIST OVERTURNING FORCES

FENCE CONNECTION LOCATIONS - PLAN VIEW

LARGE-SCALE SEGMENTAL BLOCK RETAINING WALL DETAILS

N.T.S.

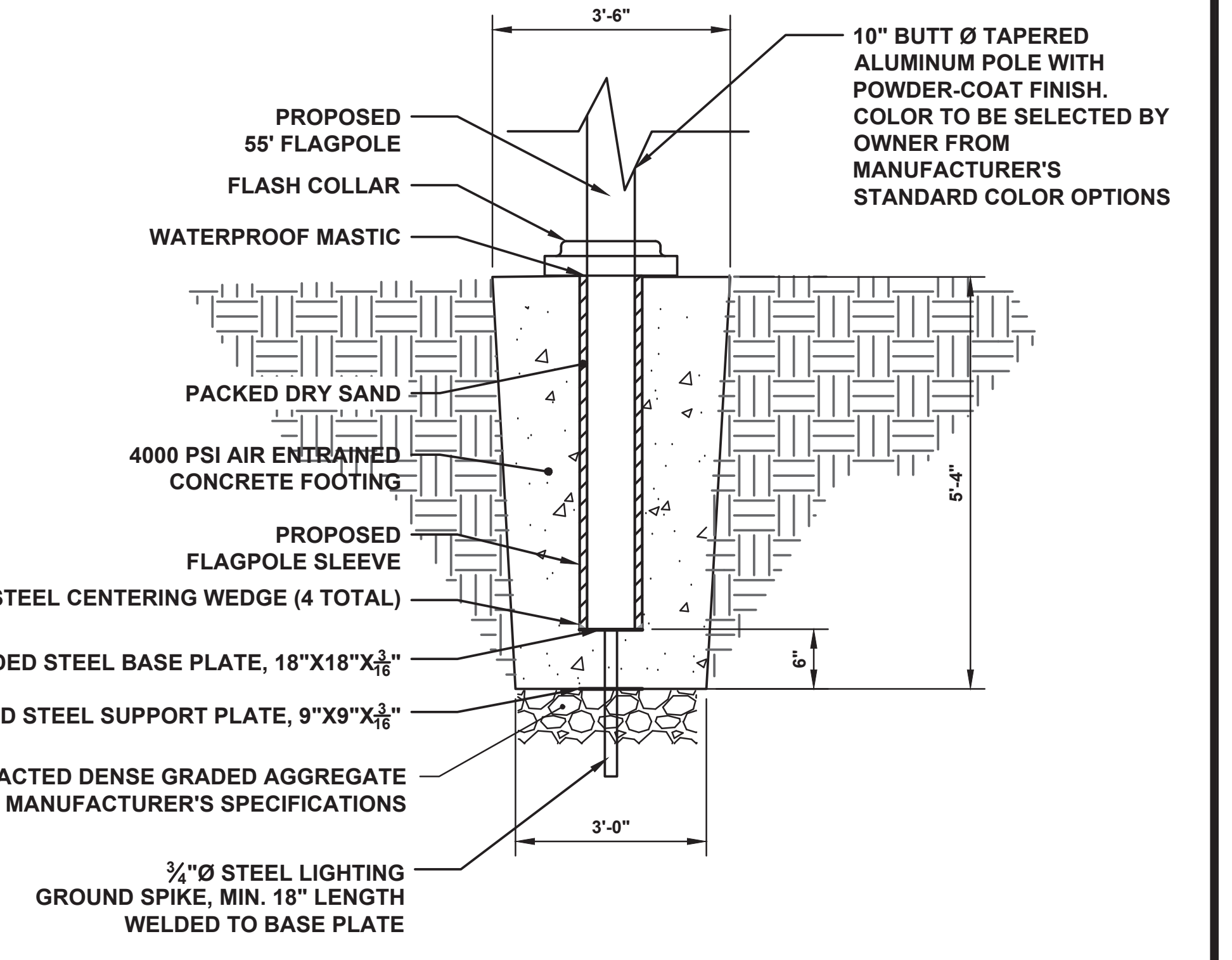

6" DIA. GOLD ANODIZED ALUMINUM BALL
ONE PIECE CONE WITH INTERNAL HALYARD TAPERED POWDERCOAT FINISH ALUMINUM FLAG POLE, COLOR TO BE SELECTED BY OWNER
FLAG POLE HEIGHT 55'
ALUMINUM FLASH COLLAR
16 GA. GALVANIZED CORRUGATED STEEL FOUNDATION TUBE
LAWN (TYP.)
FLAGPOLE FOOTING, SEE DETAIL THIS SHEET

NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL FLAG POLE.
2. 55' ABOVE GROUND, CONE TAPERED GROUND SET ALUMINUM FLAGPOLES WITH SATIN FINISH, 10" O.D. AT BUTT TAPERING TO 4" O.D., WITH .25" WALL THICKNESS AS MANUFACTURED BY ACME/LINGO INC. CAMDEN, NJ, TELEPHONE: 1-800-260-1897, OR APPROVED EQUAL.
3. POLE TO HAVE THE FOLLOWING FEATURES AND FITTINGS: REVOLVING INTERNAL HALYARD TRUCK ASSEMBLY, ⅛" DIAMETER STAINLESS STEEL CABLE HALYARD, BEADED SLING WITH VINYL COATED COUNTER WEIGHT, INTERIOR WINCH, FLUSH ACCESS DOOR WITH CYLINDER LOCK AND REMOVABLE CRANK HANDLE; GALVANIZED CORRUGATED STEEL FOUNDATION TUBE WITH PAINTED WELDED BOTTOM PLATE, LOWER INTERNAL CENTERING WEDGES, STANDARD LIGHTING GROUND SPIKE AND PLATE SUPPORT.
4. CONTRACTOR SHALL PROVIDE AMERICAN FLAG, 10' X 15' TOUGH TEX. ALL FLAGS SHALL BE SINGLE REVERSE DESIGN. ALL FLAGS SHALL BE SUPPLIED BY ACME/LINGO INC., CAMDEN, NJ, TELEPHONE: 1-800-260-1897, OR APPROVED EQUAL.
5. FLAG POLE FOUNDATIONS SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW YORK. SHOP DRAWINGS OF THE FOUNDATION DESIGN SHALL BE SIGNED AND SEALED BY THE CONTRACTOR'S ENGINEER AND PROVIDED TO THE OWNER OR THEIR REPRESENTATIVE FOR REVIEW PRIOR TO CONSTRUCTION.

INTERNAL HALYARD FLAGPOLE, 55' HIGH

N.T.S.


3'-6"
10" BUTT Ø TAPERED ALUMINUM POLE WITH POWDER-COAT FINISH. COLOR TO BE SELECTED BY OWNER FROM MANUFACTURER'S STANDARD COLOR OPTIONS
PROPOSED 55' FLAGPOLE
FLASH COLLAR
WATERPROOF MASTIC
PACKED DRY SAND
4000 PSI AIR ENTRAINED CONCRETE FOOTING
PROPOSED FLAGPOLE SLEEVE
WELDED STEEL CENTERING WEDGE (4 TOTAL)
5'-4"
6"
WELDED STEEL BASE PLATE, 18"X18"X3/16"
WELDED STEEL SUPPORT PLATE, 9"X9"X3/16"
COMPACTED DENSE GRADED AGGREGATE PER MANUFACTURER'S SPECIFICATIONS
3'-0"
¾"Ø STEEL LIGHTING GROUND SPIKE, MIN. 18" LENGTH WELDED TO BASE PLATE

NOTES:

1. SITE CONTRACTOR TO COORDINATE FLAG POLE INSTALLATION WITH ENGINEER.
2. FLAGPOLES SHALL BE 55' HIGH ALUMINUM INTERNAL ROPE HALYARD MODEL AS MANUFACTURED BY ACME LINGO FLAGPOLES, LLC 1-800-260-1897 OR APPROVED EQUAL.
3. FLAGPOLES SHALL BE FURNISHED IN POWDERCOAT FINISH, COLOR TO BE SELECTED BY OWNER

FLAGPOLE FOOTING DETAIL

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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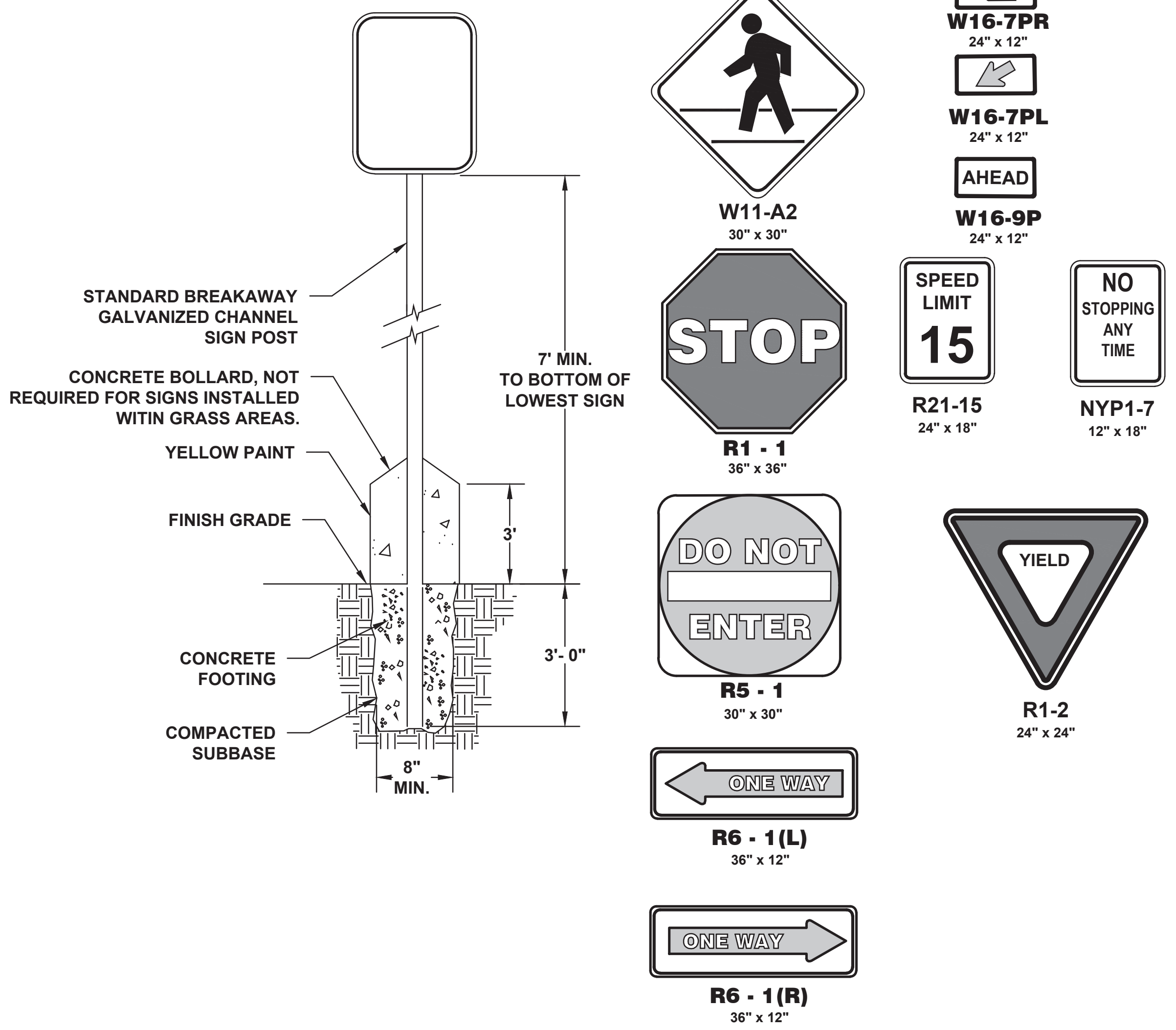
03/19/2021
CHECKED BY:
ASH
03/19/2021
CHECKED BY:
RCG
03/19/2021

SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

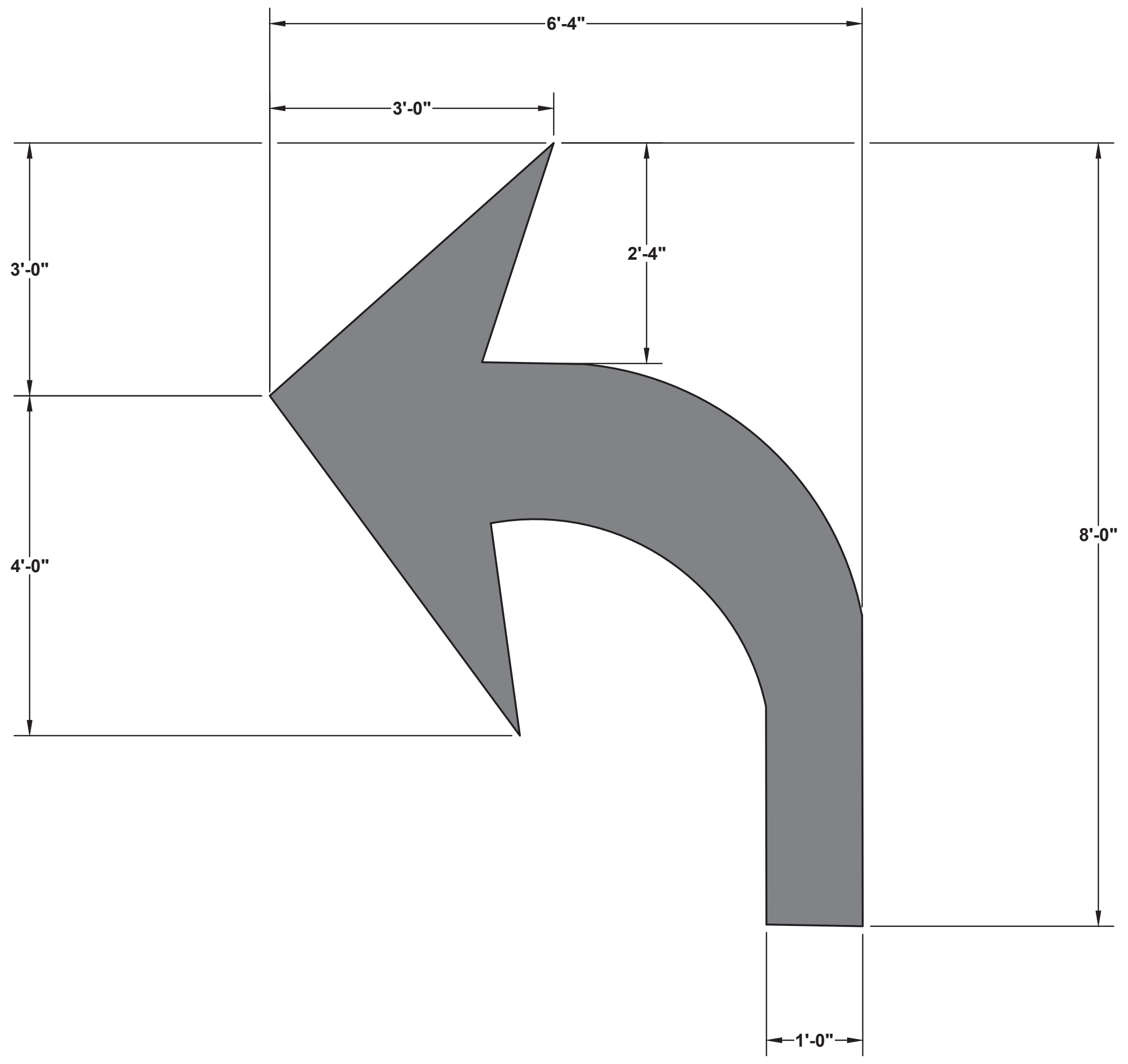
CONSTRUCTION DETAIL I

PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 33 OF 47
REVISION -



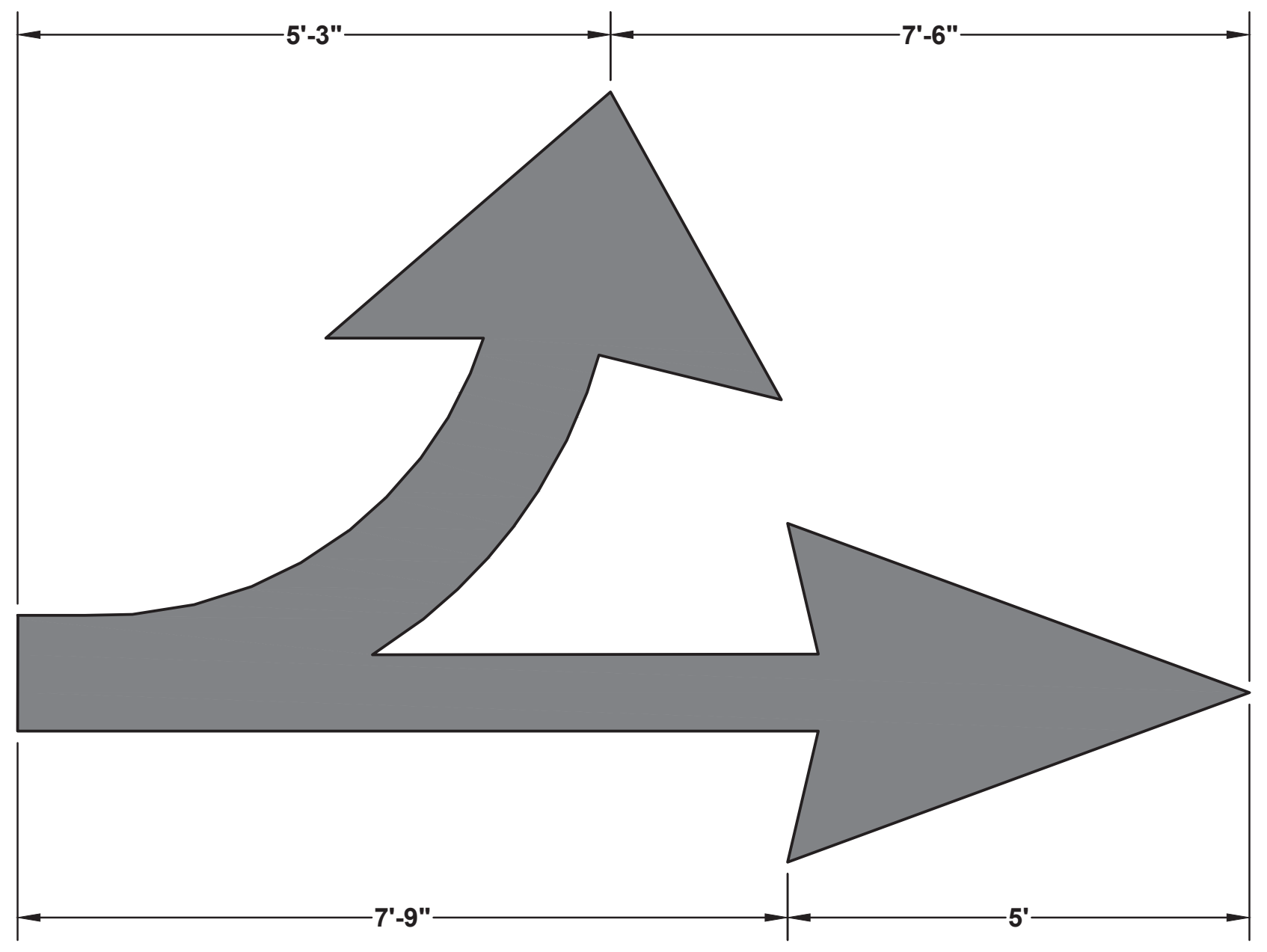
SIGN INSTALLATION DETAIL

N.T.S.



DIRECTIONAL ARROW (TURNING)

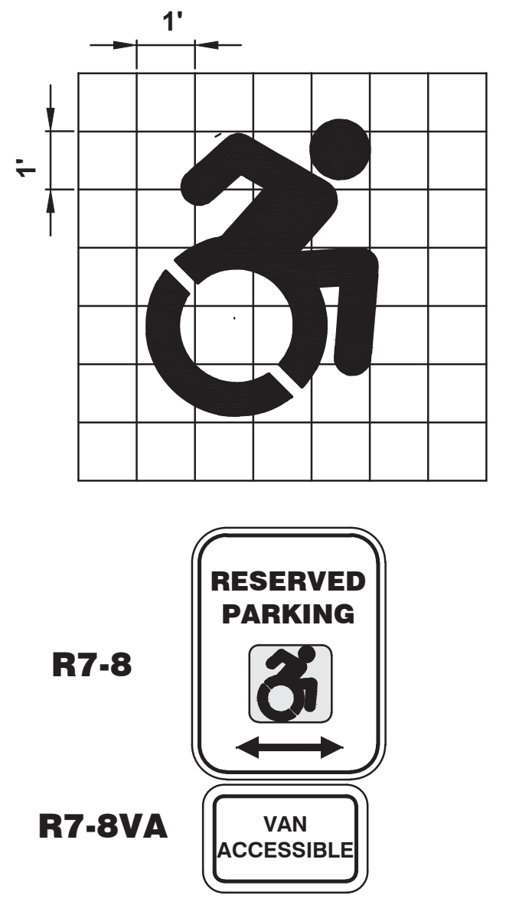
N.T.S.



NOTE:
CURVE AS REQUIRED TO PARALLEL CENTERLINE OF ROAD. USE YELLOW REFLECTIVE PAINT.

DIRECTIONAL ARROW (TURN AND THROUGH LANE-USE)

N.T.S.



* THE CONTRACTOR SHALL SUPPLY AND INSTALL ACCESSIBLE PARKING SIGN. THE CONTRACTOR SHALL MOUNT SIGNS AT ALL DESIGNATED PARKING SPACES. EACH ACCESSIBLE PARKING SPACE SHALL BE MARKED WITH AN R7-8 SIGN FROM THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND SHALL DISPLAY THE ACTIVE ADA SYMBOL AS REQUIRED BY N.Y.S. LAW.

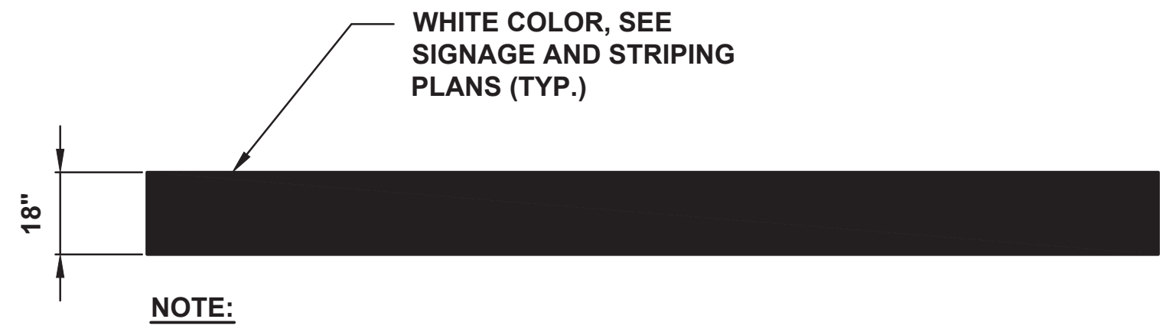
THE BOTTOM OF THE R7-8VA SIGN SHALL BE MOUNTED APPROXIMATELY 84 INCHES ABOVE THE PARKING LOT OR SIDEWALK SURFACE WHEN THE SIGN IS PARALLEL TO THE SIDEWALK.

EACH ACCESS AISLE TO RECEIVE NYP1-7 SIGNAGE. ALL SIGNS SHALL BE CENTERED AND MOUNTED. THE CONTRACTOR SHALL SUPPLY ALL MOUNTING SUPPLIES TO HOLD SIGNS IN A PROPER AND PERMANENT POSITION.

NOTES:
1. ALL PROPOSED SIGNING SHALL FOLLOW MUTCD STANDARDS.
2. ALL PROPOSED SIGN LOCATIONS SHALL BE SUBJECT TO ENGINEER'S APPROVAL.
3. ADA SYMBOL SHALL BE NYS ACTIVE ADA SYMBOL AS SHOWN.

ADA PARKING SIGN AND SYMBOL DETAIL

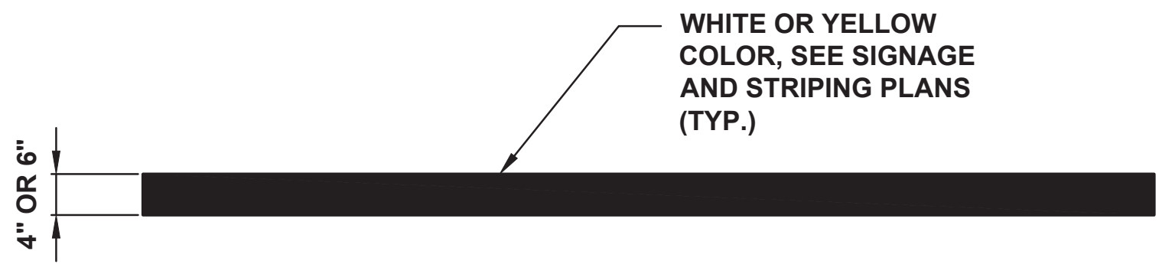
N.T.S.



NOTE:
MINIMUM 4'-0" CLEARANCE BETWEEN STOP BAR AND CROSSWALKS

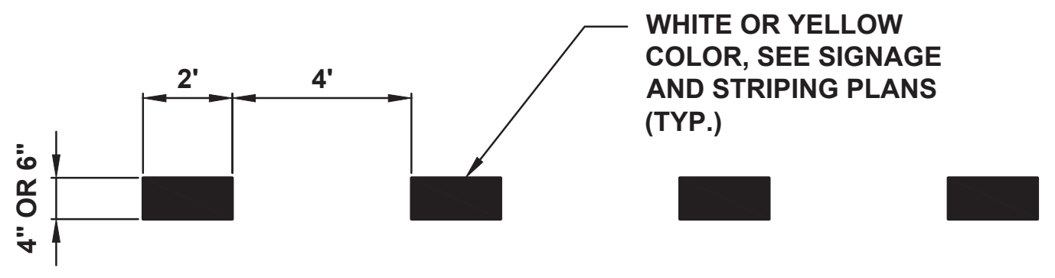
STOP BAR DETAIL

N.T.S.


WHITE OR YELLOW COLOR, SEE SIGNAGE AND STRIPING PLANS (TYP.)
4" OR 6"

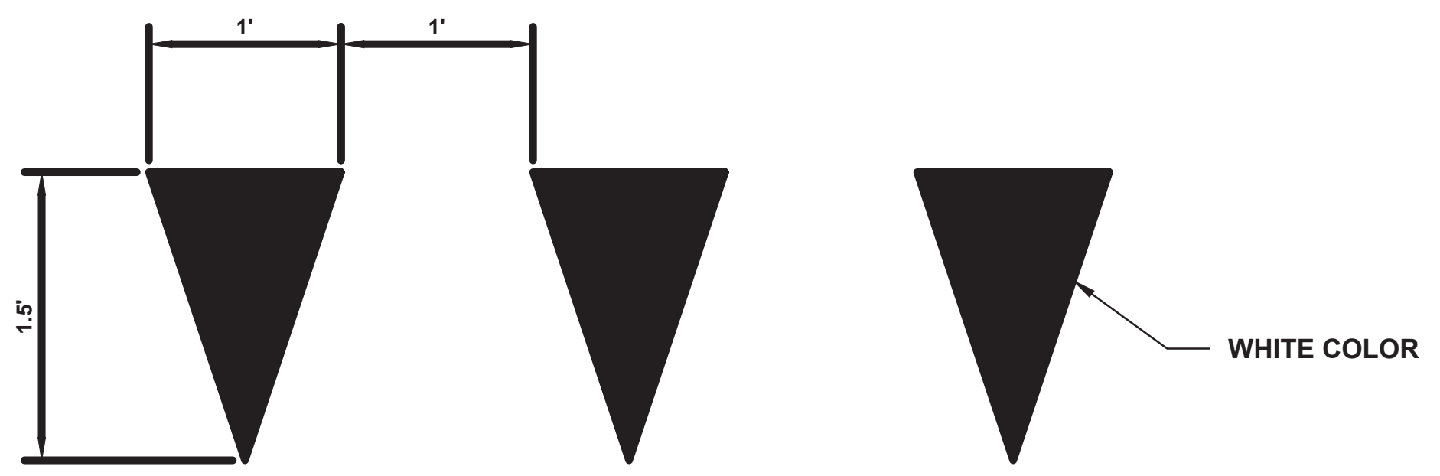
NORMAL LANE OR EDGE LINE DETAIL

N.T.S.


2'
4'
WHITE OR YELLOW COLOR, SEE SIGNAGE AND STRIPING PLANS (TYP.)
4" OR 6"

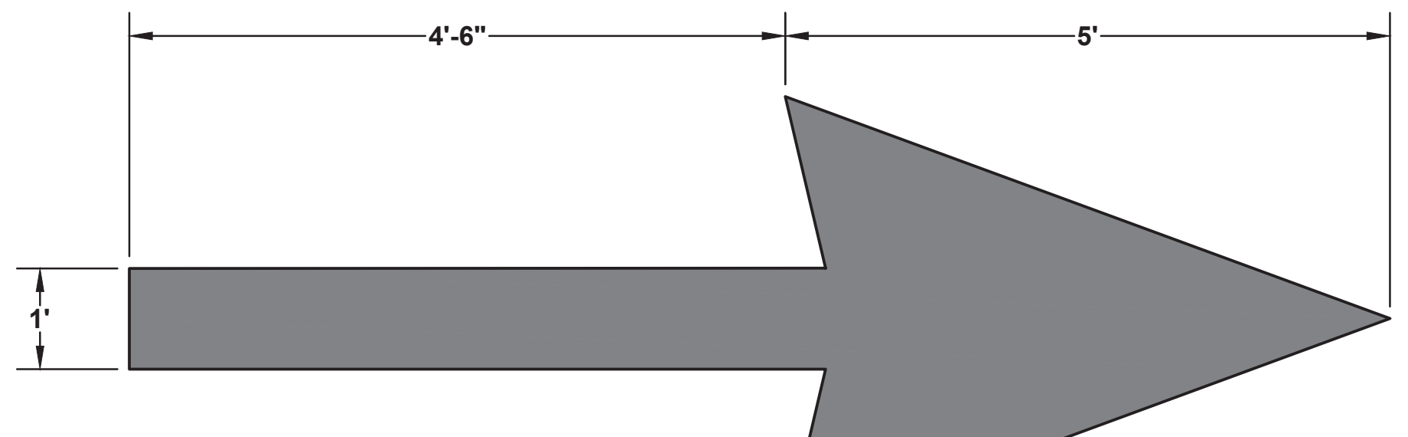
NORMAL DOTTED EXTENSION LINE DETAIL

N.T.S.



YIELD LINE MARKINGS DETAIL

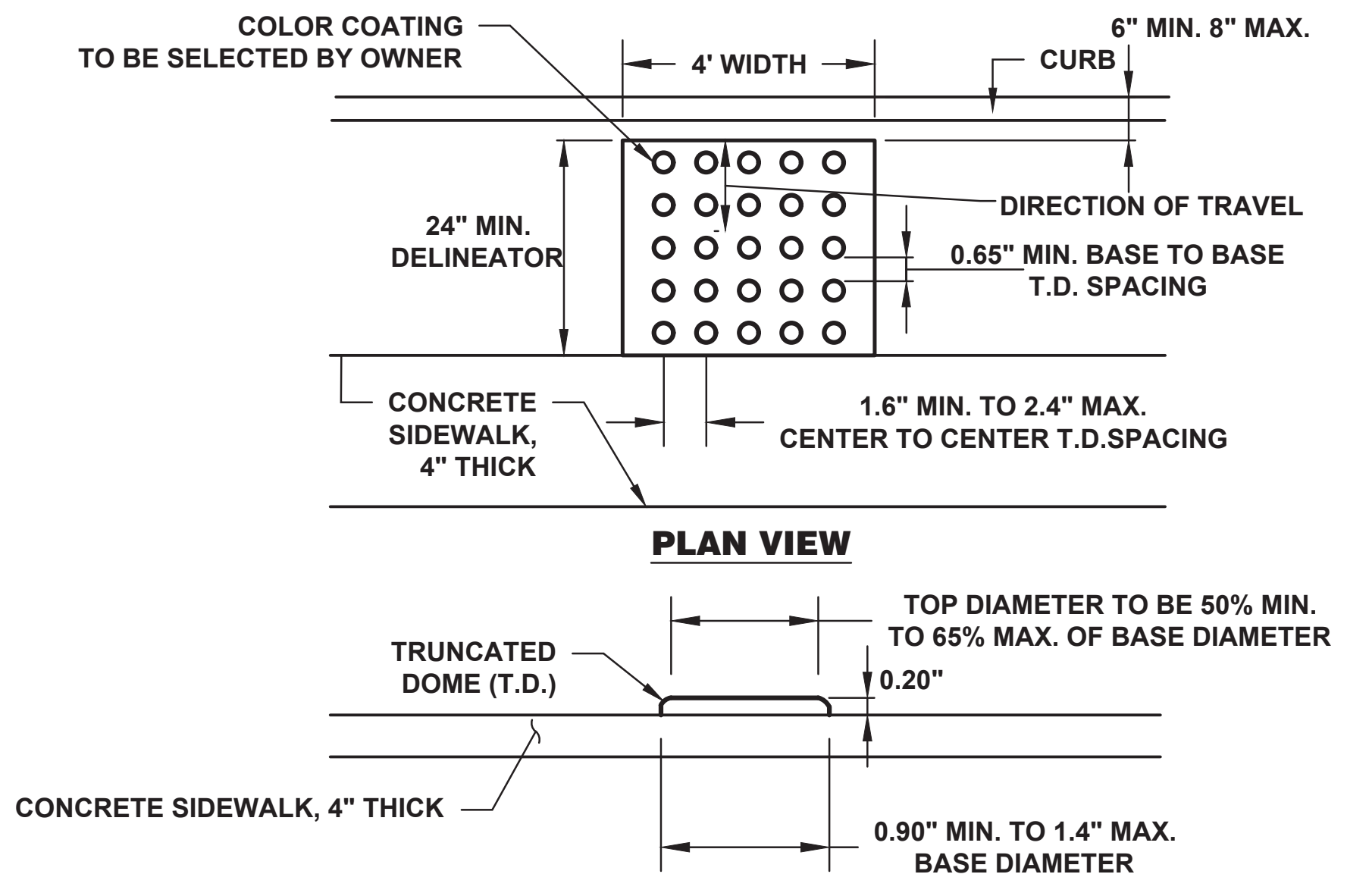
N.T.S.



NOTE:
CURVE AS REQUIRED TO PARALLEL CENTERLINE OF ROAD. USE YELLOW REFLECTIVE PAINT.

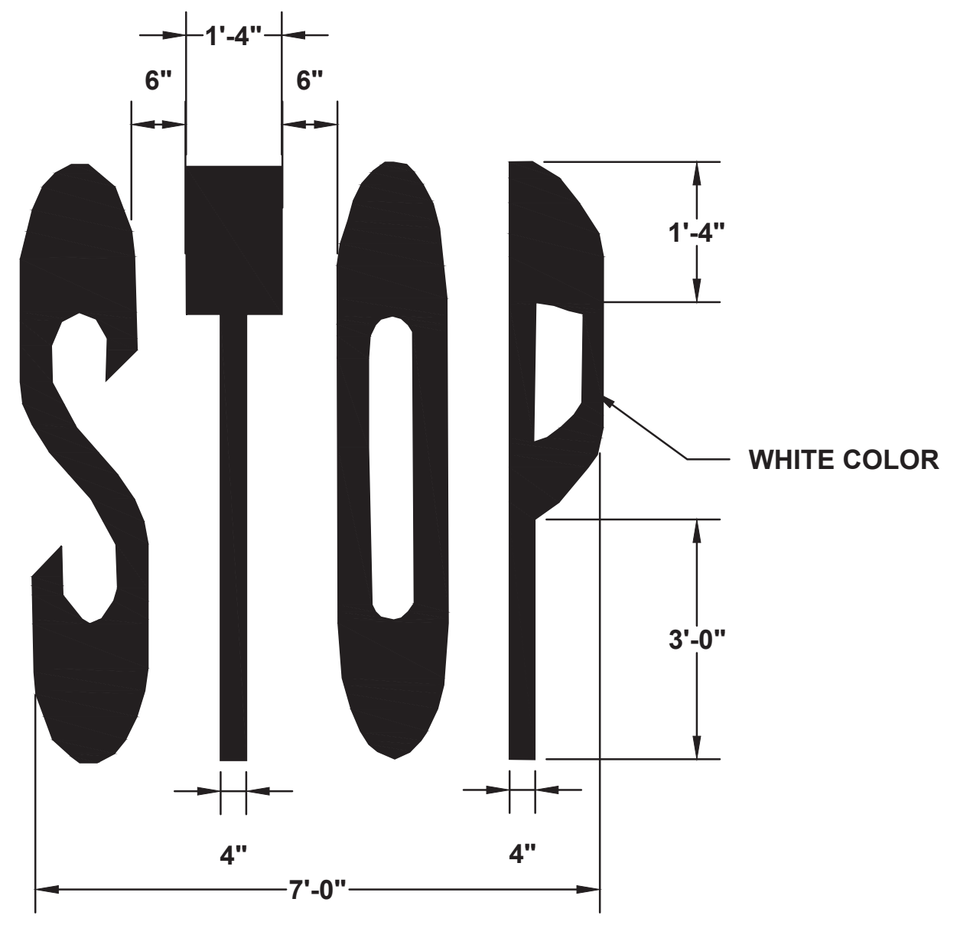
DIRECTIONAL ARROW (STRAIGHT)

N.T.S.


COLOR COATING TO BE SELECTED BY OWNER
4' WIDTH
6" MIN. 8" MAX.
CURB
DIRECTION OF TRAVEL
24" MIN. DELINEATOR
0.65" MIN. BASE TO BASE T.D. SPACING
CONCRETE SIDEWALK, 4" THICK
1.6" MIN. TO 2.4" MAX. CENTER TO CENTER T.D.SPACING
PLAN VIEW
TOP DIAMETER TO BE 50% MIN. TO 65% MAX. OF BASE DIAMETER
TRUNCATED DOME (T.D.)
0.20"
CONCRETE SIDEWALK, 4" THICK
0.90" MIN. TO 1.4" MAX. BASE DIAMETER
ELEVATION VIEW

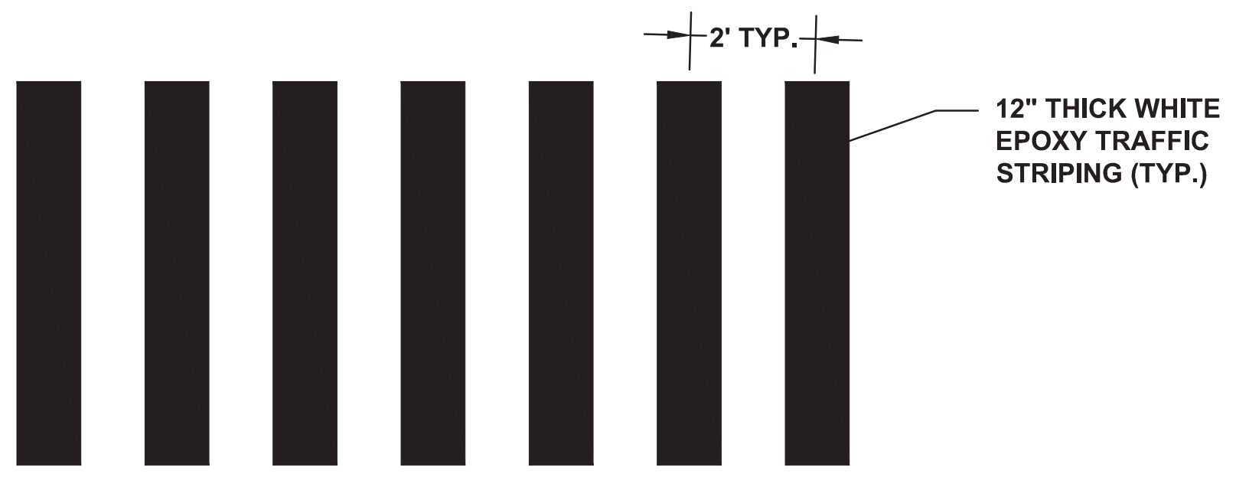
TRUNCATED DOME DETECTABLE WARNING SURFACE

N.T.S.



"STOP" LETTERING DETAIL

N.T.S.

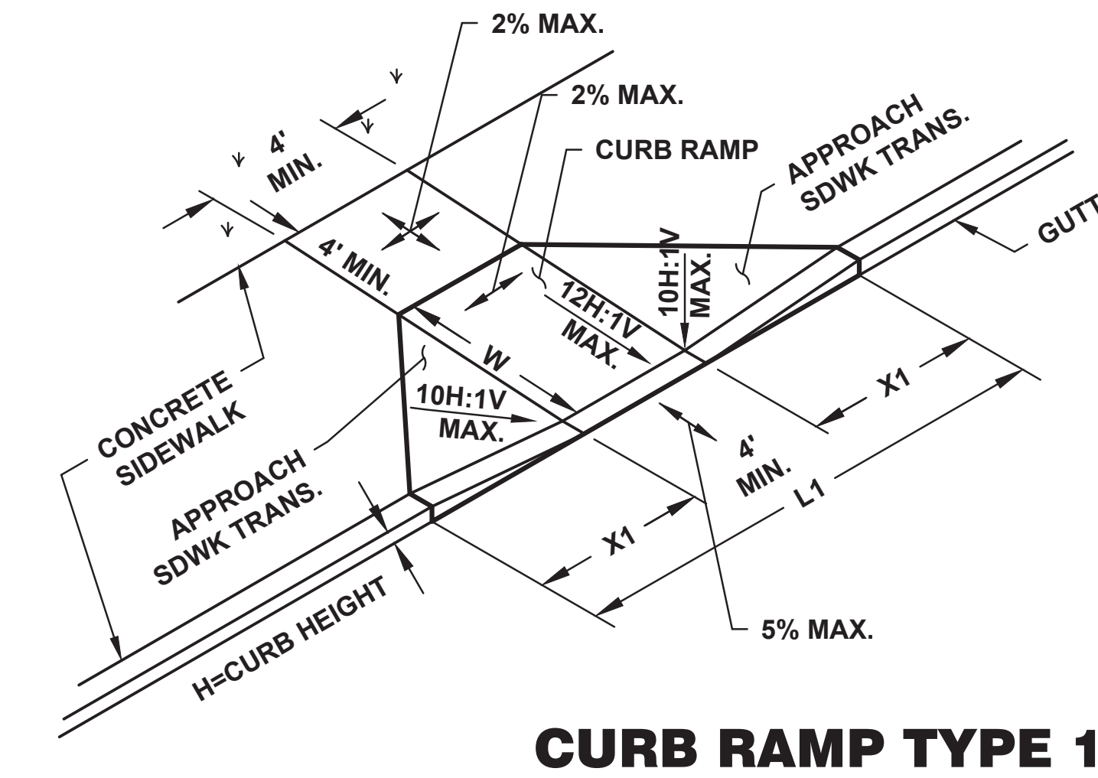


NOTES:
1. ALL CROSSWALK STRIPING SHALL BE WHITE.
2. CROSSWALK SHALL HAVE THE LINES PARALLEL TO THE DIRECTION OF TRAVEL LANE.

CROSSWALK LINESTRIPING

N.T.S.

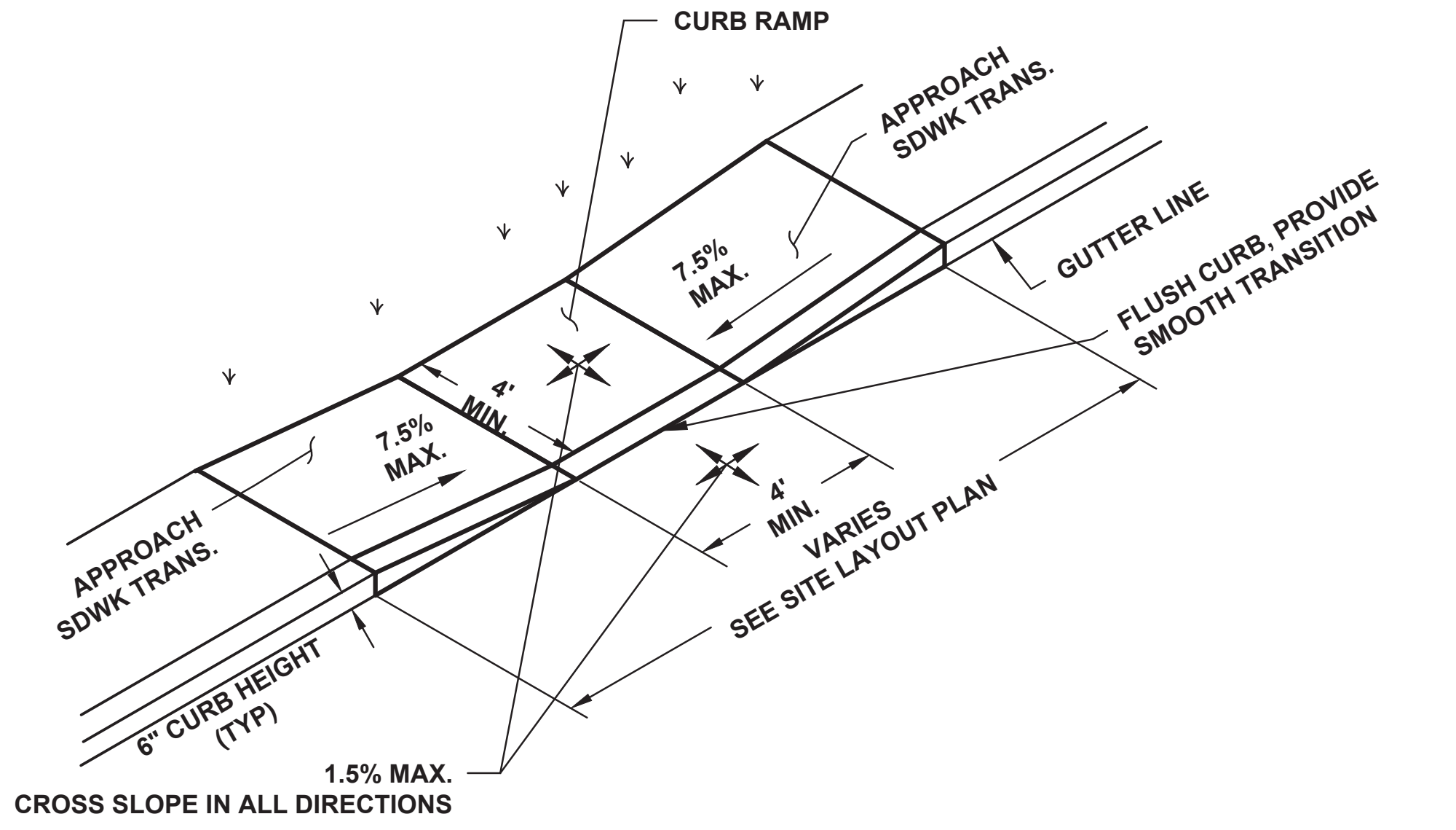
GENERAL PAVEMENT MARKING NOTES:
1. ALL PAVEMENT MARKINGS SHALL BE PLACED IN ACCORDANCE WITH MUTCD AND NYS SUPPLEMENT.
2. EDGE LINES SHALL BE YELLOW ON THE LEFT SIDE AND WHITE ON THE RIGHT SIDE IN THE DIRECTION OF TRAVEL UNLESS OTHERWISE SHOWN ON THE PLANS. IF THE CURB OFFSET IS LESS THAN 2'-0", NO EDGE LINE SHALL BE APPLIED ADJACENT TO CURBS UNLESS OTHERWISE SHOWN ON THE PLANS. EDGE LINES SHALL BE PROVIDED AT THE CURB ADJACENT TO ISLANDS.
3. WHERE MARKINGS NORMALLY FOLLOW A PAVEMENT JOINT, SINGLE LINE MARKINGS SHALL BE PLACED ALONG ONE SIDE OF THE JOINT.
4. ALL DIMENSIONS AND THE PLACEMENT OF ARROWS, SYMBOLS, AND TEXT SHOWN ARE TYPICAL AND SHALL APPLY UNLESS OTHERWISE INDICATED THE CONTRACT DOCUMENTS.
5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL SIGNS AND PAVEMENT MARKINGS.



DIMENSIONS			
H INCHES	X_1 FEET	L FEET	W FEET
3	2.5	9.0	3
4	3.3	10.6	4
5	4.2	12.4	5
6	5.0	14.0	6
7	5.8	15.6	7
8	6.7	17.4	8
9	7.5	19.0	9

CURB RAMP TYPE 1 CONFIGURATION

N.T.S.



NOTE:
1. AT ACCESSIBLE PARKING AREAS, FLUSH CURB PORTION TO EXTEND THE ENTIRE LENGTH IN FRONT OF ACCESSIBLE SPACES AND ACCESS AISLES.

CURB RAMP TYPE 9 CONFIGURATION

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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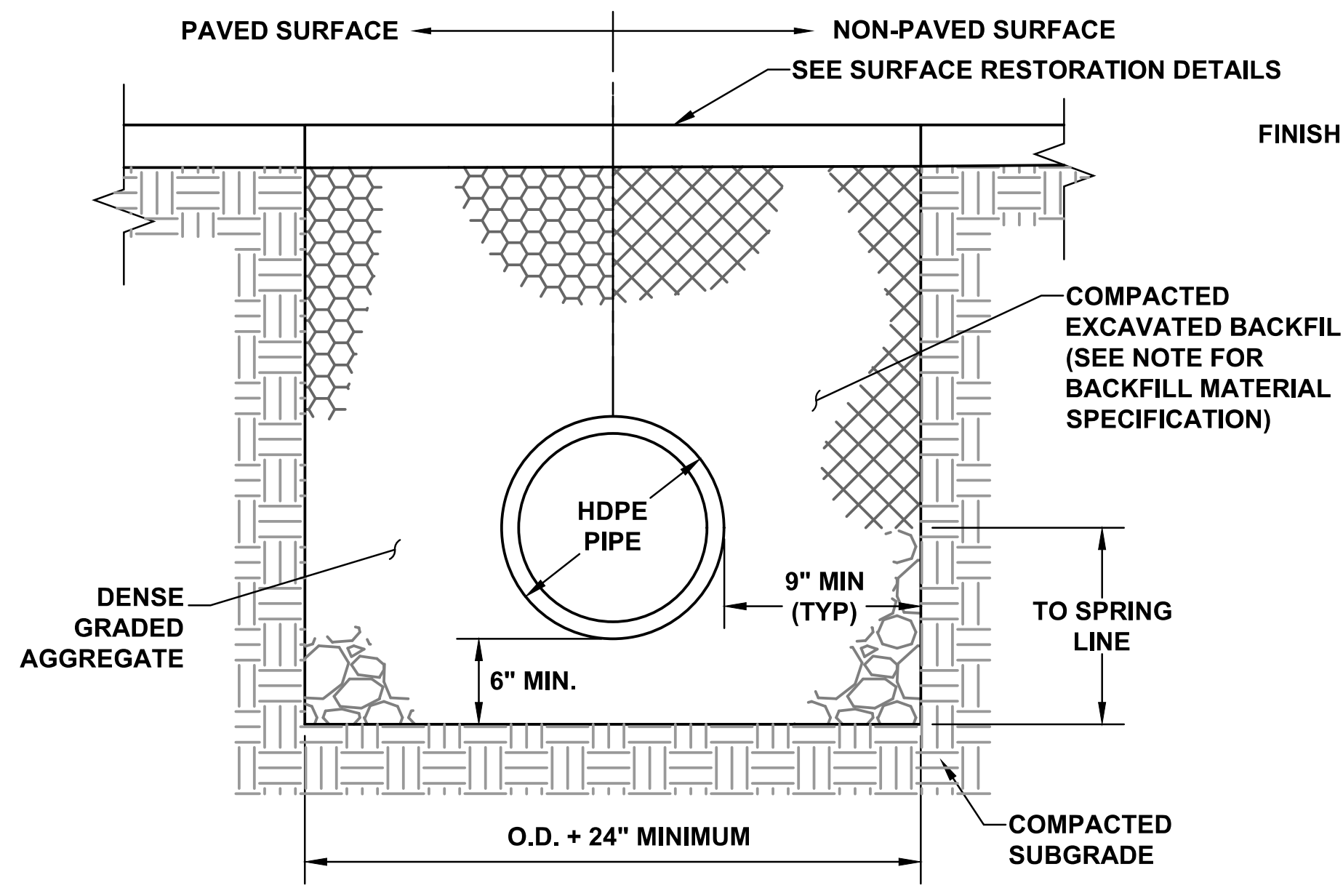
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CONSTRUCTION DETAIL II

PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 34 OF 47
REVISION -

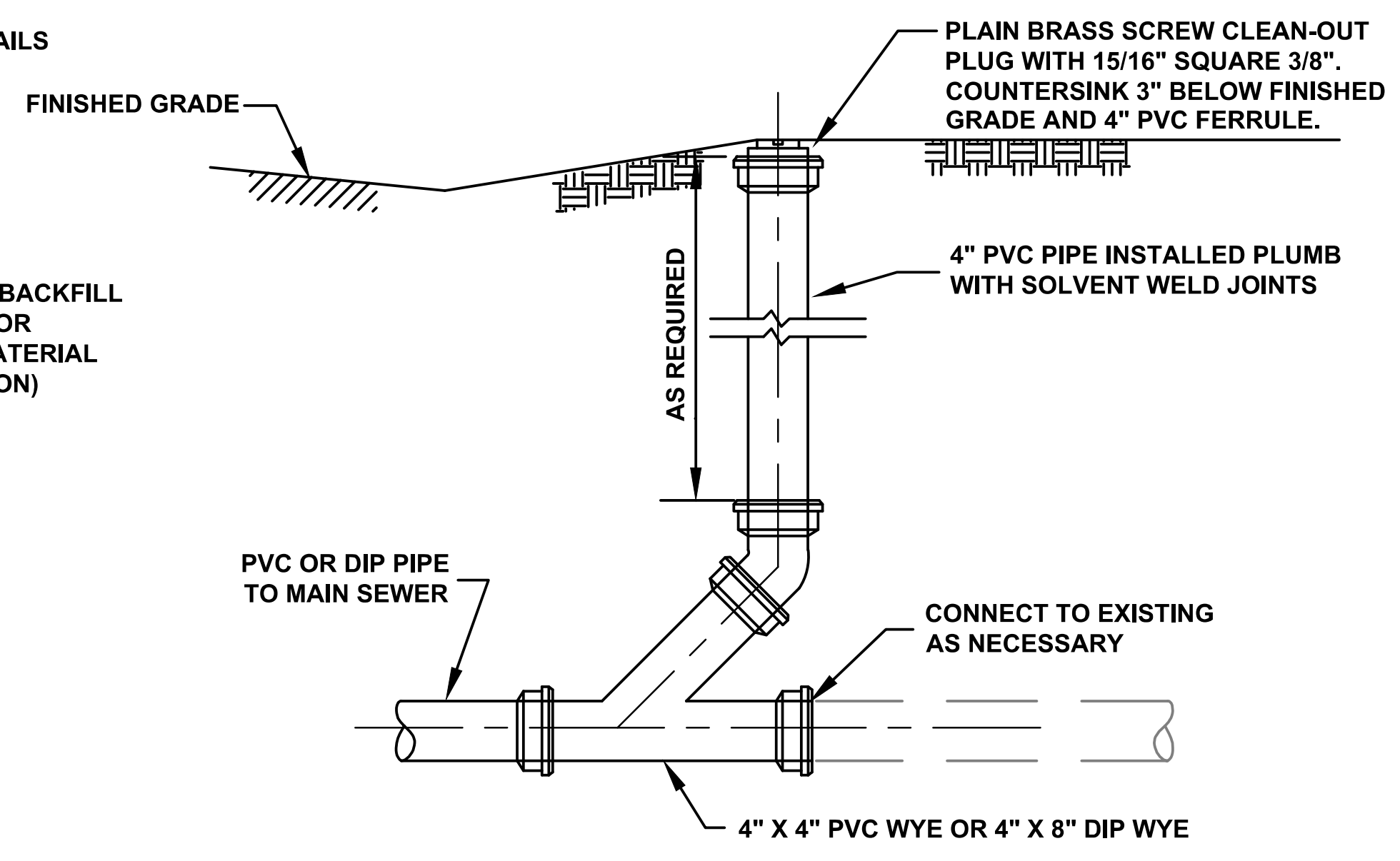


NOTE:
BACKFILL SPECIFICATION

1. SHALL BE FREE OF DEBRIS AND STONES 2" OR GREATER IN ANY DIMENSION.
2. SHALL BE PLACED IN 12" LIFTS AND COMPACTED TO 95% MAXIMUM DENSITY.

DRAINAGE PIPE TRENCH

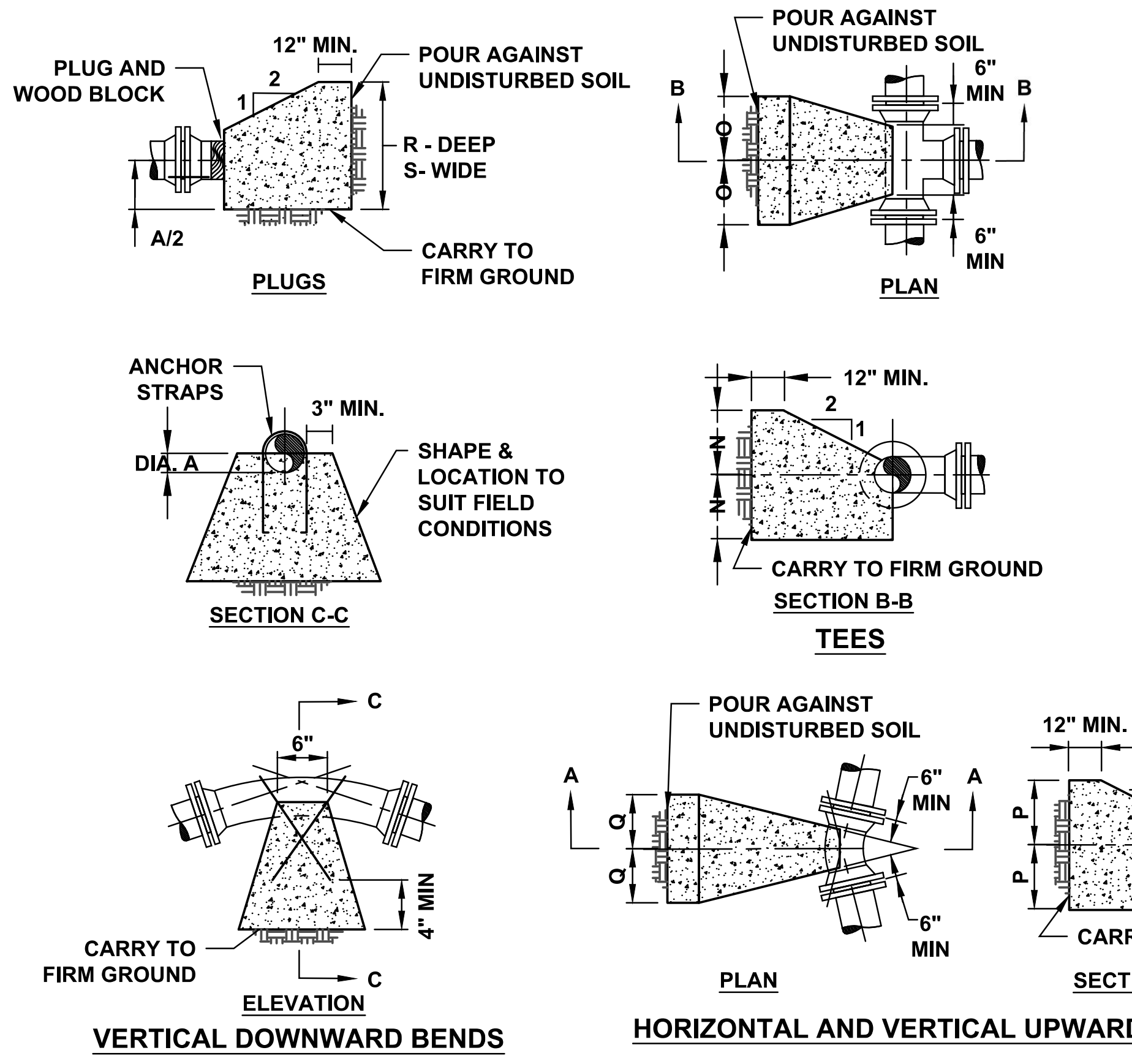
N.T.S.


PLAIN BRASS SCREW CLEAN-OUT PLUG WITH 15/16" SQUARE 3/8". COUNTERSINK 3" BELOW FINISHED GRADE AND 4" PVC FERRULE.
4" PVC PIPE INSTALLED PLUMB WITH SOLVENT WELD JOINTS
AS REQUIRED
PVC OR DIP PIPE TO MAIN SEWER
CONNECT TO EXISTING AS NECESSARY
4" X 4" PVC WYE OR 4" X 8" DIP WYE

PROFILE VIEW

TYPICAL DETAIL OF CLEANOUT

N.T.S.



ANCHOR SCHEDULE FOR VERTICAL DOWNWARD BENDS	
SIZE	STRAP SIZE
4"Ø	3" BAR
6"Ø	4" BAR
8"Ø	5" BAR
10"Ø	6" BAR
12"Ø	7" BAR
14"Ø	8" BAR
24"Ø	3" x 1/2" - FLAT

CONCRETE NOTE:

MIN. CONC. ANCHORAGE WITHOUT BACKFILL AND NO GROUND WATER CONDITION. THRUST BLOCKS DESIGNED FOR 150 LB. PER SQ. IN. TEST PRESSURE AND 2000 LB PER SQ. FT. SOIL PRESSURE.

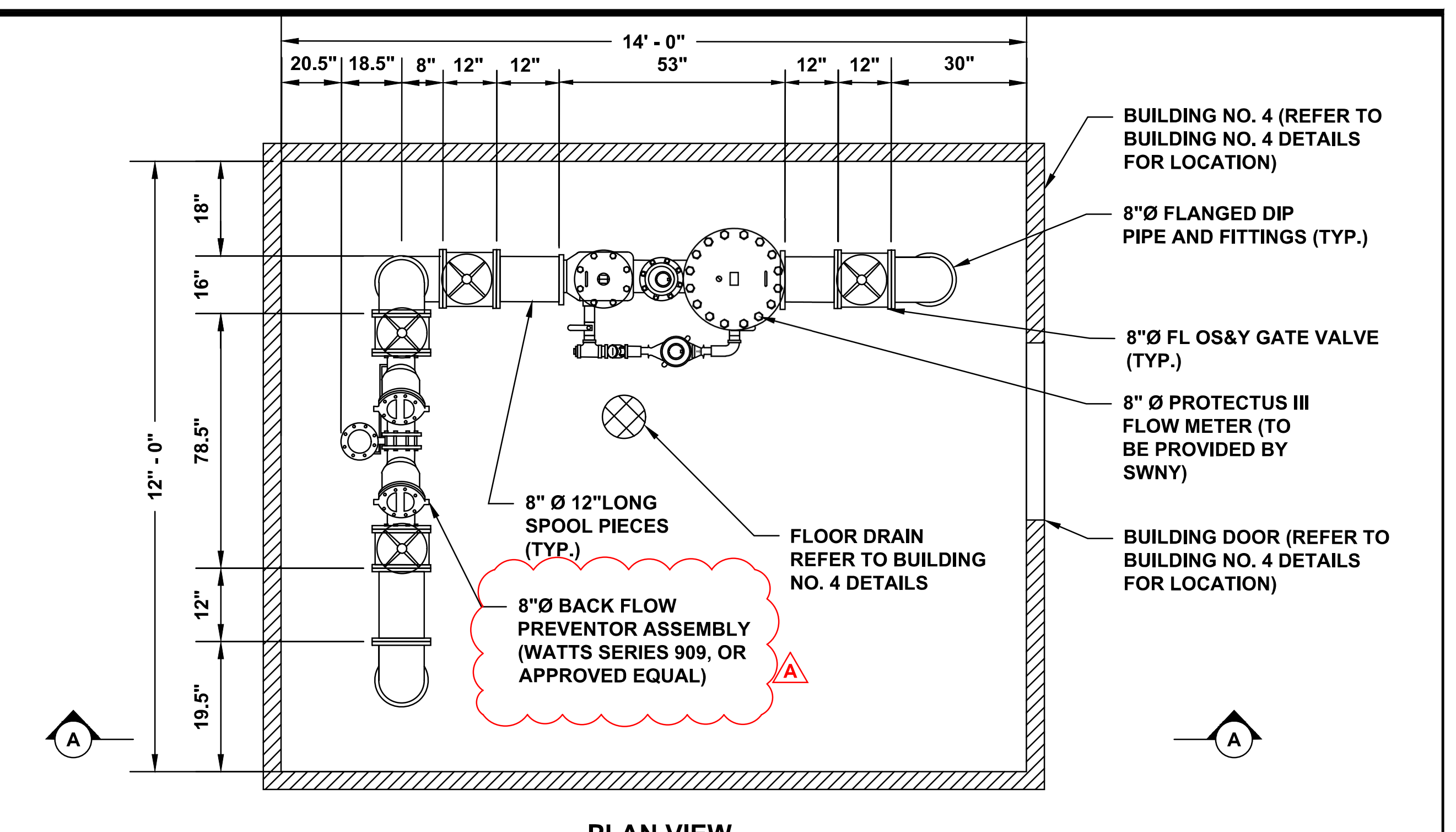
	THRUST BLOCKS FOR TEES, HORIZONTAL & VERTICAL BENDS AND PLUGS								
	DESCRIP.	DIMENSION	4"Ø	6"Ø	8"Ø	10"Ø	12"Ø	14"Ø	24"Ø
	TEES	N	0'-7"	0'-10"	1'-2"	1'-5"	1'-8"	1'-11"	3'-2"
		O	0'-7"	0'-10"	1'-2"	1'-5"	1'-8"	1'-11"	3'-2"
UPWARD HORIZ. & VERT.	90° BENDS	P	0'-9"	1'-0"	1'-4"	1'-8"	1'-11"	2'-3"	3'-9"
		Q	0'-9"	1'-0"	1'-4"	1'-8"	1'-11"	2'-3"	3'-9"
	45° BENDS	P	0'-7"	0'-9"	1'-0"	1'-3"	1'-5"	1'-8"	2'-9"
		Q	0'-7"	0'-9"	1'-0"	1'-3"	1'-5"	1'-8"	2'-9"
	22 1/2° BENDS	P	0'-5"	0'-7"	0'-9"	0'-11"	1'-0"	1'-2"	2'-0"
		Q	0'-5"	0'-7"	0'-9"	0'-11"	1'-0"	1'-2"	2'-0"
	11 1/4° BENDS	P	0'-4"	0'-5"	0'-6"	0'-8"	0'-9"	0'-10"	1'-5"
		Q	0'-4"	0'-5"	0'-6"	0'-8"	0'-9"	0'-10"	1'-5"
VERTICAL DOWNWARD	45° BENDS	MIN. CONC* ANCHORAGE	0.6 CY	1.1 CY	1.9 CY	2.8 CY	3.9 CY	5.2 CY	14.9 CY
	22 1/2° BENDS	MIN. CONC* ANCHORAGE	0.3 CY	0.6 CY	1.0 CY	1.4 CY	2.0 CY	2.7 CY	7.6 CY
	11 1/4° BENDS	MIN. CONC* ANCHORAGE	0.2 CY	0.3 CY	0.5 CY	0.7 CY	1.0 CY	1.4 CY	3.8 CY
	PLUGS	R	1'-2"	1'-8"	2'-4"	2'-10"	3'-4"	3'-10"	6'-4"
		S	1'-2"	1'-8"	2'-4"	2'-10"	3'-4"	3'-10"	6'-4"

GENERAL NOTE:

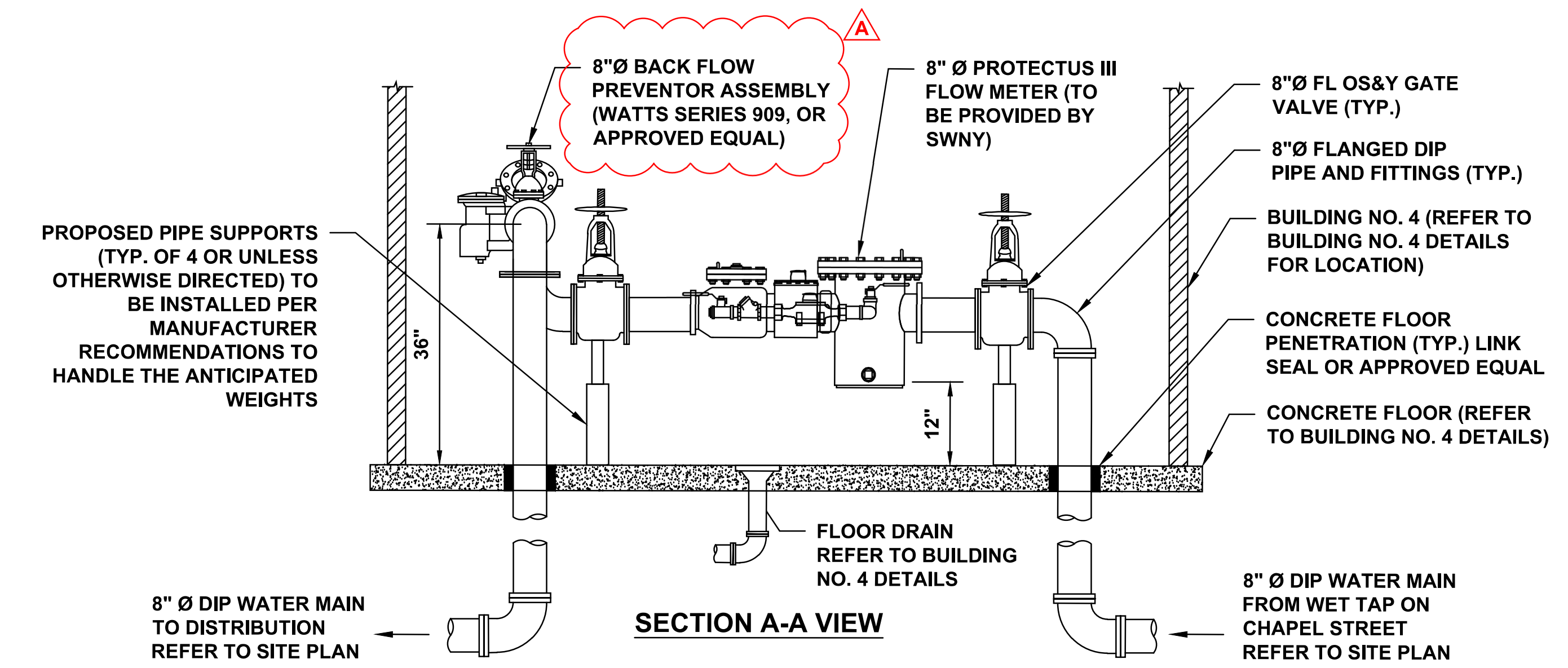
1. CONTRACTOR MUST CONFORM WITH APPLICABLE AGENCIES STANDARDS FOR THRUST BLOCKS REQUIREMENT.
2. CONTRACTOR SHALL CONFIRM THE USE OF THRUST BLOCKS ON ALL FITTINGS ON THE WATER MAIN AND SANITARY SEWER FORCE MAIN.

THRUST BLOCKS

N.T.S.


14' - 0"
20.5"
18.5"
8"
12"
12"
53"
12"
12"
30"
18"
16"
12' - 0"
78.5"
12"
19.5"
8" Ø 12"LONG SPOOL PIECES (TYP.)
8"Ø BACK FLOW PREVENTOR ASSEMBLY (WATTS SERIES 909, OR APPROVED EQUAL)
FLOOR DRAIN REFER TO BUILDING NO. 4 DETAILS
BUILDING NO. 4 (REFER TO BUILDING NO. 4 DETAILS FOR LOCATION)
8"Ø FLANGED DIP PIPE AND FITTINGS (TYP.)
8"Ø FL OS&Y GATE VALVE (TYP.)
8" Ø PROTECTUS III FLOW METER (TO BE PROVIDED BY SWNY)
BUILDING DOOR (REFER TO BUILDING NO. 4 DETAILS FOR LOCATION)
A

PLAN VIEW


8"Ø BACK FLOW PREVENTOR ASSEMBLY (WATTS SERIES 909, OR APPROVED EQUAL)
8" Ø PROTECTUS III FLOW METER (TO BE PROVIDED BY SWNY)
8"Ø FL OS&Y GATE VALVE (TYP.)
8"Ø FLANGED DIP PIPE AND FITTINGS (TYP.)
BUILDING NO. 4 (REFER TO BUILDING NO. 4 DETAILS FOR LOCATION)
CONCRETE FLOOR PENETRATION (TYP.) LINK SEAL OR APPROVED EQUAL
CONCRETE FLOOR (REFER TO BUILDING NO. 4 DETAILS)
PROPOSED PIPE SUPPORTS (TYP. OF 4 OR UNLESS OTHERWISE DIRECTED) TO BE INSTALLED PER MANUFACTURER RECOMMENDATIONS TO HANDLE THE ANTICIPATED WEIGHTS
36"
12"
FLOOR DRAIN REFER TO BUILDING NO. 4 DETAILS
8" Ø DIP WATER MAIN TO DISTRIBUTION REFER TO SITE PLAN
8" Ø DIP WATER MAIN FROM WET TAP ON CHAPEL STREET REFER TO SITE PLAN

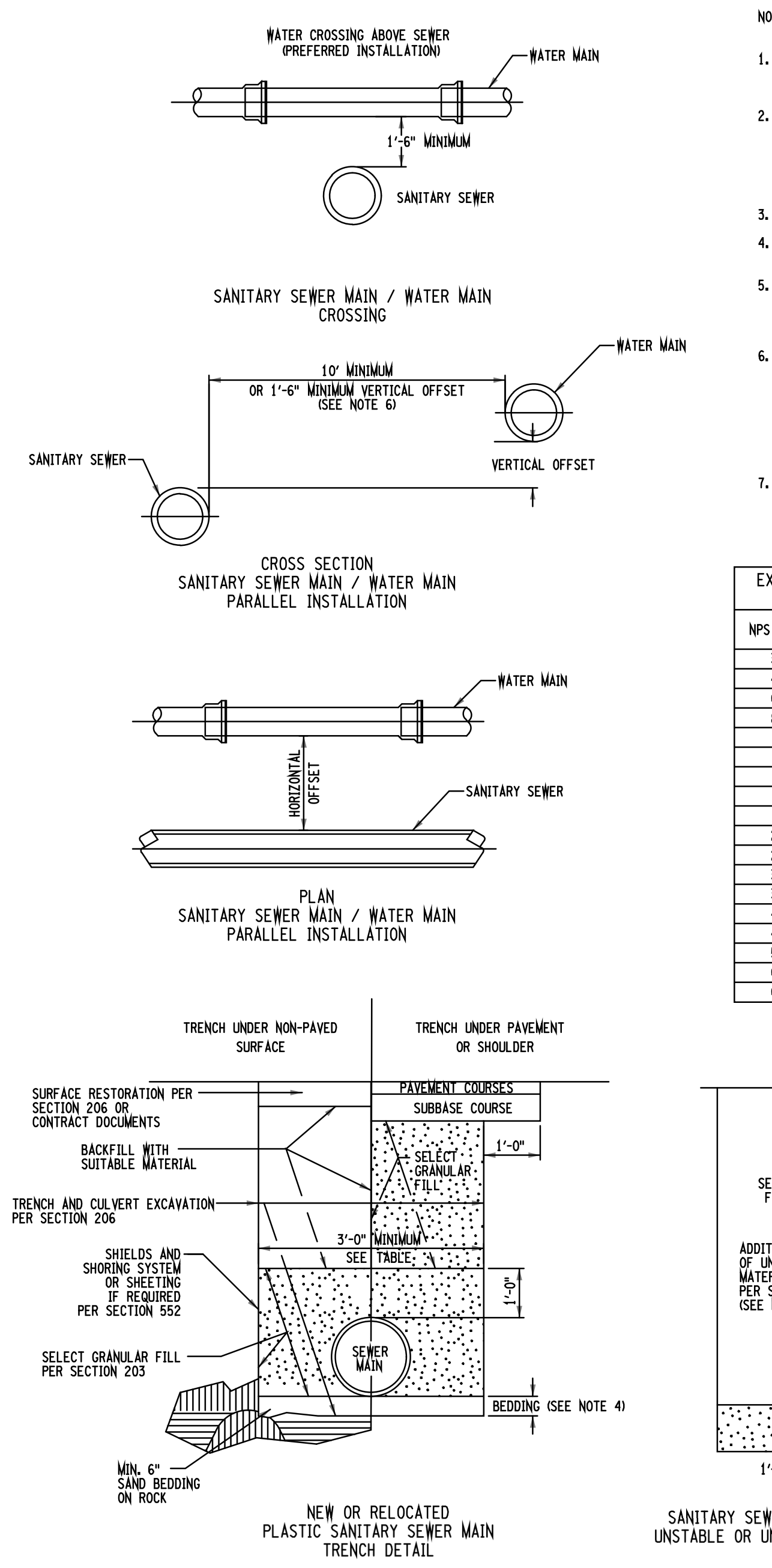
SECTION A-A VIEW

NOTES:

1. THE WATER METER SHALL BE FURNISHED, INSTALLED, AND OWNED BY SUEZ, METER FLANGES SHALL BE SUPPLIED BY SUEZ AND PAID FOR AND INSTALLED BY THE CONTRACTOR. ALL OTHER ITEMS SHALL BE SUPPLIED BY THE CONTRACTOR.
2. THE REQUIREMENT TO INSTALL AN APPROVED BACKFLOW PREVENTER SHALL BE DETERMINED BY SUEZ.
3. ALL METERING ELEMENTS AND APPURTENANCES SHALL BE INSTALLED HORIZONTALLY.
4. FLOOR DRAINS RECOMMENDED TO CAPTURE RELEIF VALVE DISCHARGE.

BUILDING NO. 4 WATER METER (8" DIAMETER SERVICE, INSIDE BUILDING)

N.T.S.


WATER CROSSING ABOVE SEWER (PREFERRED INSTALLATION)
WATER MAIN
1'-6" MINIMUM
SANITARY SEWER
SANITARY SEWER MAIN / WATER MAIN CROSSING
WATER MAIN
10' MINIMUM OR 1'-6" MINIMUM VERTICAL OFFSET (SEE NOTE 6)
SANITARY SEWER
VERTICAL OFFSET
CROSS SECTION SANITARY SEWER MAIN / WATER MAIN PARALLEL INSTALLATION
WATER MAIN
HORIZONTAL OFFSET
SANITARY SEWER
PLAN SANITARY SEWER MAIN / WATER MAIN PARALLEL INSTALLATION
TRENCH UNDER NON-PAVED SURFACE
TRENCH UNDER PAVEMENT OR SHOULDER
SURFACE RESTORATION PER SECTION 206 OR CONTRACT DOCUMENTS
PAVEMENT COURSES
SUBBASE COURSE
BACKFILL WITH SUITABLE MATERIAL
SELECT GRANULAR FILL
TRENCH AND CULVERT EXCAVATION PER SECTION 206
SHIELDS AND SHORING SYSTEM OR SHEETING IF REQUIRED PER SECTION 552
SEWER MAIN
SELECT GRANULAR FILL PER SECTION 203
BEDDING (SEE NOTE 4)
MIN. 6" SAND BEDDING ON ROCK
NEW OR RELOCATED PLASTIC SANITARY SEWER MAIN TRENCH DETAIL
SEE TRENCH DETAILS FOR REMAINDER OF INSTALLATION
ADDITIONAL EXCAVATION OF UNSUITABLE/UNSTABLE MATERIAL PER SECTION 206 (SEE NOTE 5)
ADDITIONAL SELECT GRANULAR FILL PER SECTION 203
1'-0" MINIMUM
SANITARY SEWER MAIN INSTALLATION IN UNSTABLE OR UNSUITABLE SOIL CONDITIONS

NOTES:

1. SEE SPECIAL NOTES ENTITLED "OWNER REQUIREMENTS FOR SEWER MAINS AND APPURTENANCES" FOR INFORMATION ON ADDITIONAL REQUIREMENTS. REQUIREMENTS ARE CONSISTENT WITH "10 STATE STANDARDS" AS PUBLISHED BY HEALTH EDUCATION SERVICES.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ELEVATIONS OF EXISTING UTILITIES TO ENSURE ADEQUATE CLEARANCE FOR THE SEWER LINE EXISTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER (IN WRITING) OF CONFLICTING ELEVATIONS, ALLOWING THE ENGINEER ADEQUATE TIME TO REVISE GRADES WITHOUT NECESSITATING REMOVAL AND RECONSTRUCTION OF WORK ALREADY COMPLETED BY THE CONTRACTOR.
3. THE TOP PAYMENT LINE FOR TRENCH EXCAVATION SHALL BE PER SECTION 206.
4. BEDDING BELOW THE PIPE INVERT SHALL BE REQUIRED ONLY WHEN NOTED IN THE OWNER REQUIREMENTS OR WHEN ROCK OR UNSTABLE OR UNSUITABLE CONDITIONS ARE ENCOUNTERED.
5. IF UNSTABLE OR UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED NEAR THE INVERT ELEVATION, A MINIMUM OF 1' AND A MAXIMUM OF 2' OF MATERIAL SHALL BE EXCAVATED AND REPLACED WITH SELECT GRANULAR FILL. ADDITIONAL PAYMENT WILL BE MADE FOR MATERIAL PLACED TO TREAT UNSTABLE OR UNSUITABLE CONDITIONS.
6. NEW SANITARY SEWER MAINS INSTALLED PARALLEL TO WATER MAINS SHALL HAVE A MINIMUM OF 10' HORIZONTAL SEPARATION (MEASURED EDGE OF PIPE TO EDGE OF PIPE OR EDGE OF STRUCTURE) WHENEVER POSSIBLE. WHEN 10' HORIZONTAL SEPARATION CANNOT BE MAINTAINED A VERTICAL SEPARATION OF AT LEAST 1'-6" BETWEEN BOTTOM OF WATER MAIN AND TOP OF SANITARY SEWER PIPE SHALL BE MAINTAINED. IF NEITHER SEPARATION CAN BE MAINTAINED, THE SANITARY SEWER MAIN AND WATER PIPE SHALL BE CONSTRUCTED AS SHOWN ON THE CONTRACT DOCUMENTS AS APPROVED BY THE APPROPRIATE HEALTH AGENCY.
7. BACKFILL SHALL BE INSTALLED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 203.

EXCAVATION PAYMENT WIDTHS	
NPS SIZE	TRENCH WIDTH
3	3'-0"
4	3'-0"
6	3'-0"
8	3'-6"
10	4'-0"
12	4'-0"
14	4'-0"
16	4'-0"
18	4'-0"
20	4'-0"
24	4'-0"
30	4'-6"
36	5'-0"
42	5'-6"
48	6'-0"
54	6'-6"
60	7'-0"
64	7'-6"

SANITARY SEWER MAIN PIPE INSTALLATION DETAILS (NYSDOT)

N.T.S.

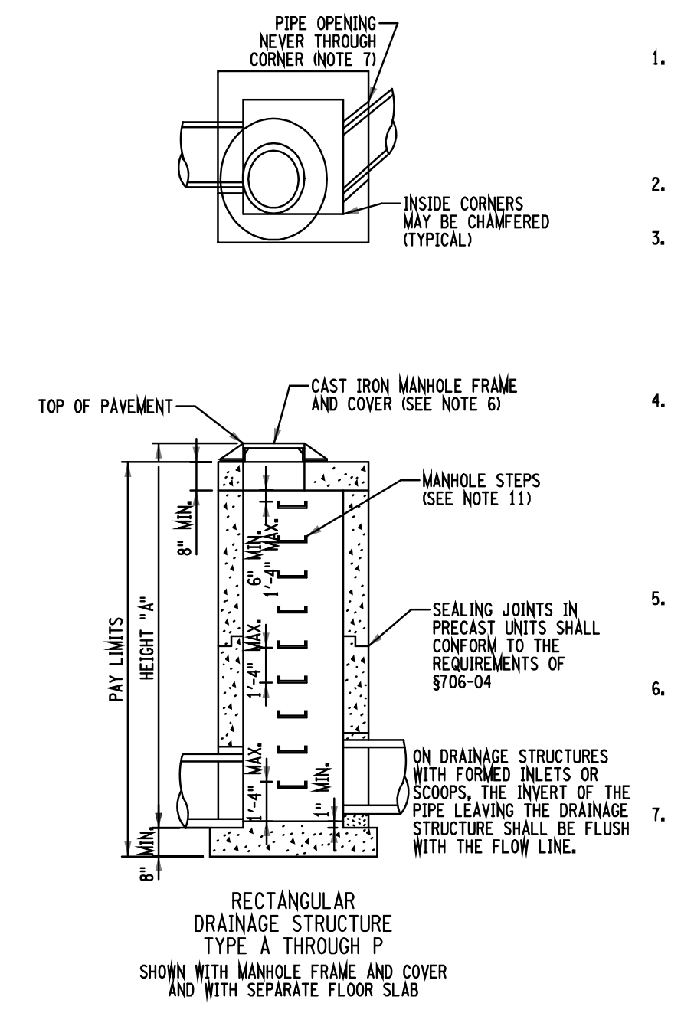
SELECTION TABLES FOR ALTERNATE ROUND DRAINAGE STRUCTURES						
CONCRETE OR POLYETHYLENE PIPES		STRUCTURE INTERNAL DIAMETER 48"	60"	72"	84"	96"
RCP H.E. RISE X SPAN	ROUND INTERNAL DIAMETER	MINIMUM ANGLE BETWEEN PIPE ENTRIES (NOTE 5)				
	12"	84	63	50	41	35
	15"	94	70	56	46	39
	18"	104	78	62	51	43
	21"	115	85	68	56	48
	24"	127	93	74	61	52
	27"	141	102	81	67	57
	30"	157	111	87	72	61
19" X 30"		157	112	88	73	62
	34"		121	95	78	66
22" X 34"			125	97	80	68
	36"		133	102	84	71
24" X 38"			140	106	87	74
27" X 42"			156	115	94	79
	42"		164	119	96	81
29" X 45"				130	104	87
	48"			140	110	92
32" X 49"				145	113	94
34" X 53"				166	123	101
	54"			175	126	104
	60"				147	117

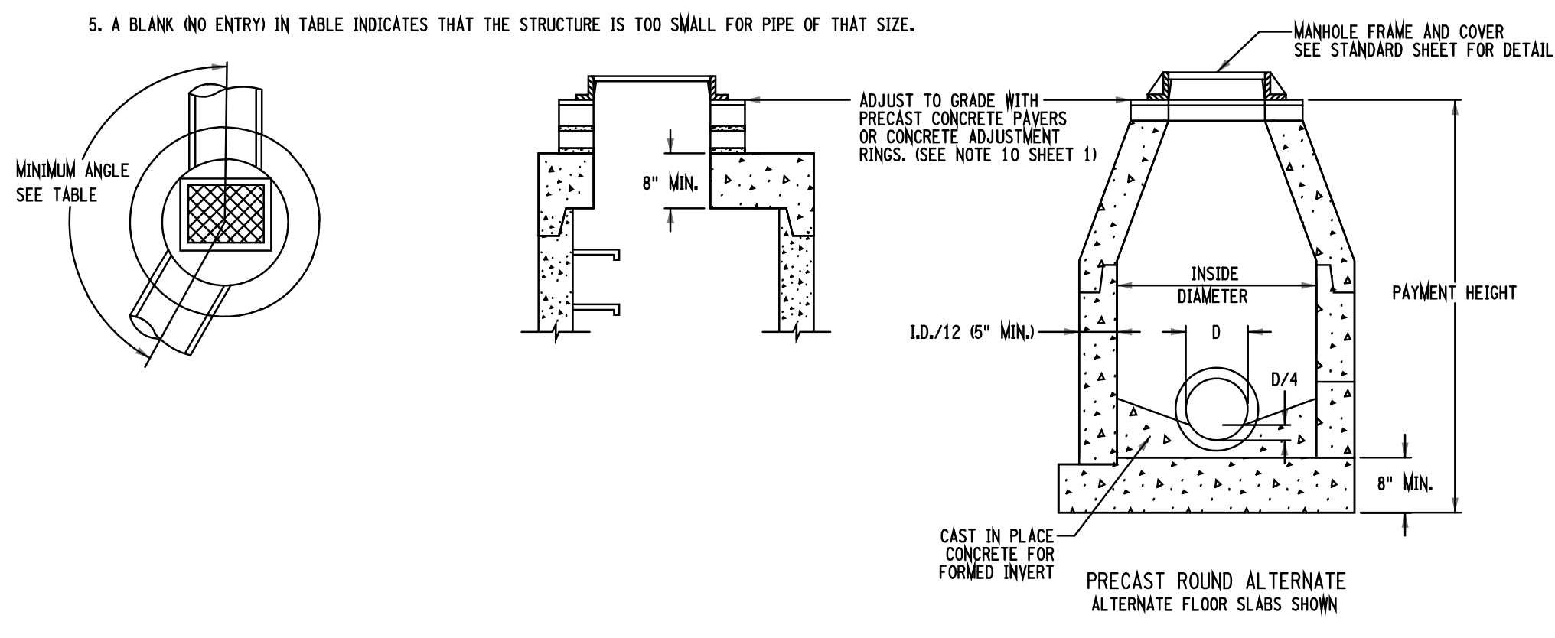
DRAINAGE STRUCTURE REINFORCEMENT		
HEIGHT "A"	WALL THICKNESS	RISER REINFORCEMENT (SEE NOTE 3 AND 15)
UP TO 7'-0"	6"	6"X6"- W6 X W6 OR #3 BARS AT 10" BOTH HORIZ. AND VERT.
	8"	UNREINFORCED
7'-0" TO 14'-0"	8"	6"X6"- W8.5 X W8.5 OR #3 BARS AT 8" BOTH HORIZ. AND VERT.
14'-0" TO 21'-0"	8"	4"X4"- W8.5 X W8.5 OR #3 BARS AT 5" BOTH HORIZ. AND VERT.
		FLOOR SLAB REINFORCEMENT (SEE NOTE 3)
UP TO 7'-0"		6"X6"- W11 X W11 OR #3 BARS AT 6" IN BOTH DIRECTIONS
7'-0" TO 14'-0"		4"X4"- W11 X W11 OR #3 BARS AT 4" IN BOTH DIRECTIONS
14'-0" TO 21'-0"		4"X4"- W14 X W14 OR #3 BARS AT 3" IN BOTH DIRECTIONS

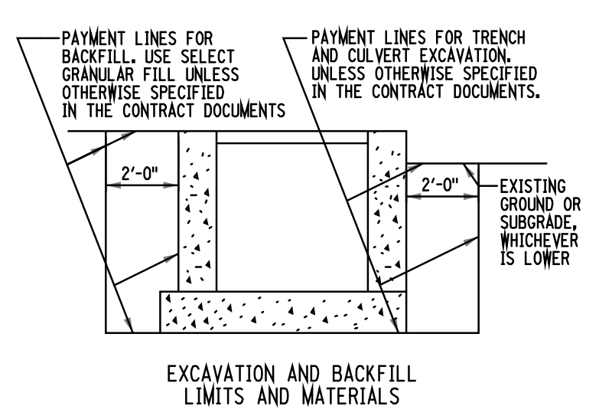
*T MAY BE 6" OR 8" FOR THE FIRST 7'-0". EXCEPTIONS ARE SIZE S, T, AND U WITH CURB, RECTANGULAR STRUCTURES WITH ROUND MANHOLE OPENING, OR IF THERE IS LESS THAN 2" ON EITHER SIDE OF A CORNER. (NOTE 7) WHICH MUST HAVE 8" THICK WALLS.

NOTES:

1. THE DIAMETER OF THE ALTERNATE ROUND UNIT SHALL NOT BE LESS THAN THE LARGER DIMENSION OF THE SPECIFIED RECTANGULAR UNIT IT REPLACES. IT SHALL ALSO BE LARGE ENOUGH TO HAVE THE SPECIFIED GRATE FIT WITHIN THE INSIDE DIAMETER OF THE ROUND ALTERNATE.
2. THE ABOVE VALUES ARE BASED ON THE CENTERLINE OF ALL PIPES INTERSECTING AT THE CENTER OF THE ROUND ALTERNATE.
3. THE ANGLE BETWEEN ADJACENT PIPE ENTRIES SHALL NOT BE LESS THAN THE MINIMUM SHOWN IN THE TABLE ABOVE. WHEN THE ADJACENT PIPES HAVE DIFFERENT SIZES, THE MINIMUM ANGLE SHALL BE THE VALUE FOR THE LARGER OF THE TWO PIPES.
4. THE SUM OF THE MINIMUM ANGLES BETWEEN PIPES AT THE SAME LEVEL SHALL NOT BE MORE THAN 360 DEGREES. THEY SHALL BE REGARDED AS BEING AT THE SAME LEVEL IF THEIR RISES OVERLAP.
5. A BLANK (NO ENTRY) IN TABLE INDICATES THAT THE STRUCTURE IS TOO SMALL FOR PIPE OF THAT SIZE.


PIPE OPENING NEVER THROUGH CORNER (NOTE 7)
INSIDE CORNERS MAY BE CHAMFERED (TYPICAL)
TOP OF PAVEMENT
CAST IRON MANHOLE FRAME AND COVER (SEE NOTE 6)
MANHOLE STEPS (SEE NOTE 11)
SEALING JOINTS IN PRECAST UNITS SHALL CONFORM TO THE REQUIREMENTS OF §706-04
PAY LIMITS
HEIGHT "A"
ON DRAINAGE STRUCTURES WITH FORMED INLETS OR SCOOPS, THE INVERT OF THE PIPE LEAVING THE DRAINAGE STRUCTURE SHALL BE FLUSH WITH THE FLOW LINE.
RECTANGULAR DRAINAGE STRUCTURE TYPE A THROUGH Y
SHOWN WITH MANHOLE FRAME AND COVER AND WITH SEPARATE FLOOR SLAB


MANHOLE FRAME AND COVER SEE STANDARD SHEET FOR DETAILS
MINIMUM ANGLE SEE TABLE
ADJUST TO GRADE WITH PRECAST CONCRETE PAVERS AND CONCRETE ADJUSTING RINGS. (SEE NOTE 10 SHEET 1)
INSIDE DIAMETER
PAYMENT HEIGHT
12"/12' (6" MIN.)
D/4
8" MIN.
CAST IN PLACE CONCRETE FOR FORMED INVERT
PRECAST ROUND ALTERNATE
ALTERNATE FLOOR SLABS SHOWN


PAYMENT LINES FOR BACKFILL, USE SELECT GRANULAR FILL UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS
PAYMENT LINES FOR TRENCH AND CULVERT EXCAVATION, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
2'-0"
EXISTING GROUND OR SUBGRADE, WHICHEVER IS LOWER
EXCAVATION AND BACKFILL LIMITS AND MATERIALS

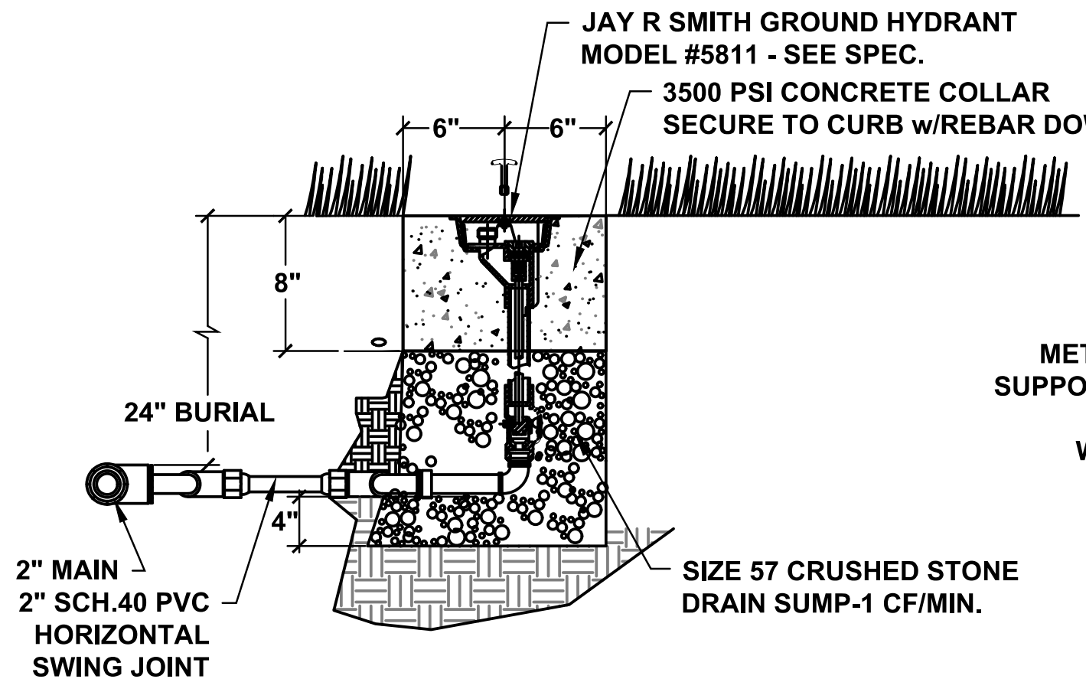
PRECAST ROUND MANHOLES			
ITEM	TYPE	CIRCUMFERENTIAL STEEL - SQUARE INCHES PER VERTICAL FOOT	INSIDE DIAMETER
604.4048	48	0.12	48
604.4060	60	0.15	60
604.4072	72	0.18	72
604.4084	84	0.21	84
604.4096	96	0.24	96

GENERAL NOTES:

1. DRAINAGE STRUCTURES SHALL BE CAST IN PLACE OR PRECAST UNITS. ROUND DRAINAGE STRUCTURES SHALL BE PRECAST ONLY. ALL CAST IN PLACE CONCRETE SHALL BE CLASS A. THE CONTRACTORS SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF ANY CHANGES TO THE STRUCTURES SHOWN ON THE STANDARD SHEETS OR CONTACT PLANS, OTHER THAN MINOR CHANGES APPROVED BY THE ENGINEER. USE OF FLAT SLAB TOPS ON ROUND PRECAST UNITS SHALL REQUIRE SUBMISSION OF WORKING DRAWINGS.
2. SEE PLANS FOR ELEVATIONS, DRAINAGE STRUCTURE LOCATIONS, TYPE OF GRATE UTILIZED, LOCATION OF SCOOPS, FORMED INVERTS, SUMPS AND DRAINS.
3. REINFORCEMENT FOR RECTANGULAR DRAINAGE UNITS (CAST IN PLACE OR PRECAST) BAR REINFORCEMENT INDICATED FOR RECTANGULAR TOP SLABS, RISERS AND BASES SHALL BE GRADE 60. WIRE FABRIC FOR CONCRETE REINFORCEMENT SHALL MEET THE REQUIREMENTS OF §709-02. RISER REINFORCEMENT SHALL BE PLACED SO IT WILL HAVE A MINIMUM COVER OF 2" BUT NO MORE THAN 4" FROM THE INSIDE FACE. THE REINFORCEMENT SHALL EXTEND COMPLETELY AROUND THE DRAINAGE STRUCTURE RISER AND SHALL BE LAPPED AND TIED. BASE REINFORCEMENT SHALL BE PLACED ABOVE THE MIDPOINT OF SLAB AND SHALL HAVE A MINIMUM CONCRETE COVER OF 2".
4. ROUND ALTERNATIVE:
WHEN SPECIFIED BY PAYMENT ITEM, THE CONTRACTOR MAY SUBSTITUTE ROUND, PRECAST DRAINAGE STRUCTURES IN PLACE OF RECTANGULAR STRUCTURES USING SIZES INDICATED IN THE "SELECTION TABLE FOR ALTERNATE ROUND DRAINAGE STRUCTURES" ON SHEET 4 OF 4. THE RISER, TOP SLAB, AND BOTTOM SLAB FOR THE ROUND ALTERNATE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE PROVISIONS OF §706-04 OF THE STANDARD SPECIFICATIONS. WORKING DRAWINGS FOR THE ROUND ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL, UNLESS THE ROUND ALTERNATE PROPOSED HAS BEEN PREVIOUSLY APPROVED. FOR PREVIOUSLY APPROVED ROUND UNITS THE CONTRACTOR SHALL SUBMIT A COPY OF THE APPROVED DRAWINGS TO THE ENGINEER.
5. FORMED INVERTS:
FORMED INVERTS, SCOOP AND SUMPS SHALL BE PROVIDED AND INCLUDED IN THE PRICES BID FOR DRAINAGE STRUCTURES CALLED FOR IN THE CONTRACT DOCUMENTS. WHEN NON-CIRCULAR PIPES ARE USED, THE FORMED INVERT AND SUMP DETAILS SHALL BE MODIFIED TO FIT THE INVERTS.
6. GRATES:
CAST FRAMES MAY HAVE EITHER RETICULINE OR PARALLEL BAR GRATES, AND WELDED FRAMES MAY HAVE EITHER RETICULINE OR RECTANGULAR GRATES. IF NO GRATE IS SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR MAY FURNISH EITHER TYPE. GRATES SHALL BE INSTALLED SO THAT THE LENGTH OF THE GRATE IS PARALLEL TO THE SURFACE FLOW.
7. WALL OPENINGS:
RECTANGULAR DRAINAGE STRUCTURES SHOWN ON THESE STANDARD SHEETS SHOULD NEVER HAVE CORNER PIPE ENTRIES. IF PIPE ALIGNMENT WOULD REQUIRE A CORNER ENTRY, USE A ROUND DRAINAGE STRUCTURE OR USE A SPECIAL DRAINAGE STRUCTURE. ALL WALL OPENINGS SHALL BE FORMED COMPLETELY THROUGH THE WALL SECTION. CIRCULAR WALL OPENINGS SHALL BE FORMED FOR EACH CIRCULAR PIPE ENTERING PERPENDICULAR TO THE WALL. WHEN NON-CIRCULAR PIPES ARE SPECIFIED, OR ROUND PIPE ENTRIES ARE SKEWED, RECTANGULAR OPENINGS MAY BE USED. THE CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE OPENING SHALL BE AT LEAST 2" BUT NO MORE THAN 3". THIS CLEARANCE SHALL BE MEASURED BETWEEN THE OUTSIDE OF THE PIPE AND NEAREST POINT ON THE RECTANGULAR OPENING. IF A CORNER HAS PIPE ENTRIES ON BOTH SIDES, AND THERE IS LESS THAN 2" BETWEEN EITHER OPENING AND THE CORNER. THEN THAT SECTION OF THE DRAINAGE STRUCTURE MUST HAVE 8" THICK WALLS.
8. MONOLITHIC AND INTEGRAL BASES MAY HAVE A MAXIMUM VERTICAL DRAFT OF 1/2" ON ALL INTERIOR DIMENSIONS, TO FACILITATE FORM REMOVAL. FOR WALL OPENINGS THAT EXTEND THE FULL WIDTH OR LENGTH OF THE STRUCTURE, THE MINIMUM CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE WALL OPENING SHALL BE 1 1/2".
9. FINISHING PIPE ENTRIES:
THE BELLS OF CONCRETE PIPE SHALL BE CUT OFF AT EVERY PIPE ENTRY WHERE THE BELL ENTERS A STRUCTURE. CONNECTIONS BETWEEN THE STRUCTURE AND PIPE SHALL BE MADE BY EITHER USING A RESILIENT CONNECTOR MEETING THE REQUIREMENTS OF ASTM C1478 OR BY COMPLETELY FILLING THE SPACE AROUND EACH PIPE WITH CONCRETE GROUTING MATERIAL OR CONCRETE REPAIR MATERIAL. IN CASE OF LARGE SPACES AROUND PIPES, CONCRETE PAVERS, COMPLETELY BEDDED IN GROUT OR CONCRETE REPAIR MATERIAL, MAY BE USED.
10. TOP SLAB AND OR FRAME AND GRATE ADJUSTMENT
A MINIMUM OF 1/2" OF BEDDING SHALL BE PLACED BETWEEN RISERS AND PRECAST TOP SLABS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 2 1/2" SHALL BE MADE WITH BEDDING MATERIAL MEETING THE REQUIREMENTS OF CONCRETE GROUTING MATERIALS OR CONCRETE REPAIR MATERIAL. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 6" SHALL BE MADE WITH A COMBINATION OF PRECAST CONCRETE PAVERS AND BEDDING MATERIALS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 1'-0" SHALL BE MADE WITH CAST-IN-PLACE CONCRETE OR A COMBINATION OF PRECAST CONCRETE ADJUSTMENT ELEMENTS AND BEDDING MATERIALS. ALTERNATELY, GRADE ADJUSTMENTS FOR FRAMES AND GRATES OF UP TO 2" MAY BE MADE WITH RECYCLED RUBBER ELEMENTS OR UP TO 3" WITH HDPE ELEMENTS. RECYCLED RUBBER AND HDPE ELEMENTS SHALL BE PRODUCTS APPROVED BY THE MATERIALS BUREAU AND SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
11. STEPS:
MANHOLE STEPS SHALL BE REQUIRED IN ALL DRAINAGE STRUCTURES DEEPER THAN 4'-0".
12. CORBELED OR CONICAL RISER SECTIONS AND FLAT SLAB REDUCERS:
ROUND PRECAST DRAINAGE STRUCTURES OR MANHOLES (WHEN ALLOWED OR SPECIFIED) MAY BE FITTED WITH CONCENTRIC OR ECCENTRIC CONICAL SECTIONS TO REDUCE THEIR DIAMETERS, PROVIDED THE USE OF SUCH DEVICES IS COMPATIBLE WITH THE DRAINAGE SYSTEM DESIGN. THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF FLAT SLAB REDUCERS FOR ROUND OR RECTANGULAR STRUCTURES. A WALL SECTION WITH A HEIGHT LESS THAN 6" BETWEEN THE TOP OF THE HIGHEST PIPE ENTRY AND THE BOTTOM OF A CONICAL SECTION OR FLAT SLAB REDUCER SHALL NOT BE PERMITTED.
13. WHEN PIPE LOCATIONS PROVIDE FOR LESS THAN 8" BETWEEN THE TOP OF THE UPPERMOST PIPE AND THE TOP OF THE RISER AND THE STRUCTURE MAY BE SUBJECTED TO HIGHWAY LOADS, CONTACT STRUCTURES DIVISION FOR A SPECIAL DESIGN.
14. WHEN SITE CONDITIONS REQUIRE A DRAINAGE STRUCTURE TO BE INSTALLED TO A DEPTH GREATER THAN THAT SHOWN IN THE CONTRACT DOCUMENTS, AN INSTALLATION TOLERANCE OF 8" IS PERMITTED WITHOUT REQUIRING AN INCREASE IN WALL THICKNESS OR REINFORCING STEEL AS REQUIRED BY THE DRAINAGE STRUCTURE REINFORCEMENT TABLE.
15. THE PAY ITEMS FOR DRAINAGE STRUCTURES SPECIFY THE STRUCTURE AND FRAME. DRAINAGE STRUCTURE ITEM NUMBERS:
RECTANGULAR DRAINAGE STRUCTURE ITEM 604.30XXYY
RECTANGULAR DRAINAGE STRUCTURE WITH ROUND OPTION ITEM 604.31XXYY
RECTANGULAR DRAINAGE STRUCTURE WITH CONCRETE CAP ITEM 604.32XXYY
SEE TABLES BELOW FOR XX AND YY CODES.
EXAMPLE: 604.300706 - RECTANGULAR STRUCTURE TYPE G WITH TYPE 6 WELDED FRAME (SEE SHEET 4 OF 4 FOR ITEM NUMBERS FOR STRUCTURE TYPE Q, R, S, T, AND U)

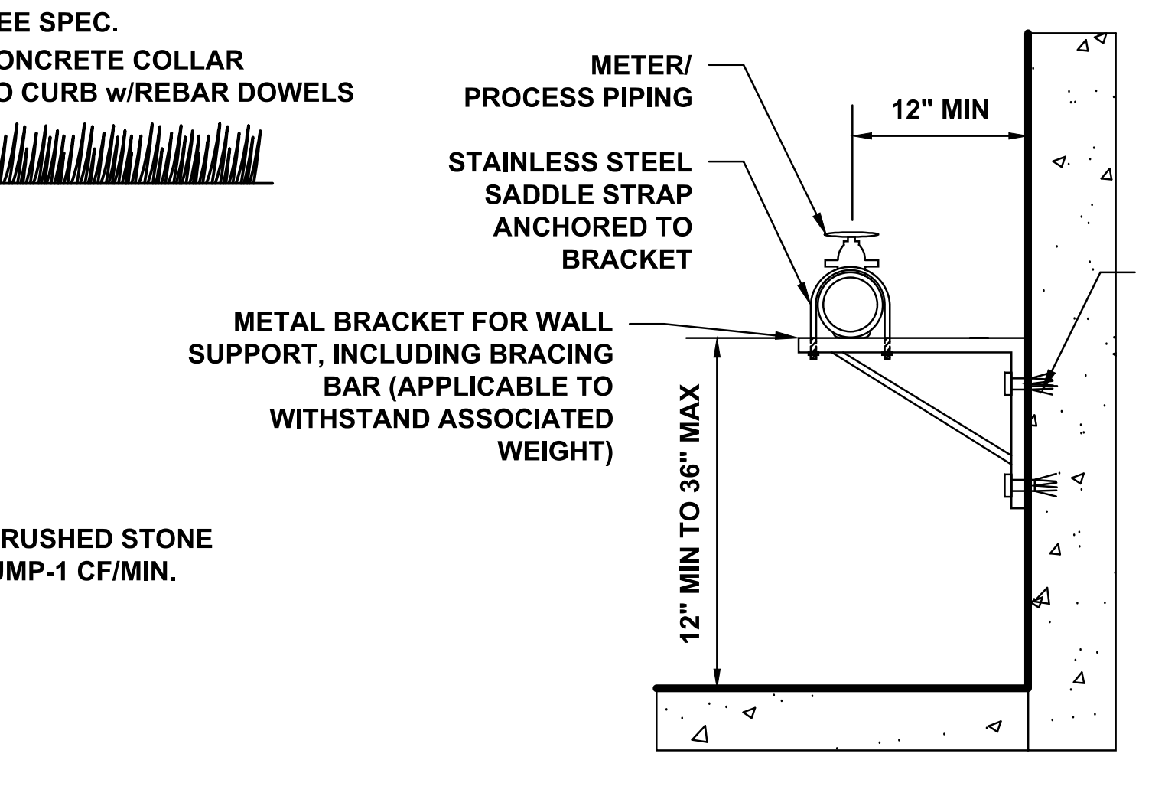
DRAINAGE STRUCTURE DETAILS (NYSDOT)

N.T.S.

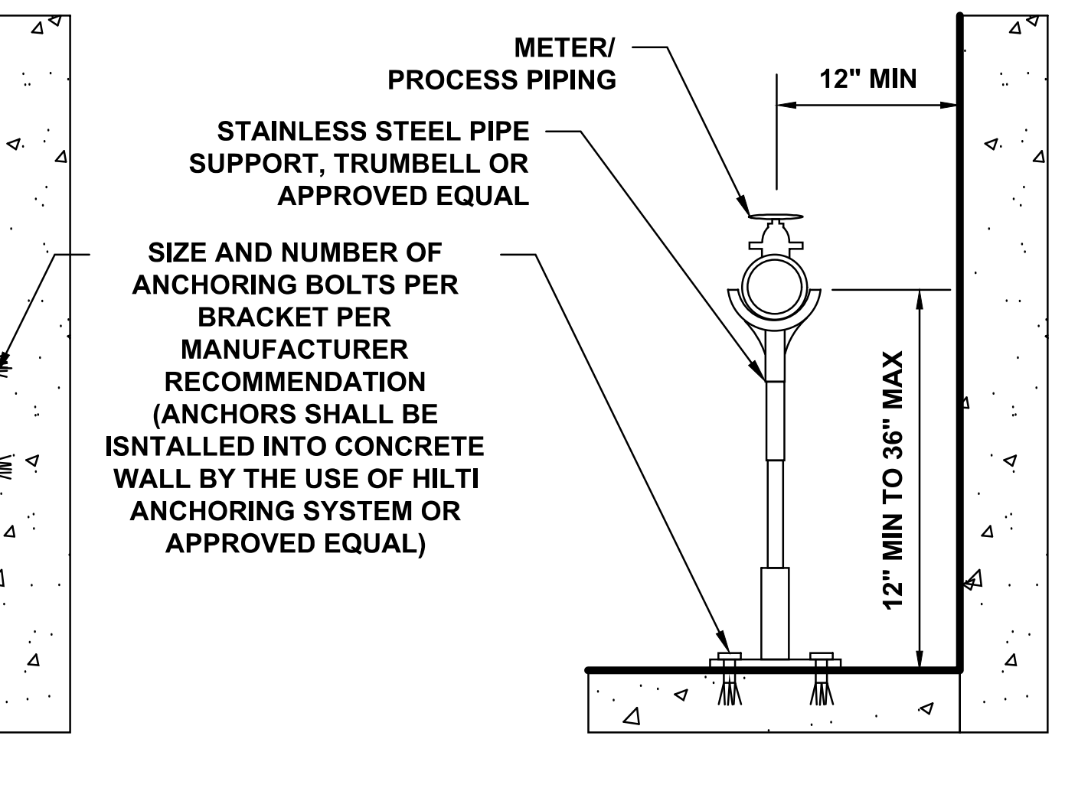

JAY R SMITH GROUND HYDRANT MODEL #5811 - SEE SPEC.
3500 PSI CONCRETE COLLAR SECURE TO CURB w/REBAR DOWELS
6"
8"
24" BURIAL
4"
2" MAIN
2" SCH.40 PVC HORIZONTAL SWING JOINT
SIZE 57 CRUSHED STONE DRAIN SUMP-1 CF/MIN.

GROUND HYDRANT

N.T.S.


METER/ PROCESS PIPING
12" MIN
STAINLESS STEEL SADDLE STRAP ANCHORED TO BRACKET
METAL BRACKET FOR WALL SUPPORT, INCLUDING BRACING BAR (APPLICABLE TO WITHSTAND ASSOCIATED WEIGHT)
12" MIN TO 36" MAX

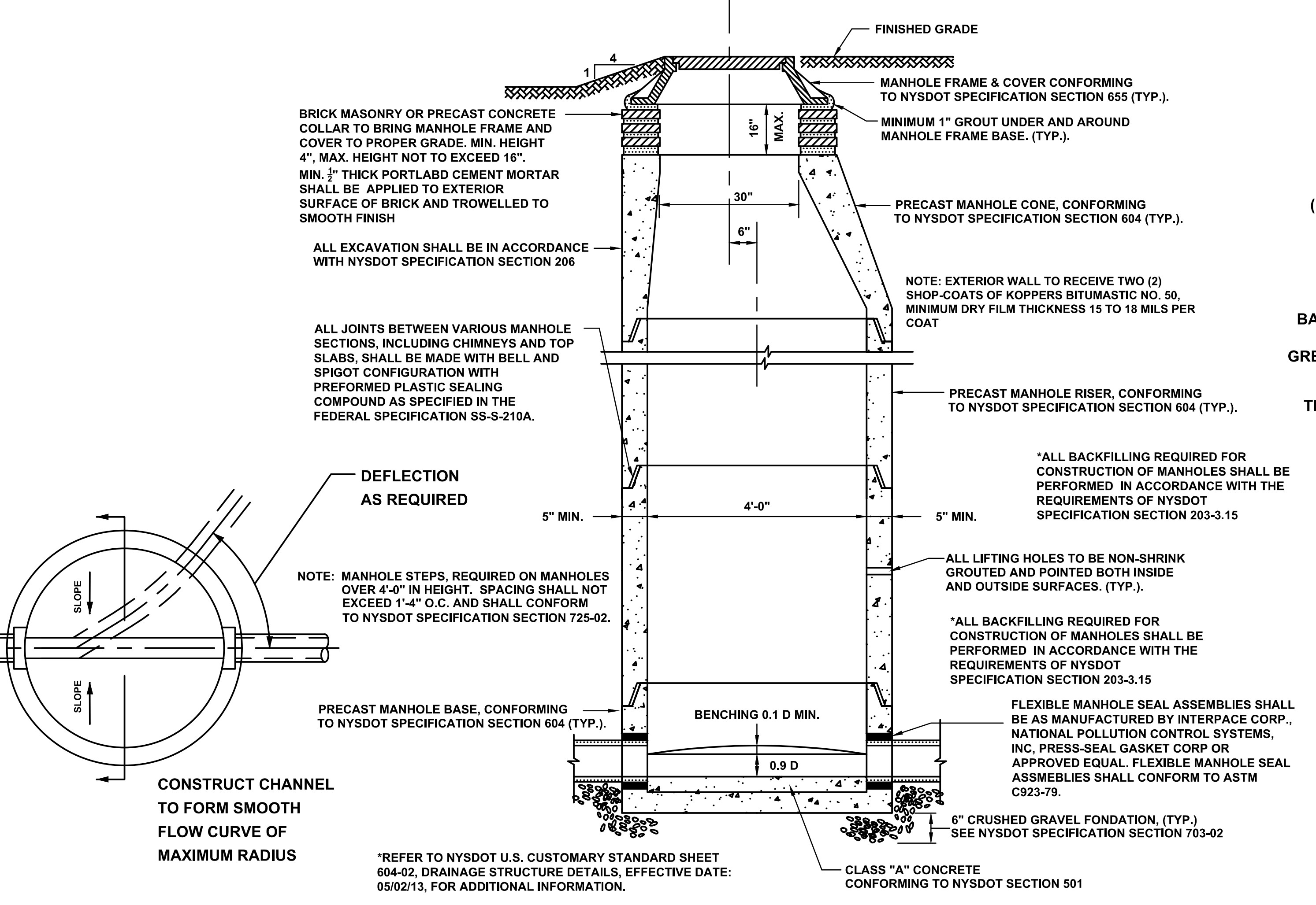
WALL BRACKET


METER/ PROCESS PIPING
12" MIN
STAINLESS STEEL PIPE SUPPORT, TRUMBELL OR APPROVED EQUAL
SIZE AND NUMBER OF ANCHORING BOLTS PER BRACKET PER MANUFACTURER RECOMMENDATION (ANCHORS SHALL BE INSTALLED INTO CONCRETE WALL BY THE USE OF HILTI ANCHORING SYSTEM OR APPROVED EQUAL)
12" MIN TO 36" MAX

FLOOR SUPPORT STAND

METER SUPPORT DETAIL

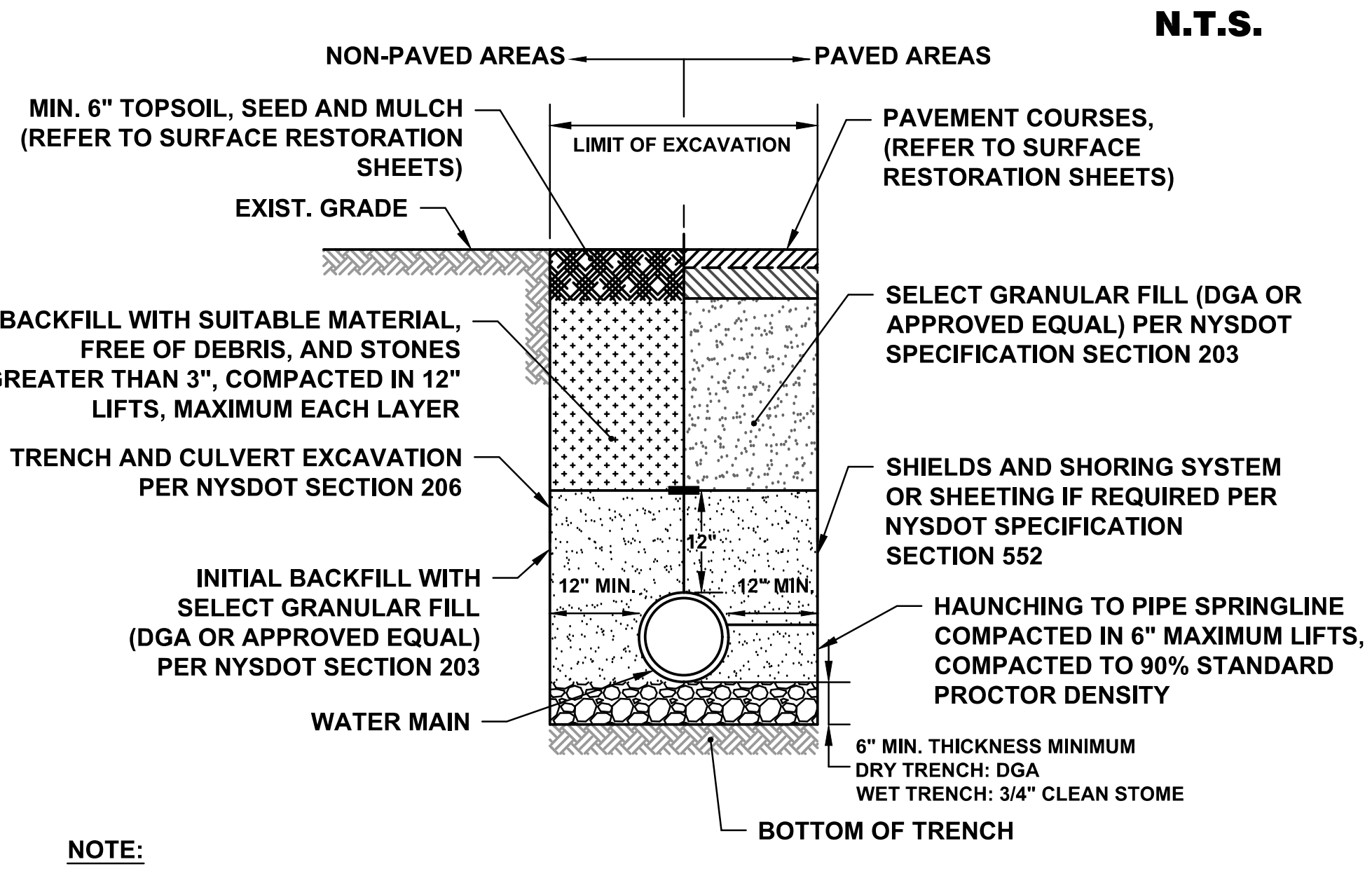
N.T.S.


UNPAVED
PAVED
FINISHED GRADE
4
1
MANHOLE FRAME & COVER CONFORMING TO NYSDOT SPECIFICATION SECTION 655 (TYP.).
MINIMUM 1" GROUT UNDER AND AROUND MANHOLE FRAME BASE. (TYP.)
BRICK MASONRY OR PRECAST CONCRETE COLLAR TO BRING MANHOLE FRAME AND COVER TO PROPER GRADE. MIN. HEIGHT 4", MAX. HEIGHT NOT TO EXCEED 18". MIN. 1/2" THICK PORTLAND CEMENT MORTAR SHALL BE APPLIED TO EXTERIOR SURFACE OF BRICK AND TROWELLED TO SMOOTH FINISH
16" MAX.
30"
6"
PRECAST MANHOLE CONE, CONFORMING TO NYSDOT SPECIFICATION SECTION 604 (TYP.).
ALL EXCAVATION SHALL BE IN ACCORDANCE WITH NYSDOT SPECIFICATION SECTION 206
NOTE: EXTERIOR WALL TO RECEIVE TWO (2) SHOP-COATS OF KOPPERS BITUMASTIC NO. 50, MINIMUM DRY FILM THICKNESS 15 TO 18 MILS PER COAT
ALL JOINTS BETWEEN VARIOUS MANHOLE SECTIONS, INCLUDING CHIMNEYS AND TOP SLABS, SHALL BE MADE WITH BELL AND SPIGOT CONFIGURATION WITH PREFORMED PLASTIC SEALING COMPOUND AS SPECIFIED IN THE FEDERAL SPECIFICATION SS-S-210A.
PRECAST MANHOLE RISER, CONFORMING TO NYSDOT SPECIFICATION SECTION 604 (TYP.).
*ALL BACKFILLING REQUIRED FOR CONSTRUCTION OF MANHOLES SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NYSDOT SPECIFICATION SECTION 203-3.15
DEFLECTION AS REQUIRED
5" MIN.
4'-0"
5" MIN.
ALL LIFTING HOLES TO BE NON-SHRINK GROUTED AND POINTED BOTH INSIDE AND OUTSIDE SURFACES. (TYP.)
NOTE: MANHOLE STEPS, REQUIRED ON MANHOLES OVER 4'-0" IN HEIGHT. SPACING SHALL NOT EXCEED 1'-4" O.C. AND SHALL CONFORM TO NYSDOT SPECIFICATION SECTION 725-02.
SLOPE
*ALL BACKFILLING REQUIRED FOR CONSTRUCTION OF MANHOLES SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF NYSDOT SPECIFICATION SECTION 203-3.15
PRECAST MANHOLE BASE, CONFORMING TO NYSDOT SPECIFICATION SECTION 604 (TYP.).
BENCHING 0.1 D MIN.
FLEXIBLE MANHOLE SEAL ASSEMBLIES SHALL BE AS MANUFACTURED BY INTERFACE CORP., NATIONAL POLLUTION CONTROL SYSTEMS, INC, PRESS-SEAL GASKET CORP OR APPROVED EQUAL. FLEXIBLE MANHOLE SEAL ASSEMBLIES SHALL CONFORM TO ASTM C923-79.
CONSTRUCT CHANNEL TO FORM SMOOTH FLOW CURVE OF MAXIMUM RADIUS
0.9 D
6" CRUSHED GRAVEL FONDATION, (TYP.) SEE NYSDOT SPECIFICATION SECTION 703-02
CLASS "A" CONCRETE CONFORMING TO NYSDOT SECTION 501

*REFER TO NYSDOT U.S. CUSTOMARY STANDARD SHEET 604-02, DRAINAGE STRUCTURE DETAILS, EFFECTIVE DATE: 05/02/13, FOR ADDITIONAL INFORMATION.

SANITARY SEWER MANHOLE

N.T.S.

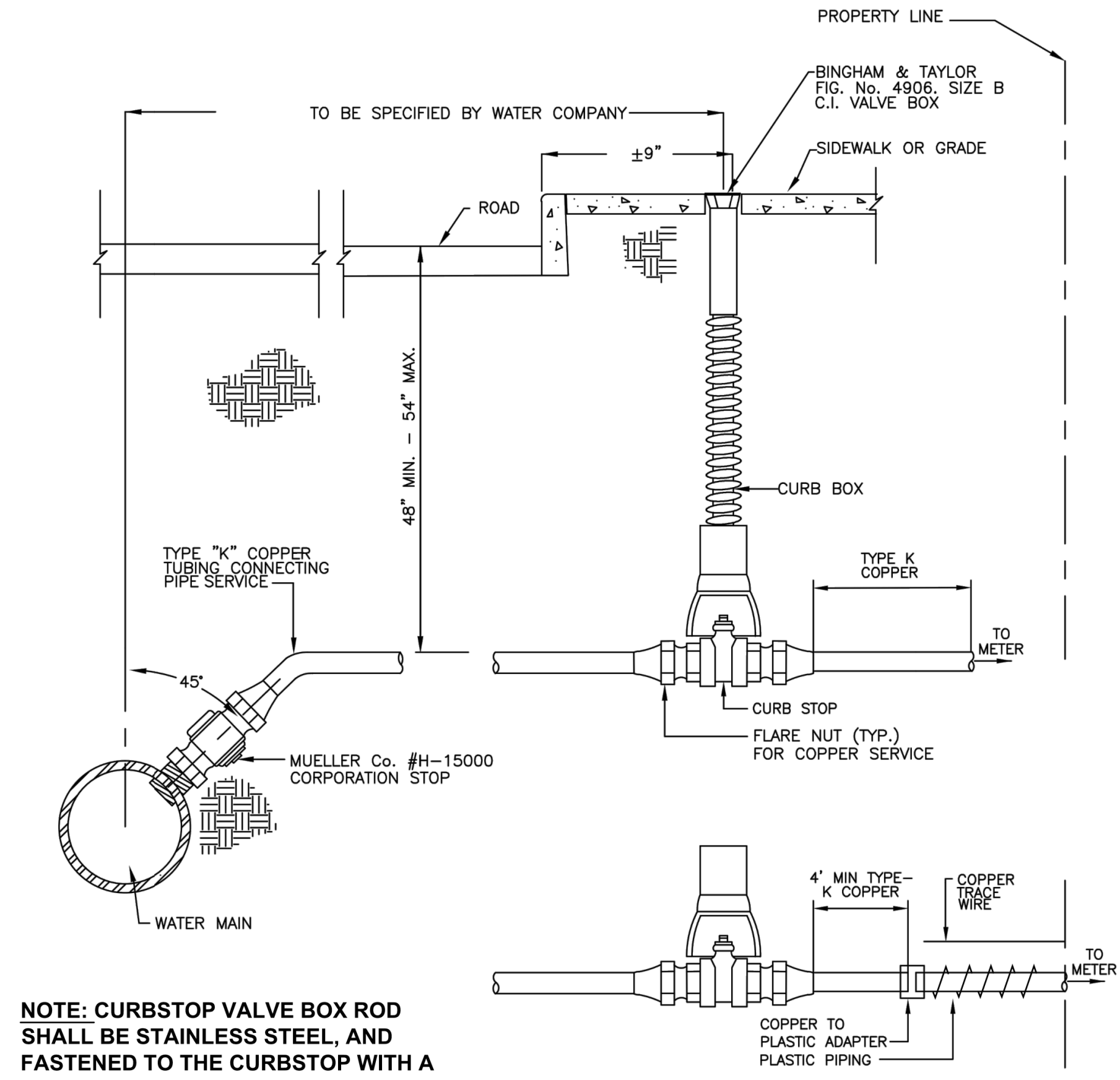

NON-PAVED AREAS
PAVED AREAS
MIN. 6" TOPSOIL, SEED AND MULCH (REFER TO SURFACE RESTORATION SHEETS)
LIMIT OF EXCAVATION
PAVEMENT COURSES, (REFER TO SURFACE RESTORATION SHEETS)
EXIST. GRADE
BACKFILL WITH SUITABLE MATERIAL, FREE OF DEBRIS, AND STONES GREATER THAN 3", COMPACTED IN 12" LIFTS, MAXIMUM EACH LAYER
SELECT GRANULAR FILL (DGA OR APPROVED EQUAL) PER NYSDOT SPECIFICATION SECTION 203
TRENCH AND CULVERT EXCAVATION PER NYSDOT SECTION 206
SHIELDS AND SHORING SYSTEM OR SHEETING IF REQUIRED PER NYSDOT SPECIFICATION SECTION 552
12"
INITIAL BACKFILL WITH SELECT GRANULAR FILL (DGA OR APPROVED EQUAL) PER NYSDOT SECTION 203
12" MIN.
12" MIN.
HAUNCHING TO PIPE SPRINGLINE COMPACTED IN 6" MAXIMUM LIFTS, COMPACTED TO 90% STANDARD PROCTOR DENSITY
WATER MAIN
6" MIN. THICKNESS MINIMUM
DRY TRENCH: DGA
WET TRENCH: 3/4" CLEAN STOME
BOTTOM OF TRENCH

NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE EXACT LOCATIONS AND ELEVATION OF EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ELEVATIONS OF EXISTING UTILITIES TO ENSURE ADEQUATE CLEARANCE FOR THE SEWER LINE EXISTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER (IN WRITING) OF CONFLICTING ELEVATIONS, ALLOWING THE ENGINEER ADEQUATE TIME TO REVISE GRADES WITHOUT NECESSITATING REMOVAL AND RECONSTRUCTION OF WORK ALREADY COMPLETED BY CONTRACTOR.
2. THE INSTALLATION OF THE WATER MAIN AND ASSOCIATED APPURTENANCES SHALL BE NO LESS THAN 4' FEET OF BURY ON TOP OF THE PIPE AT A MINIMUM.
3. BEDDING BELOW THE PIPE INVERT SHALL BE REQUIRED ONLY WHEN NOTED IN THE OWNER REQUIREMENTS OR WHEN ROCK OR UNSTABLE OR UNSUITABLE CONDITIONS ARE ENCOUNTERED.
4. IF UNSTABLE OR UNSUITABLE SOIL CONDITIONS ARE ENCOUNTERED NEAR THE INVERT ELEVATION, A MIN. OF 1' AND A MAX. OF 2' OF MATERIAL SHALL BE EXCAVATED AND REPLACED WITH SELECT GRANULAR FILL. ADDITIONAL PAYMENT WILL BE MADE FOR MATERIAL PLACED TO TREAT UNSTABLE OR UNSUITABLE CONDITIONS.
5. NEW SANITARY PIPE INSTALLED PARALLEL TO WATER MAINS SHALL HAVE A MIN. OF 10' HORIZONTAL SEPARATION WHENEVER POSSIBLE.
6. BACKFILL SHALL BE INSTALLED AND COMPACTED IN ACCORDANCE WITH THE REQUIREMENT OF NYSDOT SPECIFICATIONS SECTION 203.
7. CONTRACTOR SHALL FOLLOW THE WATER PURVEYORS STANDARD DETAILS FOR THE TRENCH RESTORATION REQUIREMENTS.

WATER MAIN TRENCH DETAIL

N.T.S.

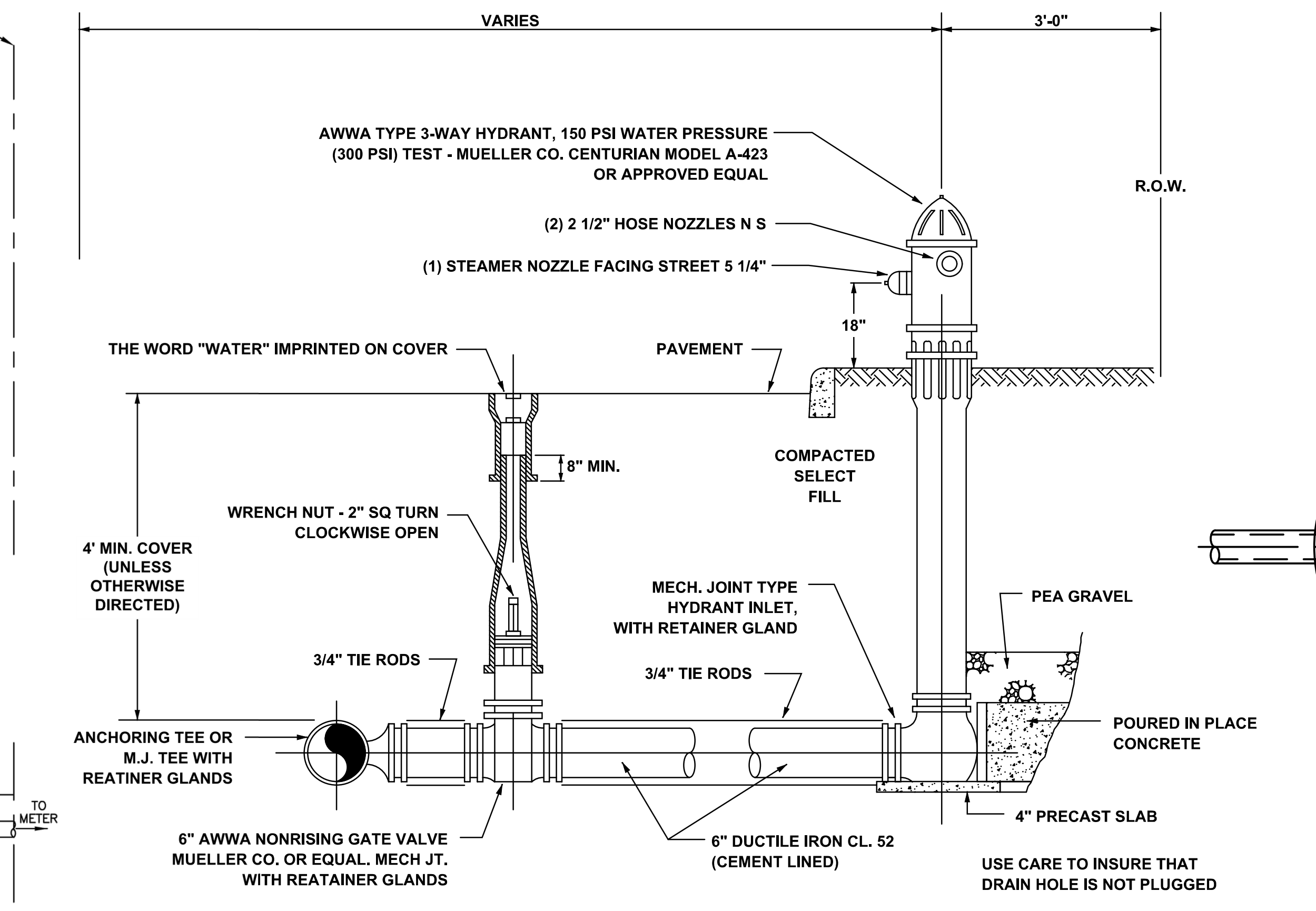

PROPERTY LINE
TO BE SPECIFIED BY WATER COMPANY
BINGHAM & TAYLOR FIG. No. 4906, SIZE B C.I. VALVE BOX
SIDEWALK OR GRADE
ROAD
±9"
48" MIN. - 54" MAX.
CURB BOX
TYPE "K" COPPER TUBING CONNECTING PIPE SERVICE
TYPE K COPPER
TO METER
45°
CURB STOP
FLARE NUT (TYP.) FOR COPPER SERVICE
MUELLER Co. H-15000 CORPORATION STOP
WATER MAIN
4" MIN TYPE-K COPPER
COPPER TRACE WIRE
TO METER
COPPER TO PLASTIC ADAPTER - PLASTIC PIPING
APPROVED EQUAL

NOTE: CURBSTOP VALVE BOX ROD SHALL BE STAINLESS STEEL, AND FASTENED TO THE CURBSTOP WITH A COPPER COTTER PIN

NOTE: CONTRACTOR SHALL INSTALL PER SUEZ STANDARDS AND DETAILS. CONTRACTOR SHALL INSTALL 6" BANK RUN SAND AROUND THE SERVICE LINE (UNLESS OTHERWISE DIRECTED), THEN BACKFILL IN ACCORDANCE WITH THE ASSOCIATED DETAILS FOR THE SERVICE.

1 & 1 1/2" DOMESTIC SERVICE CONNECTION AT WATER MAIN (SUEZ WATER)

N.T.S.


VARIES
3'-0"
R.O.W.
AWWA TYPE 3-WAY HYDRANT, 150 PSI WATER PRESSURE (300 PSI) TEST - MUELLER CO. CENTURIAN MODEL A-423 OR APPROVED EQUAL
(2) 2 1/2" HOSE NOZZLES N S
(1) STEAMER NOZZLE FACING STREET 5 1/4"
THE WORD "WATER" IMPRINTED ON COVER
PAVEMENT
18"
8" MIN.
WRENCH NUT - 2" SQ TURN CLOCKWISE OPEN
COMPACTED SELECT FILL
4' MIN. COVER (UNLESS OTHERWISE DIRECTED)
MECH. JOINT TYPE HYDRANT INLET, WITH RETAINER GLAND
PEA GRAVEL
3/4" TIE RODS
3/4" TIE RODS
POURED IN PLACE CONCRETE
ANCHORING TEE OR M.J. TEE WITH REATINER GLANDS
6" AWWA NONRISING GATE VALVE MUELLER CO. OR EQUAL, MECH JT. WITH RETAINER GLANDS
6" DUCTILE IRON CL. 52 (CEMENT LINED)
4" PRECAST SLAB

USE CARE TO INSURE THAT DRAIN HOLE IS NOT PLUGGED

NOTE:
ALL EXPOSED METAL TO RECEIVE TWO COATS OF BITUMINOUS PAINT

TYPICAL HYDRANT INSTALLATION

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:
REV. PER ADDENDUM NO. 1	A	04/08/2021	KAK	RCG

REVISIONS

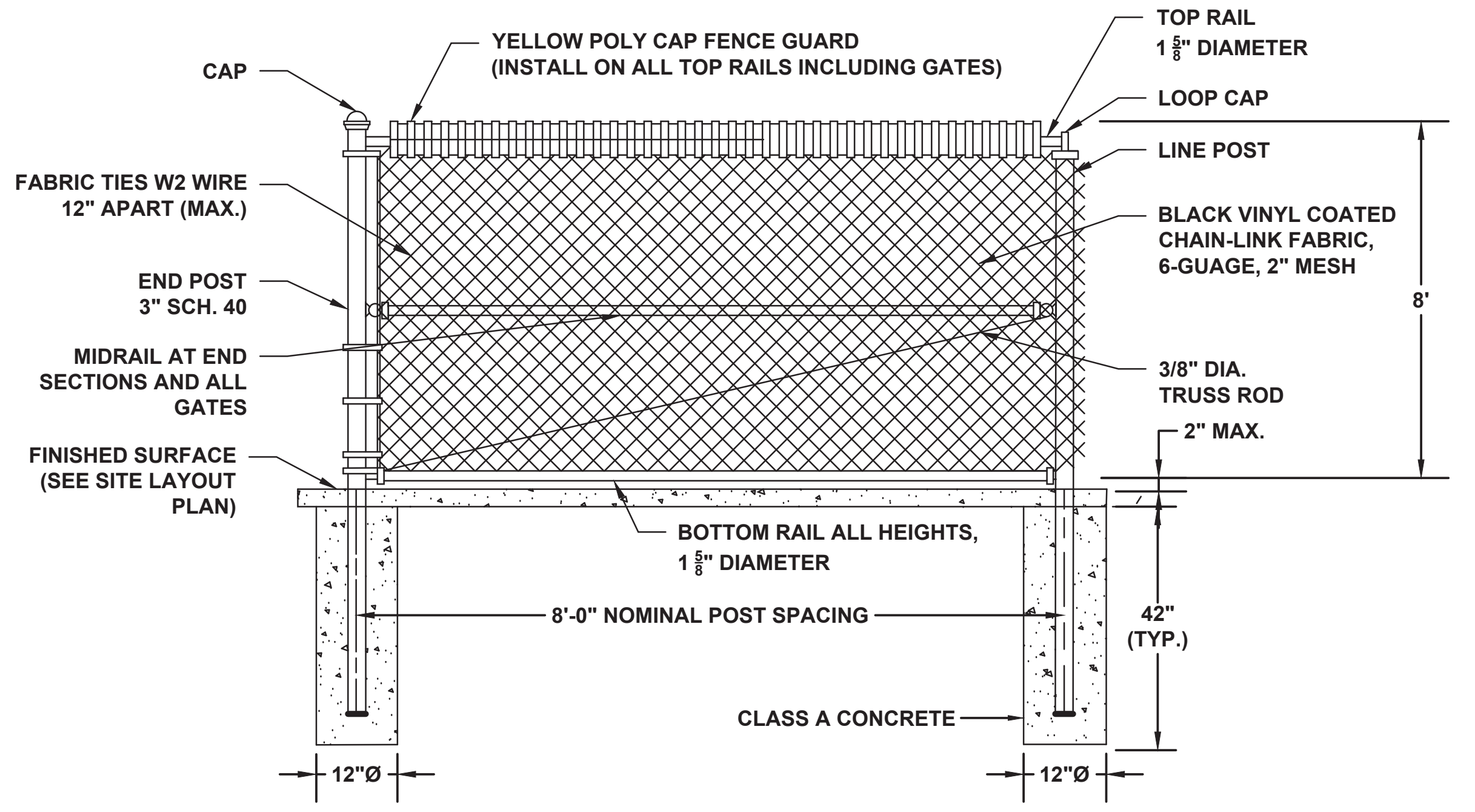
DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CONSTRUCTION DETAILS III

PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 35 OF 47
REVISION A

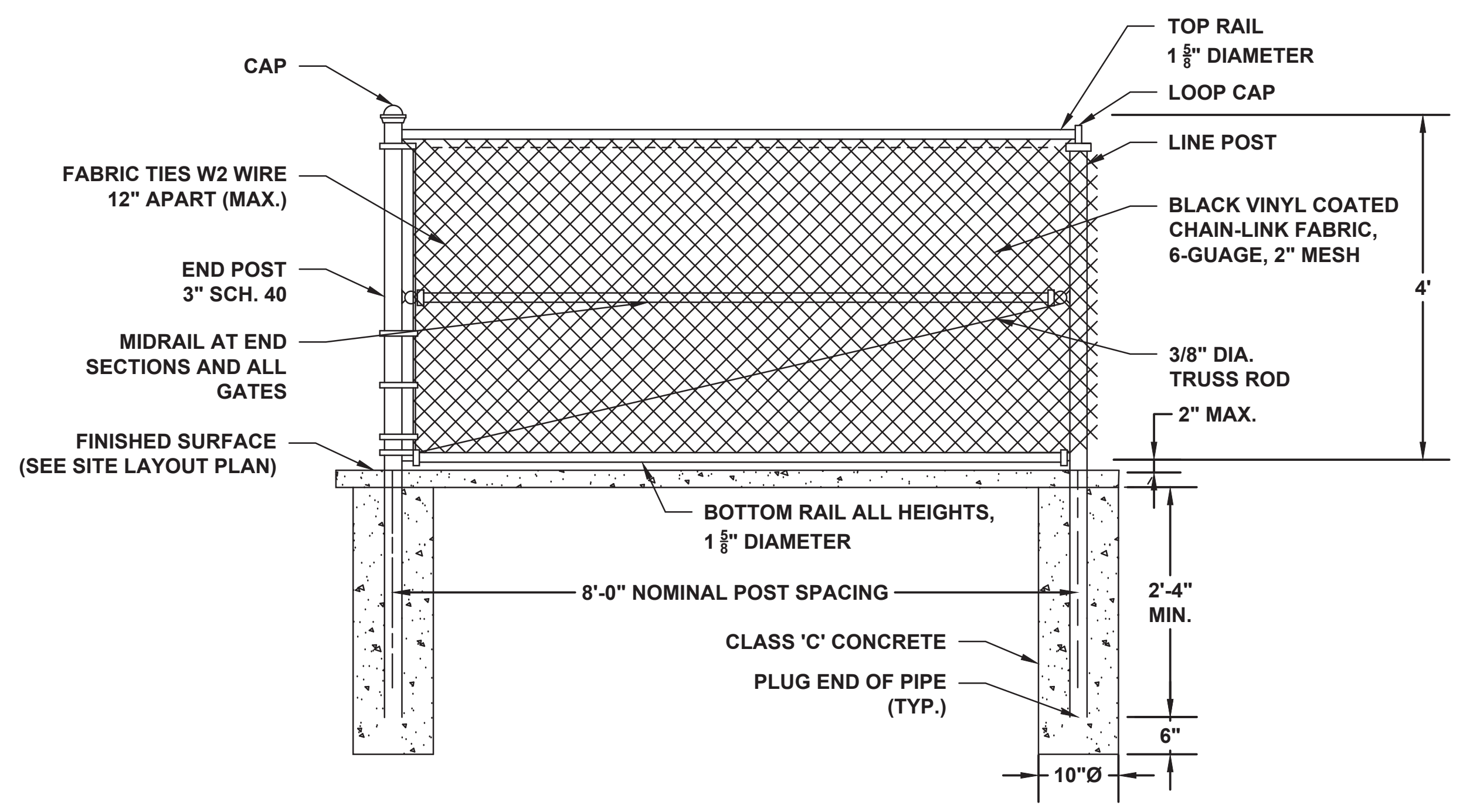

CAP
YELLOW POLY CAP FENCE GUARD (INSTALL ON ALL TOP RAILS INCLUDING GATES)
TOP RAIL 1 5/8" DIAMETER
LOOP CAP
LINE POST
FABRIC TIES W2 WIRE 12" APART (MAX.)
BLACK VINYL COATED CHAIN-LINK FABRIC, 6-GUAGE, 2" MESH
END POST 3" SCH. 40
8'
MIDRAIL AT END SECTIONS AND ALL GATES
3/8" DIA. TRUSS ROD
2" MAX.
FINISHED SURFACE (SEE SITE LAYOUT PLAN)
BOTTOM RAIL ALL HEIGHTS, 1 5/8" DIAMETER
8'-0" NOMINAL POST SPACING
42" (TYP.)
CLASS A CONCRETE
12"Ø
12"Ø

8' CHAIN-LINK FENCE WITH PROTECTIVE CAP NOTES:

1. PROTECTIVE CAP IS TO BE USED ON ALL 8' HT PERIMETER FENCING AT MULTI-PURPOSE AND CHALLENGER FIELDS AND SHALL BE SUPPLIED AND INSTALLED BY OTHERS.
2. REFER TO CHAIN-LINK FENCE, 8' OR 10' HIGH NOTES BELOW FOR ADDITIONAL INFORMATION ON FENCING

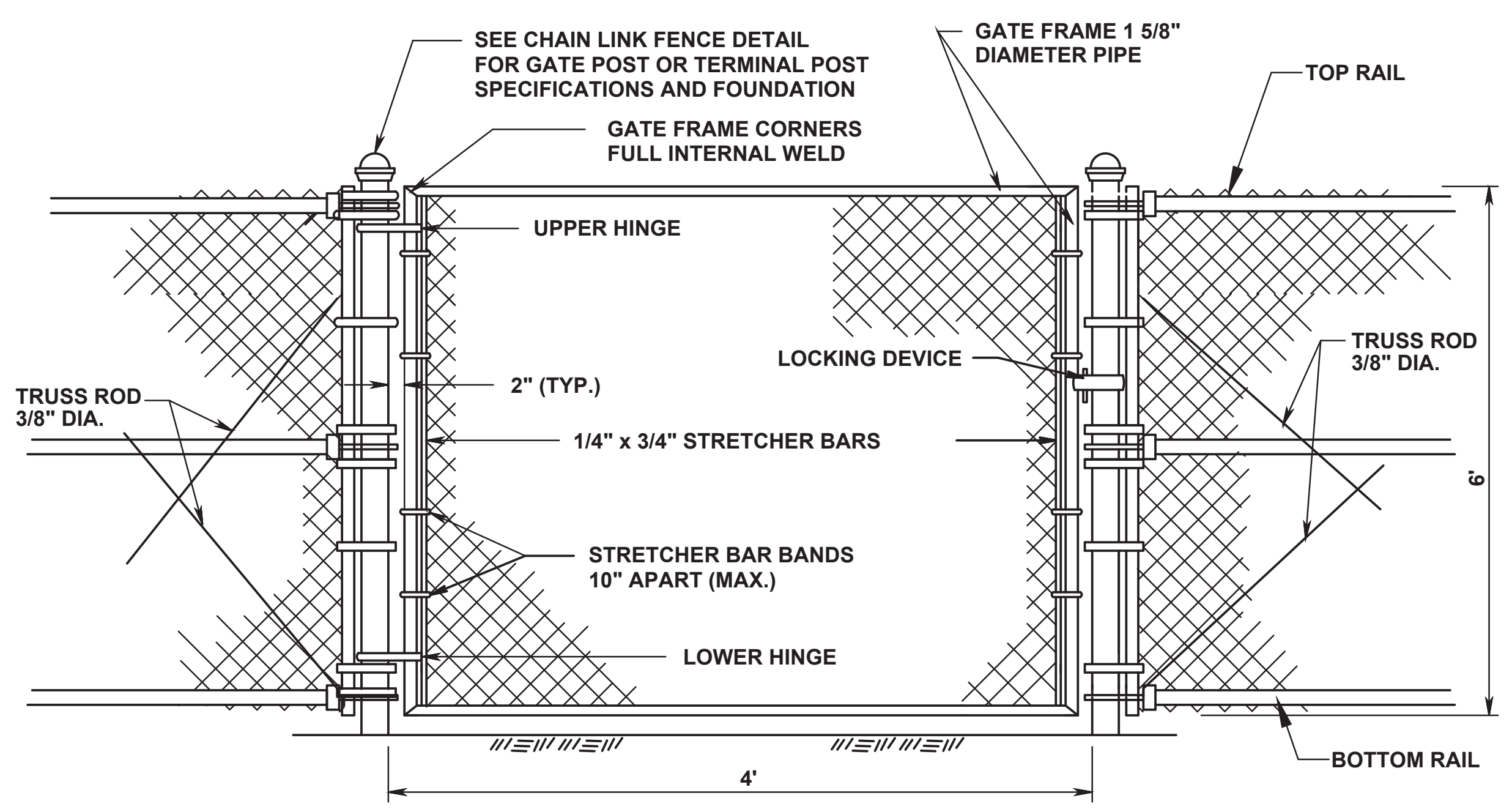
CHAIN-LINK FENCE WITH PROTECTIVE CAP, 8' HIGH (BY OTHERS)

N.T.S.


CAP
TOP RAIL 1 5/8" DIAMETER
LOOP CAP
LINE POST
FABRIC TIES W2 WIRE 12" APART (MAX.)
BLACK VINYL COATED CHAIN-LINK FABRIC, 6-GUAGE, 2" MESH
END POST 3" SCH. 40
4'
MIDRAIL AT END SECTIONS AND ALL GATES
3/8" DIA. TRUSS ROD
2" MAX.
FINISHED SURFACE (SEE SITE LAYOUT PLAN)
BOTTOM RAIL ALL HEIGHTS, 1 5/8" DIAMETER
8'-0" NOMINAL POST SPACING
2'-4" MIN.
CLASS 'C' CONCRETE
PLUG END OF PIPE (TYP.)
6"
10"Ø

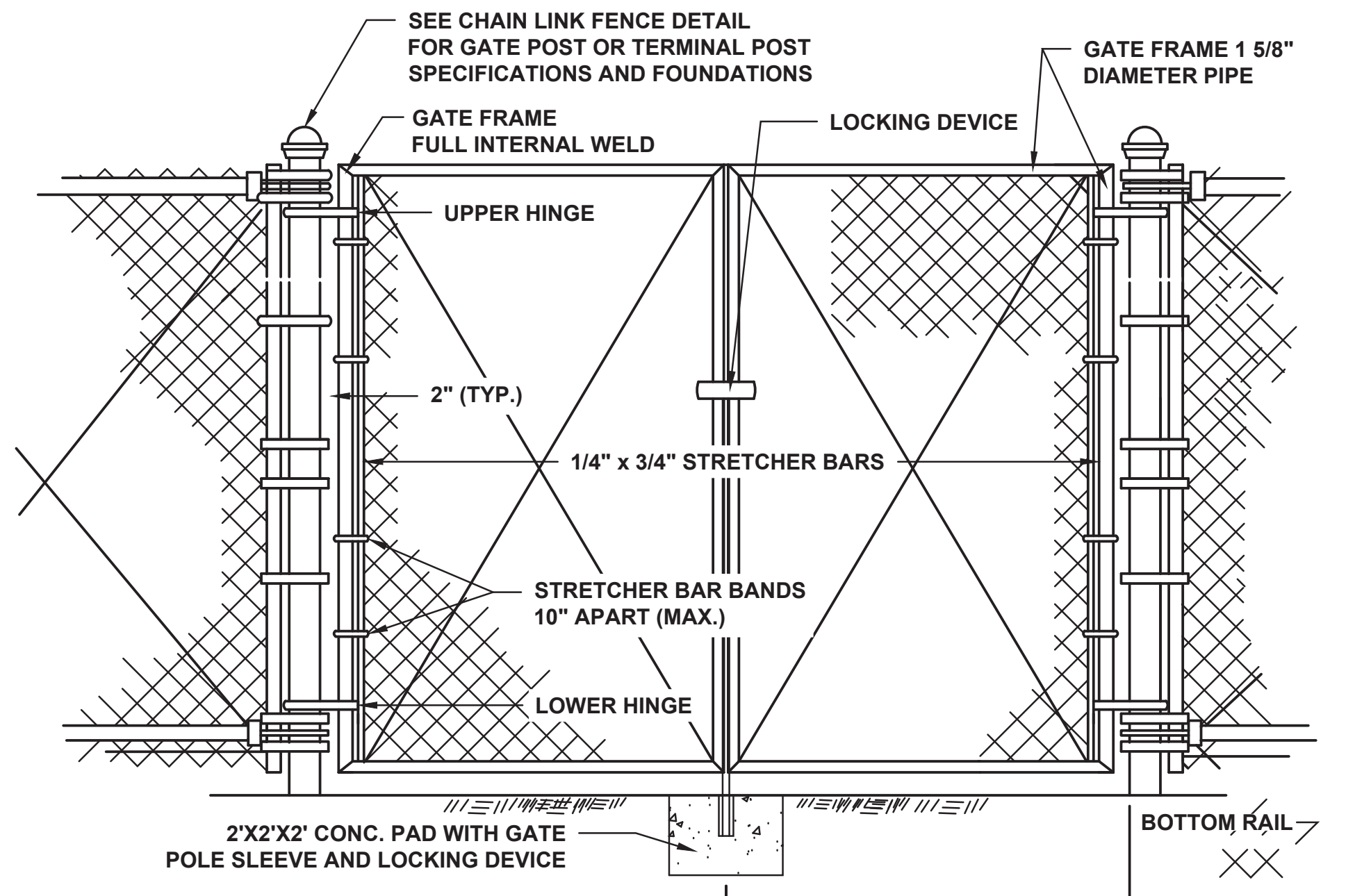
CHAIN-LINK FENCE, 4' HIGH

N.T.S.


SEE CHAIN LINK FENCE DETAIL FOR GATE POST OR TERMINAL POST SPECIFICATIONS AND FOUNDATION
GATE FRAME 1 5/8" DIAMETER PIPE
TOP RAIL
GATE FRAME CORNERS FULL INTERNAL WELD
UPPER HINGE
LOCKING DEVICE
TRUSS ROD 3/8" DIA.
TRUSS ROD 3/8" DIA.
2" (TYP.)
1/4" x 3/4" STRETCHER BARS
6'
STRETCHER BAR BANDS 10" APART (MAX.)
LOWER HINGE
BOTTOM RAIL
4'

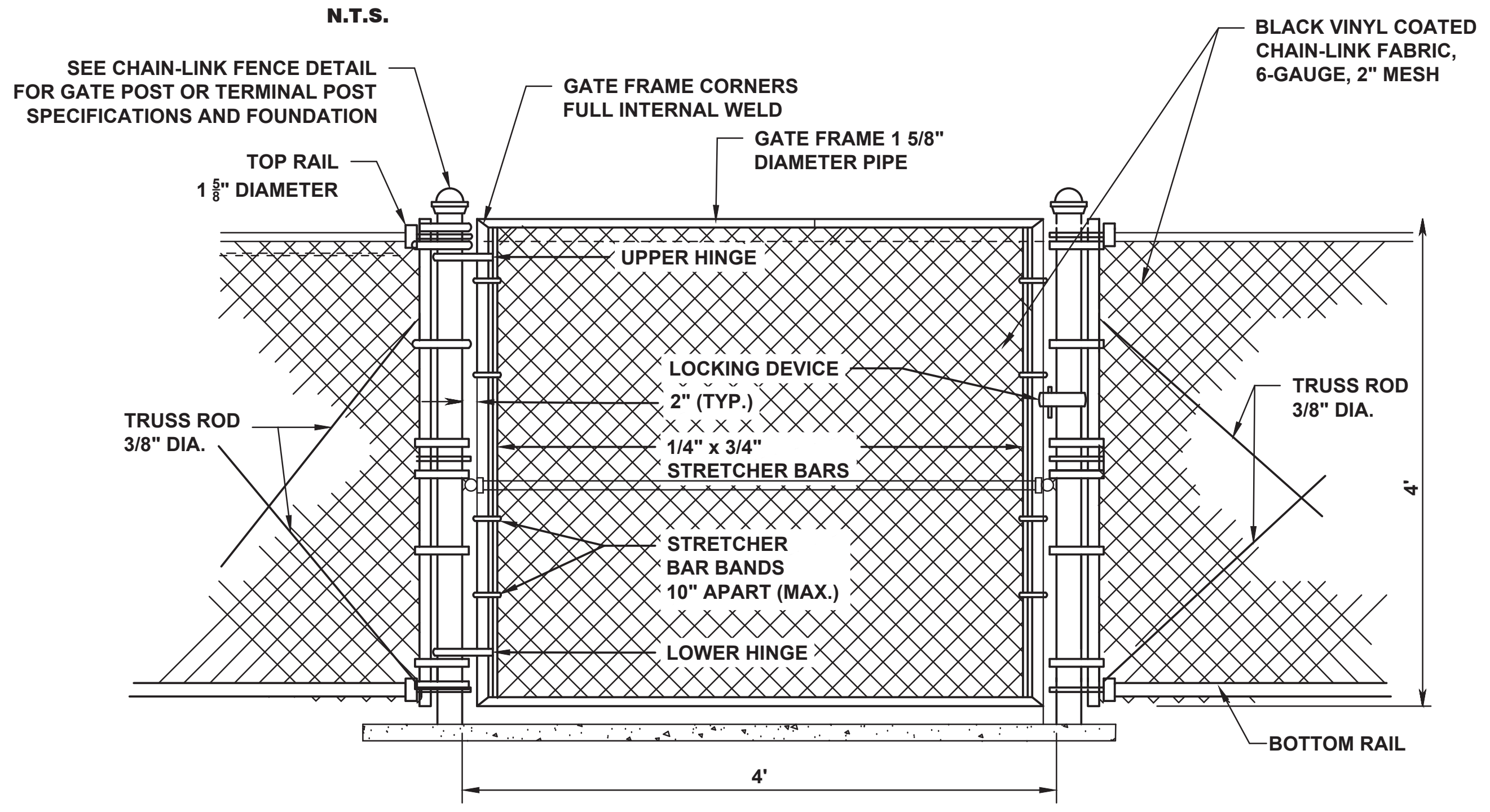
CHAIN-LINK SWING GATE, 6' HIGH, 4' WIDE

N.T.S.


SEE CHAIN LINK FENCE DETAIL FOR GATE POST OR TERMINAL POST SPECIFICATIONS AND FOUNDATIONS
GATE FRAME 1 5/8" DIAMETER PIPE
GATE FRAME FULL INTERNAL WELD
LOCKING DEVICE
UPPER HINGE
2" (TYP.)
1/4" x 3/4" STRETCHER BARS
STRETCHER BAR BANDS 10" APART (MAX.)
LOWER HINGE
2'X2'X2' CONC. PAD WITH GATE POLE SLEEVE AND LOCKING DEVICE
BOTTOM RAIL
8'
8'

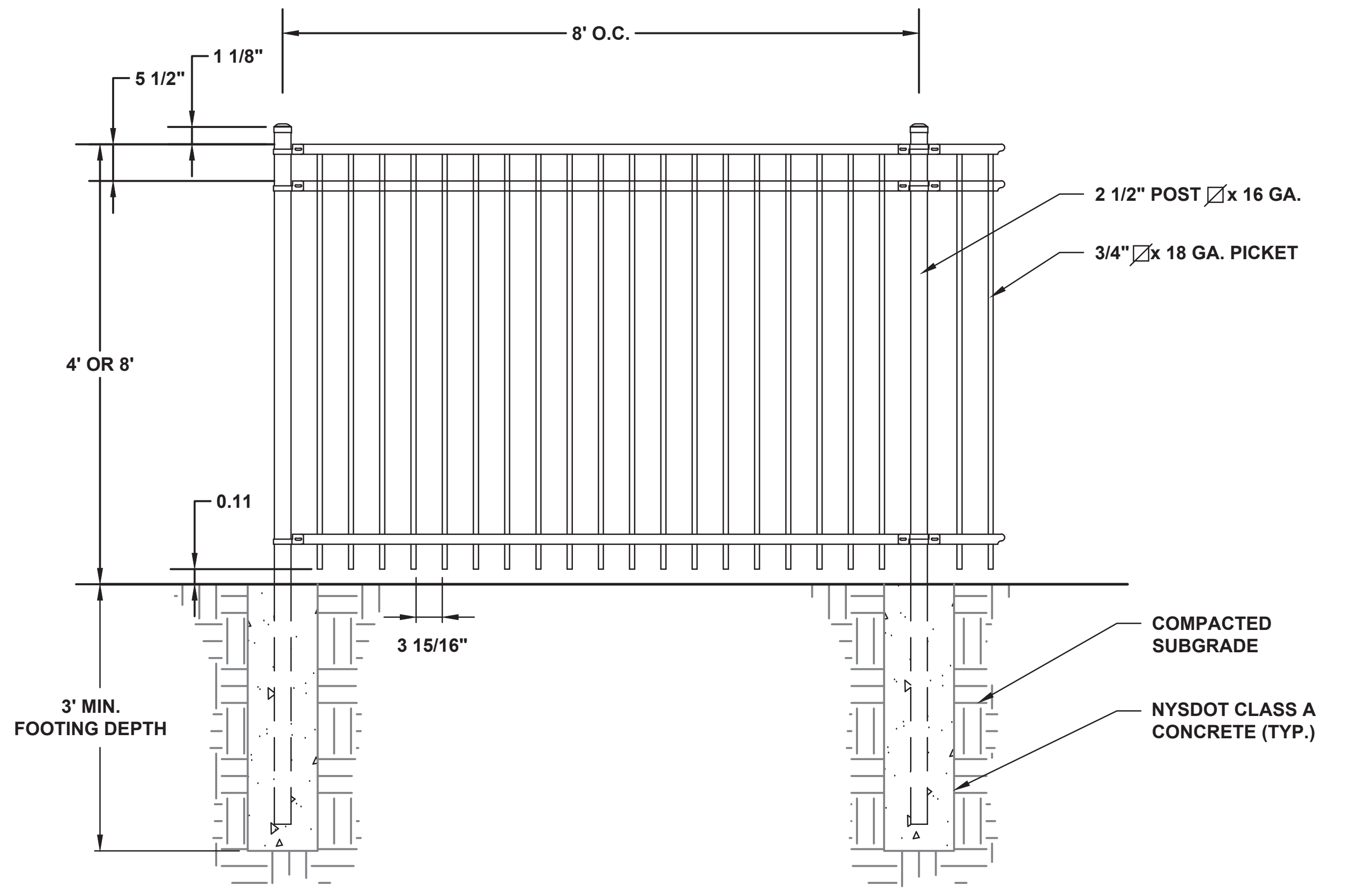
CHAIN-LINK SWING GATE, 8' HIGH x 16' WIDE

N.T.S.


SEE CHAIN-LINK FENCE DETAIL FOR GATE POST OR TERMINAL POST SPECIFICATIONS AND FOUNDATION
GATE FRAME CORNERS FULL INTERNAL WELD
BLACK VINYL COATED CHAIN-LINK FABRIC, 6-GAUGE, 2" MESH
GATE FRAME 1 5/8" DIAMETER PIPE
TOP RAIL 1 5/8" DIAMETER
UPPER HINGE
LOCKING DEVICE
2" (TYP.)
TRUSS ROD 3/8" DIA.
TRUSS ROD 3/8" DIA.
1/4" x 3/4" STRETCHER BARS
4'
STRETCHER BAR BANDS 10" APART (MAX.)
LOWER HINGE
BOTTOM RAIL
4'

CHAIN-LINK SWING GATE, 4' HIGH, 4' WIDE

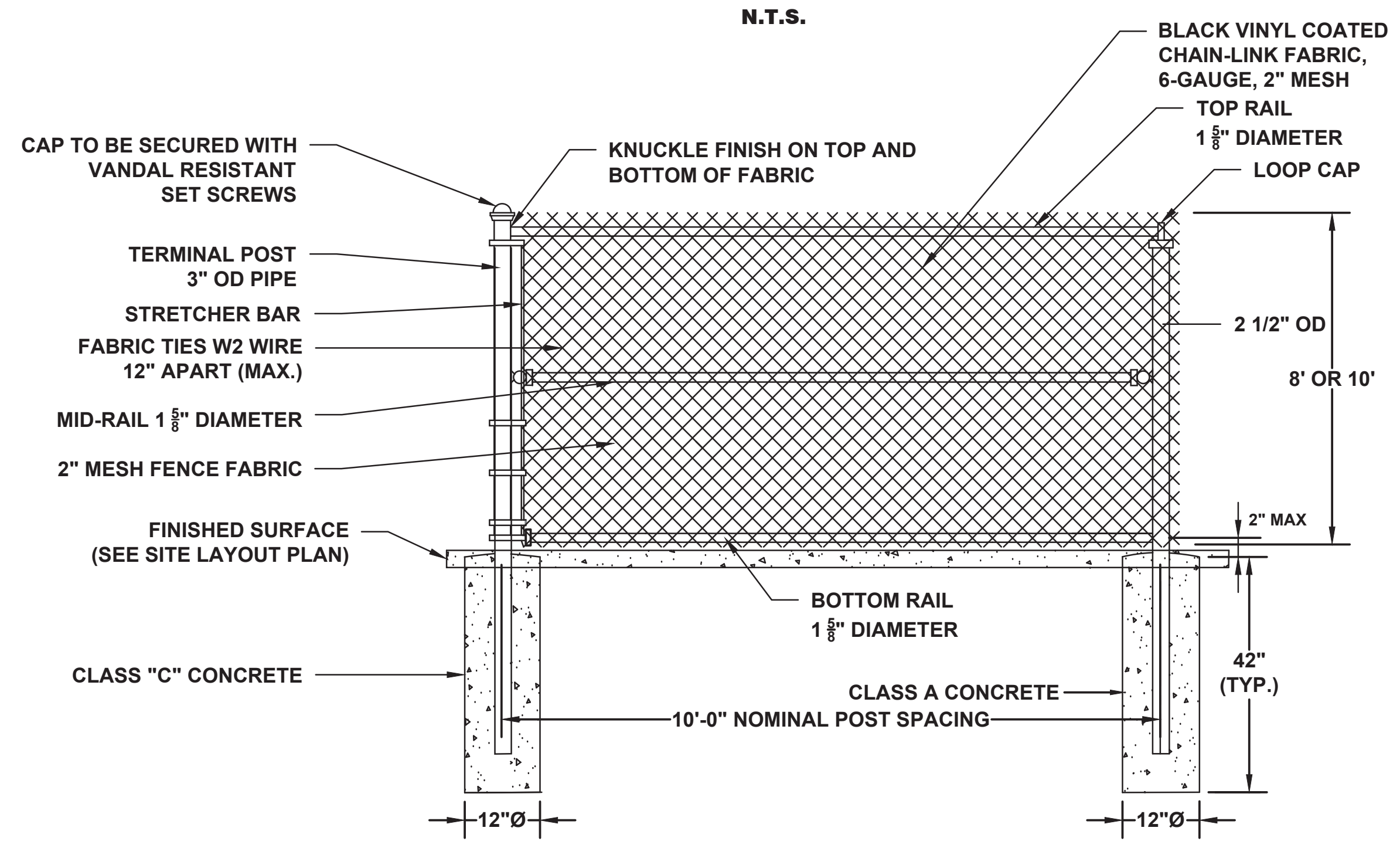
N.T.S.



NOTES:
1. ALL WELDS TO BE GRINDED SMOOTH. STEEL TO BE PRIMED AND PAINTED FLAT BLACK. SAMPLES OF PAINT TO BE SUPPLIED FOR ENGINEER APPROVAL.
2. DECORATIVE FENCE TO BE STEEL MONTAGE PLUS MAJESTIC 3 RAIL BY AMERISTAR FENCE, (800-321-8724), OR APPROVED EQUAL.
3. SEE SITE LAYOUT PLANS, SHEETS 6 & 7, FOR FENCE LOCATIONS AND REQUIRED HEIGHTS.

DECORATIVE FENCE, 4' HIGH OR 8' HIGH

N.T.S.

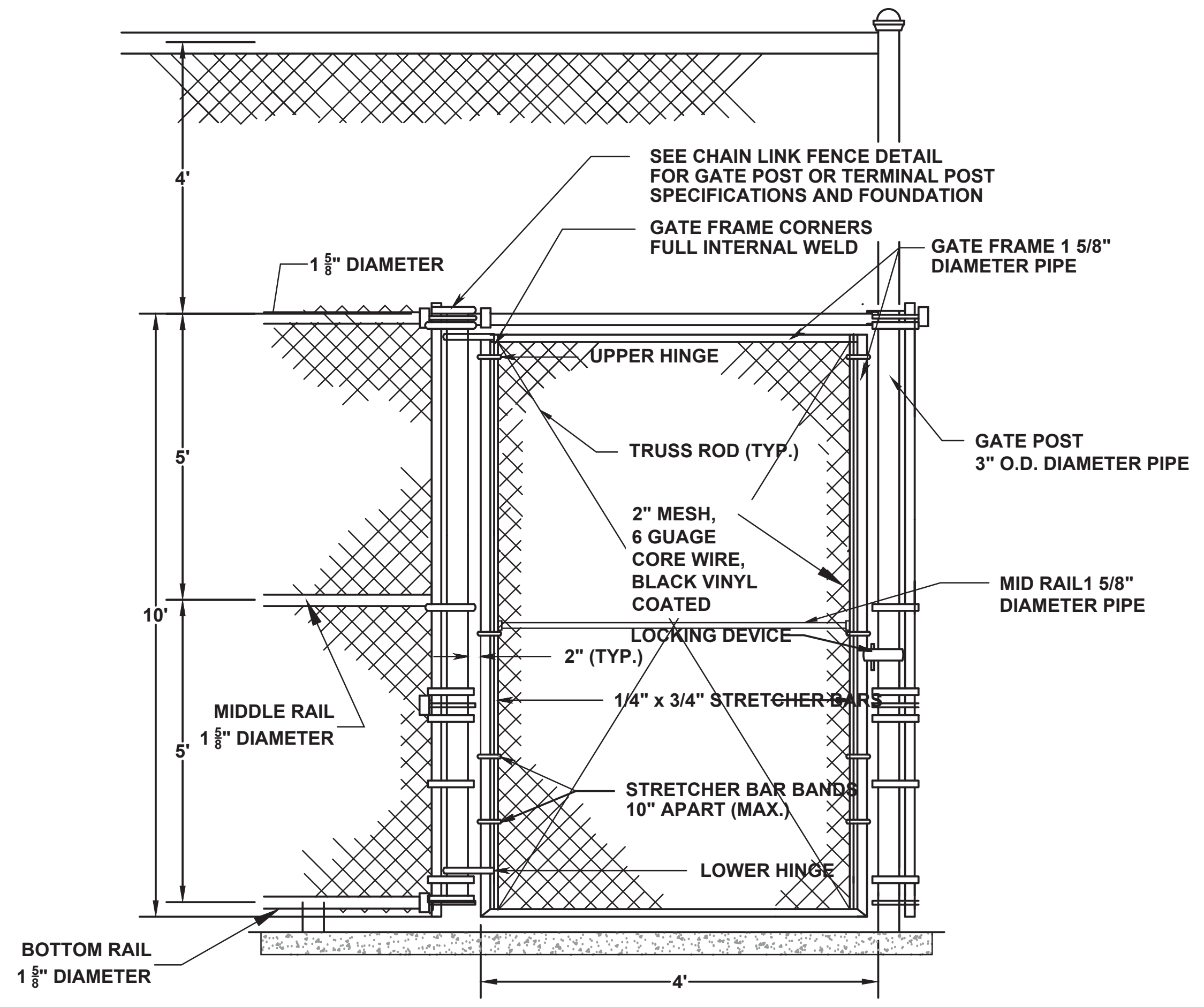

BLACK VINYL COATED CHAIN-LINK FABRIC, 6-GAUGE, 2" MESH
TOP RAIL 1 5/8" DIAMETER
CAP TO BE SECURED WITH VANDAL RESISTANT SET SCREWS
KNUCKLE FINISH ON TOP AND BOTTOM OF FABRIC
LOOP CAP
TERMINAL POST 3" OD PIPE
STRETCHER BAR
FABRIC TIES W2 WIRE 12" APART (MAX.)
2 1/2" OD
8' OR 10'
MID-RAIL 1 5/8" DIAMETER
2" MESH FENCE FABRIC
FINISHED SURFACE (SEE SITE LAYOUT PLAN)
2" MAX
BOTTOM RAIL 1 5/8" DIAMETER
CLASS "C" CONCRETE
42" (TYP.)
CLASS A CONCRETE
10'-0" NOMINAL POST SPACING
12"Ø
12"Ø

NOTE:

1. 8' HT. CHAIN LINK FENCE WITHIN THE INTERIOR OF THE PARK AT THE SANITARY LIFT STATION AND AT THE MAINTENANCE YARD SHALL RECEIVE HEDGELINK PRIVACY SLATS BY PEXCO, OR APPROVED EQUAL, REFER TO SITE LAYOUT PLANS FOR LOCATIONS.
2. 8' & 10' HT. CHAIN-LINK FENCE ASSOCIATED WITH MULTIPURPOSE OR CHALLENGER FIELDS PERIMETER, BULLPEN OR DUG OUT FENCING SHALL BE BY OTHERS.

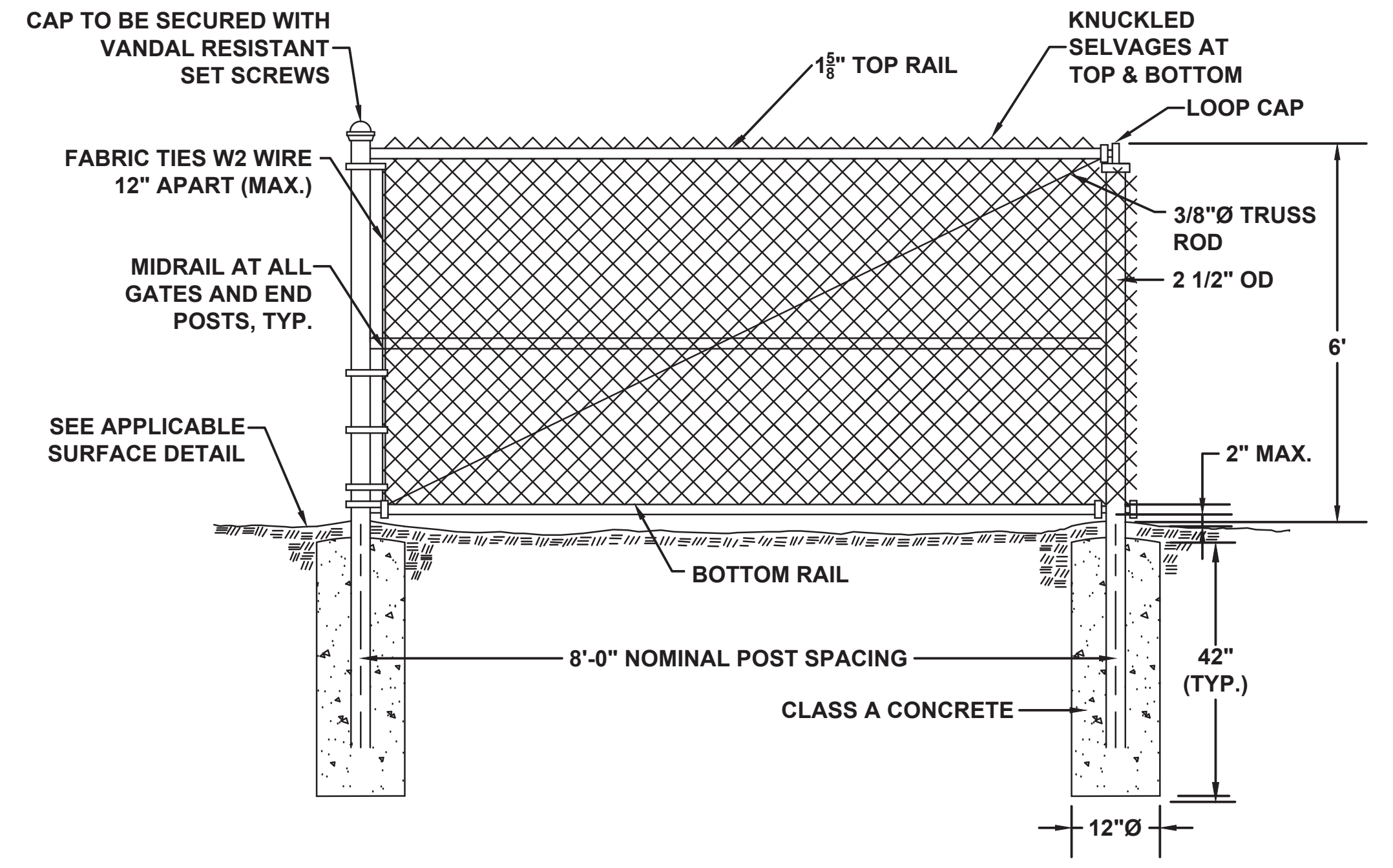
CHAIN-LINK FENCE, 8' OR 10' HIGH

N.T.S.


4'
SEE CHAIN LINK FENCE DETAIL FOR GATE POST OR TERMINAL POST SPECIFICATIONS AND FOUNDATION
GATE FRAME CORNERS FULL INTERNAL WELD
1 5/8" DIAMETER
GATE FRAME 1 5/8" DIAMETER PIPE
UPPER HINGE
5'
TRUSS ROD (TYP.)
GATE POST 3" O.D. DIAMETER PIPE
2" MESH, 6 GUAGE CORE WIRE, BLACK VINYL COATED
10'
MID RAIL1 5/8" DIAMETER PIPE
LOCKING DEVICE
2" (TYP.)
1/4" x 3/4" STRETCHER BARS
MIDDLE RAIL 1 5/8" DIAMETER
5'
STRETCHER BAR BANDS 10" APART (MAX.)
LOWER HINGE
BOTTOM RAIL 1 5/8" DIAMETER
4'

CHAIN-LINK GATE, 10' HIGH, 4' WIDE

N.T.S.

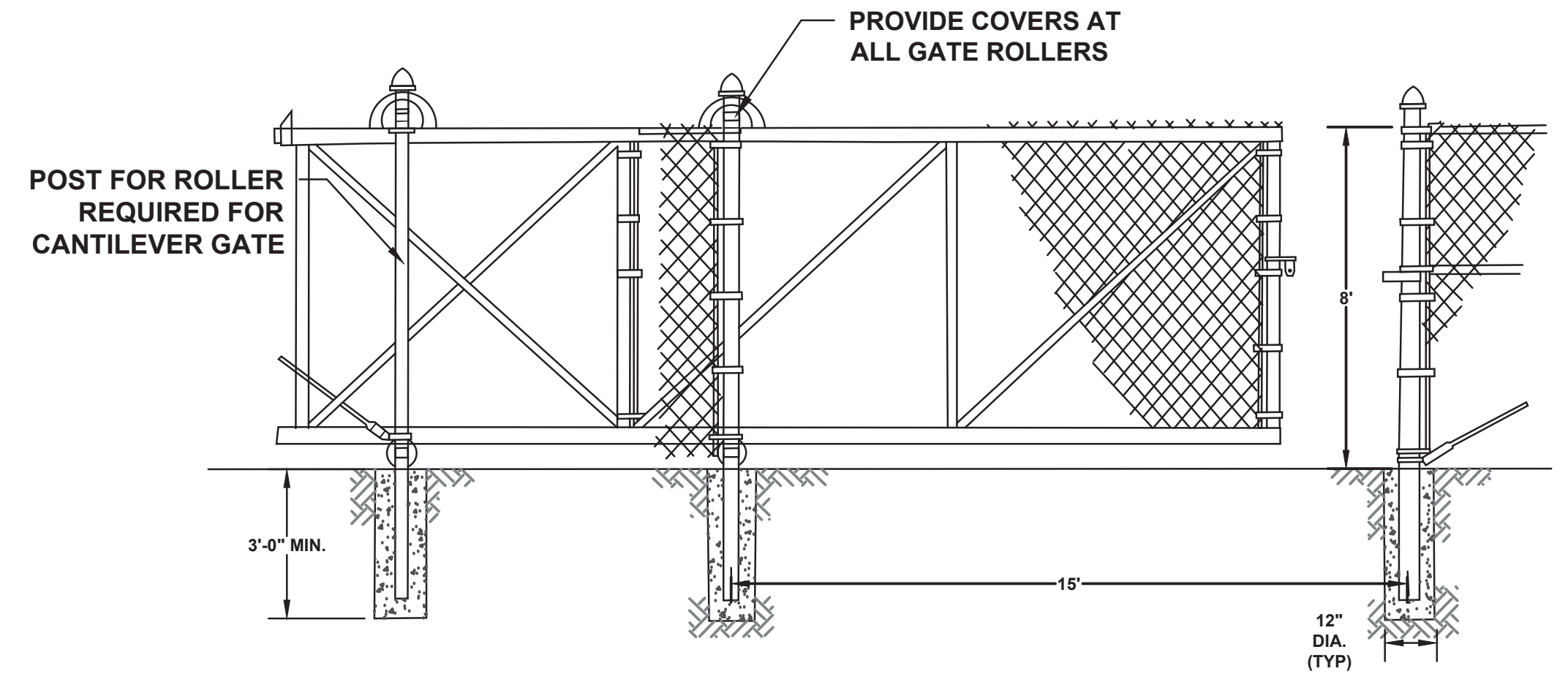

CAP TO BE SECURED WITH VANDAL RESISTANT SET SCREWS
1 5/8" TOP RAIL
KNUCKLED SELVAGES AT TOP & BOTTOM
LOOP CAP
FABRIC TIES W2 WIRE 12" APART (MAX.)
3/8"Ø TRUSS ROD
2 1/2" OD
MIDRAIL AT ALL GATES AND END POSTS, TYP.
6'
SEE APPLICABLE SURFACE DETAIL
2" MAX.
BOTTOM RAIL
8'-0" NOMINAL POST SPACING
42" (TYP.)
CLASS A CONCRETE
12"Ø

6' CHAIN-LINK FENCE AND GATE NOTES:

1. CHAIN-LINK FENCE FABRIC, POSTS, RAILS, TIES, BANDS, BARS, RODS, AND OTHER FITTINGS AND HARDWARE SHALL CONFORM TO AASHTO M181.
2. ALL CHAIN-LINK FENCE SHALL BE BLACK VINYL COATED.
3. ALL CHAIN-LINK FENCE AND GATE POSTS & RAILS SHALL BE COLOR BLACK, SEE SPECIFICATIONS.
4. FABRIC SHALL BE 6-GAUGE CORE WIRE, 2" MESH, COLOR BLACK
5. BRACE BANDS AND STRETCHER BAR BANDS SHALL BE FURNISHED WITH 5/16" DIA. CARRIAGE BOLTS AND ELASTIC STOP NUTS.
6. CONTRACTOR TO SECURE FENCE POST CAPS WITH VANDAL RESISTANT SET SCREWS.

CHAIN-LINK FENCE, 6' HIGH

N.T.S.

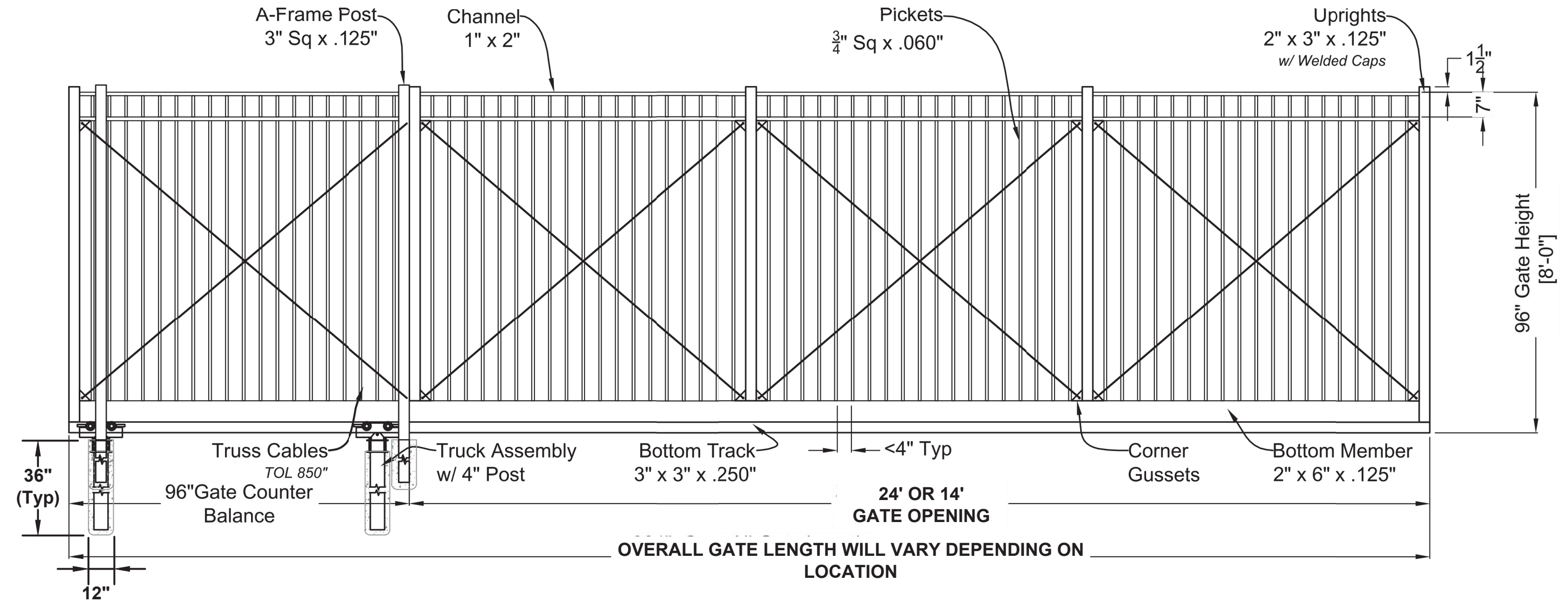

PROVIDE COVERS AT ALL GATE ROLLERS
POST FOR ROLLER REQUIRED FOR CANTILEVER GATE
8'
3'-0" MIN.
15'
12" DIA. (TYP)

CANTILEVER GATE NOTE:
1. FRAME IS APPROXIMATELY 1.5X OPENING SIZE. CANTILEVER GATES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

2. CONTRACTOR TO SECURE FENCE POST CAPS WITH VANDAL RESISTANT SET SCREWS.

CANTILEVER GATE, 8' HIGH, 15' WIDE

N.T.S.


A-Frame Post 3" Sq x .125"
Channel 1" x 2"
Pickets 3/4" Sq x .060"
Uprights 2" x 3" x .125" w/ Welded Caps
1 1/2"
7"
96" Gate Height [8'-0"]
Truss Cables TOL 850"
Truck Assembly w/ 4" Post
Bottom Track 3" x 3" x .250"
<4" Typ
Corner Gussets
Bottom Member 2" x 6" x .125"
36" (Typ)
96"Gate Counter Balance
24' OR 14' GATE OPENING
OVERALL GATE LENGTH WILL VARY DEPENDING ON LOCATION
12" (Typ)

CANTILEVER GATE NOTES:
1. TRANSPORT II MAJESTIC CANTILEVER SLIDE GATE SYSTEM, COLOR: BLACK, REPRESENTED BY AMERISTAR FENCE PRODUCTS, OR APPROVED EQUAL. CANTILEVER GATES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. GATE SHALL BE POWER OPERATED.
3. CONTRACTOR TO SECURE FENCE POST CAPS WITH VANDAL RESISTANT SET SCREWS.
4. POWER SLIDE CANTILEVER GATES SHALL EACH BE OPERATED BY SOLAR COMPATIBLE SL2000B SINGLE SLIDE GATE OPERATOR AS MANUFACTURER BY MIGHTY MULE, OR APPROVED EQUAL

POWER SLIDE CANTILEVER GATE, 8' HIGH, 14' OR 24' WIDE

N.T.S.

CHAIN-LINK FENCE ELEMENT SIZE TABLE

FENCE ELEMENT / HEIGHT	4', 6', 8',10'
GATE, CORNER, AND END POST Ø	3"
LINE POST Ø	2" FOR 4'
	2 1/2" FOR 6', 8' & 10'
FOOTING DEPTH / POST EMBEDMENT	2'-4"/2'-10" FOR 4'
	3'-6"/3'-0" FOR 6', 8' AND 10'
RAIL PLACEMENT GATE & END SECTIONS	TOP. MID. BOTT FOR ALL
RAIL PLACEMENT LINE SECTIONS	TOP. BOTT. FOR 4' AND 6'
	TOP. MID. BOTT. FOR 8' AND 10'

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:
REVISIONS				

DRAWN BY:
KAK
03/19/2021
CHECKED BY:
ASH
03/19/2021
CHECKED BY:
RCG
03/19/2021

SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CONSTRUCTION DETAIL IV

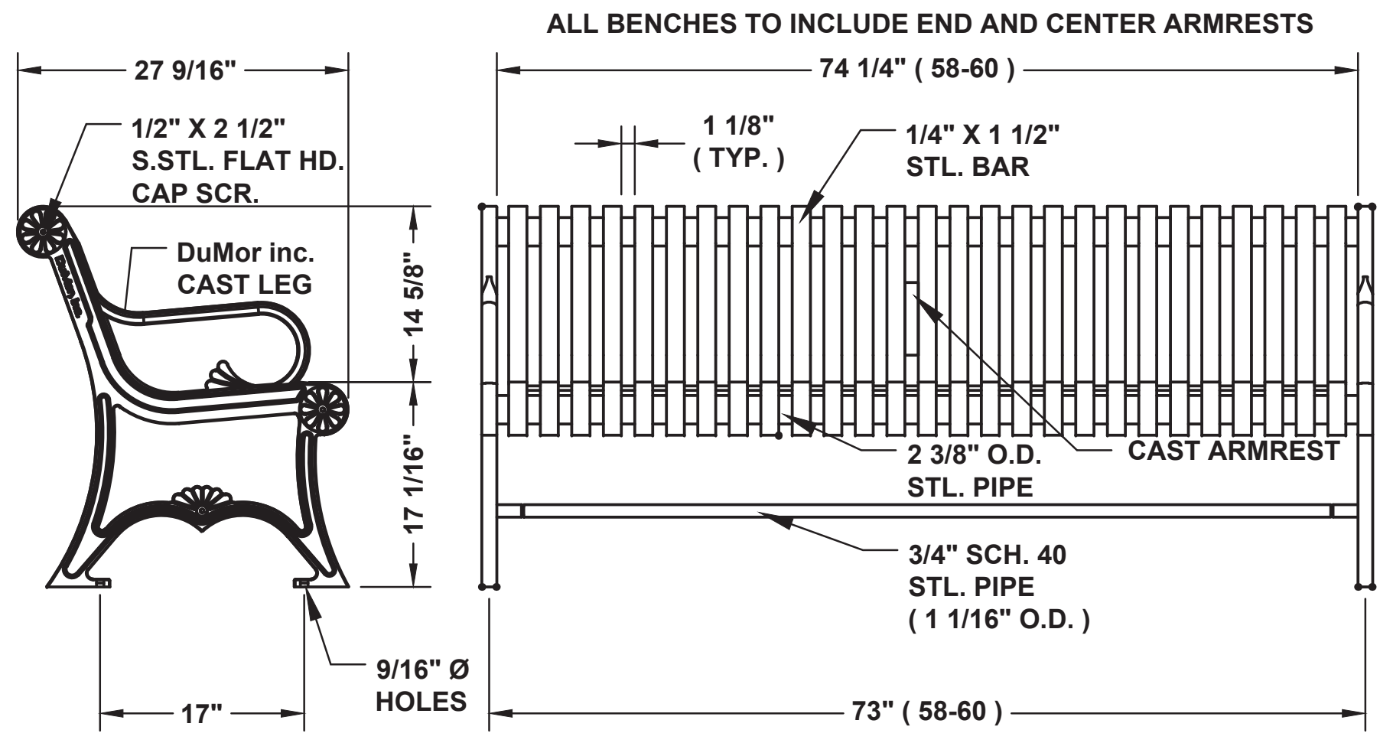
PROJECT NUMBER:
SCE-9755.021

SCALE:
N.T.S.

SHEET 36 OF 47

REVISION -

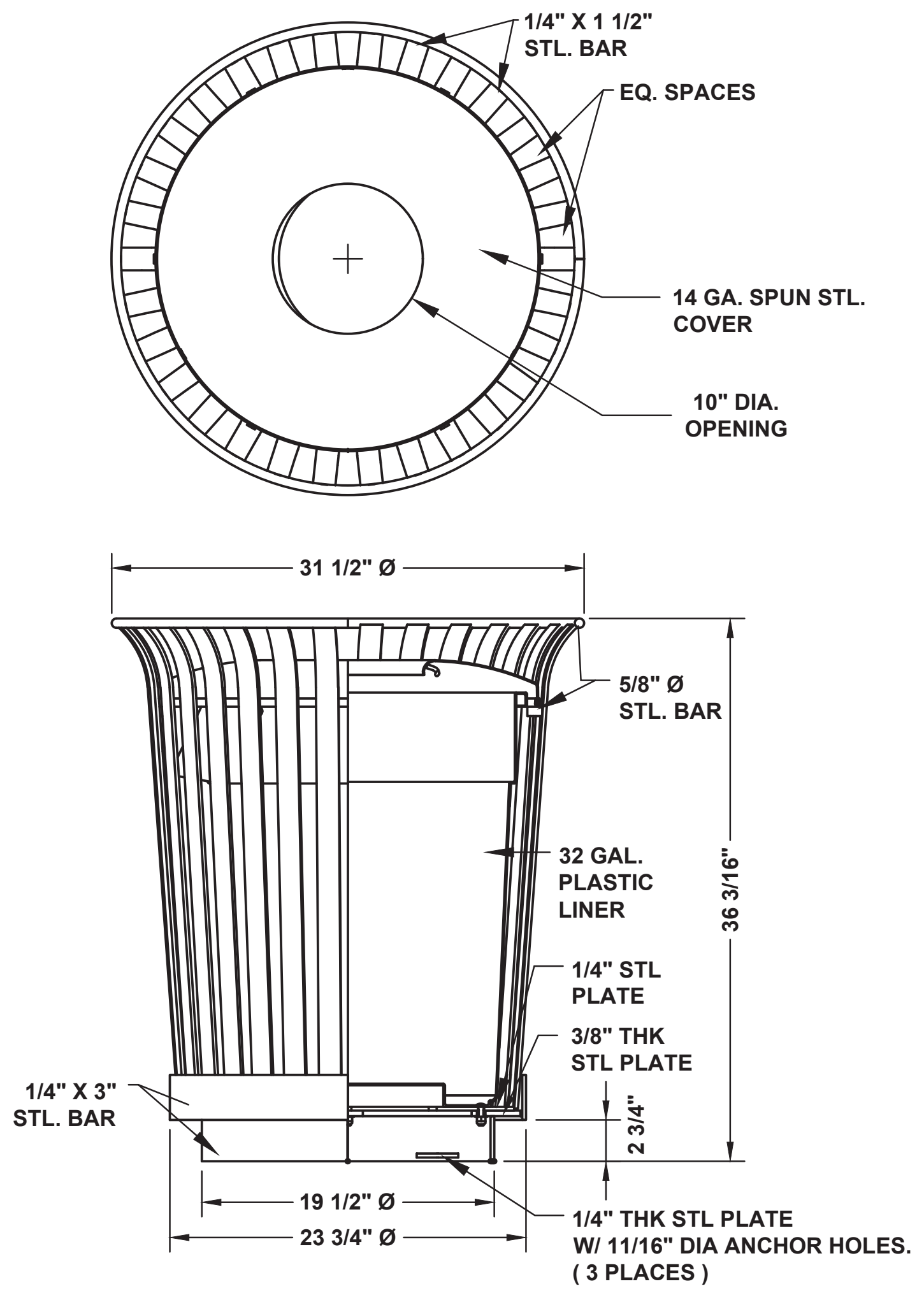
E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 36 Construction Details IV.dwg Tue, Mar 16, 2021 - 4:12pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.



NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL BENCH, MODEL #58-60-3AR, LENGTH TO BE 6', COLOR TO BE BLACK, MANUFACTURED BY DUMOR SITE FURNISHINGS OR APPROVED EQUAL.
2. ALL STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING.
3. 1/2" x 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
4. ALL BENCHES SHALL BE SURFACE MOUNTED AND INSTALLED WITH TAMPER RESISTANT STAINLESS STEEL HARDWARE.

6' BACKED BENCH DETAIL

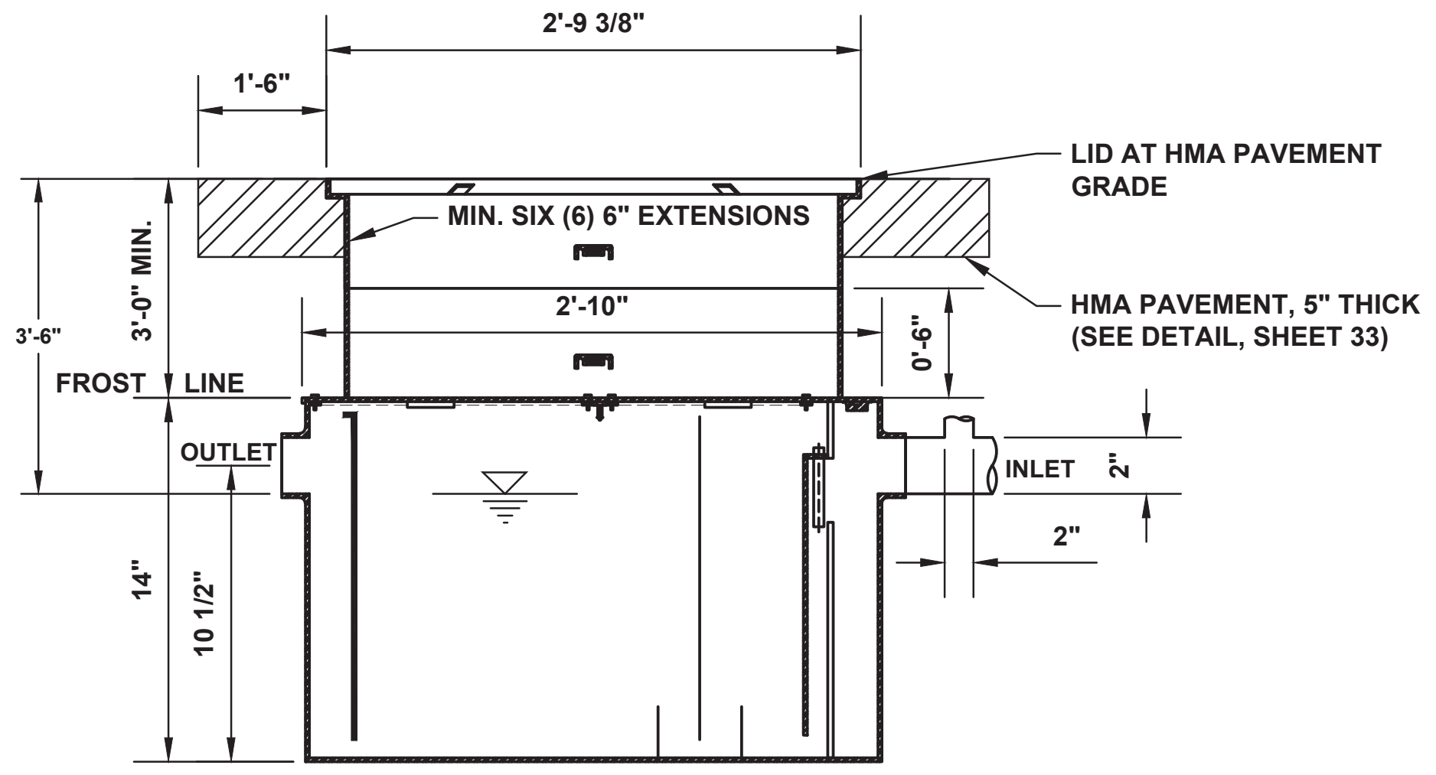
N.T.S.



NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL TRASH RECEPTACLE, MODEL #84-32-FTO, HALF OF ALL RECEPTACLE LIDS SHALL BE BT BONNET AND HALF OF ALL RECEPTACLE LIDS SHALL BE RC-RECYCLE. COLOR TO BE BLACK, MANUFACTURED BY DUMOR SITE FURNISHINGS OR APPROVED EQUAL.
2. ALL STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING.
3. 1/2" x 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
4. ALL TRASH RECEPTACLES TO BE INSTALLED WITH TAMPER RESISTANT STAINLESS STEEL HARDWARE

TRASH RECEPTACLE

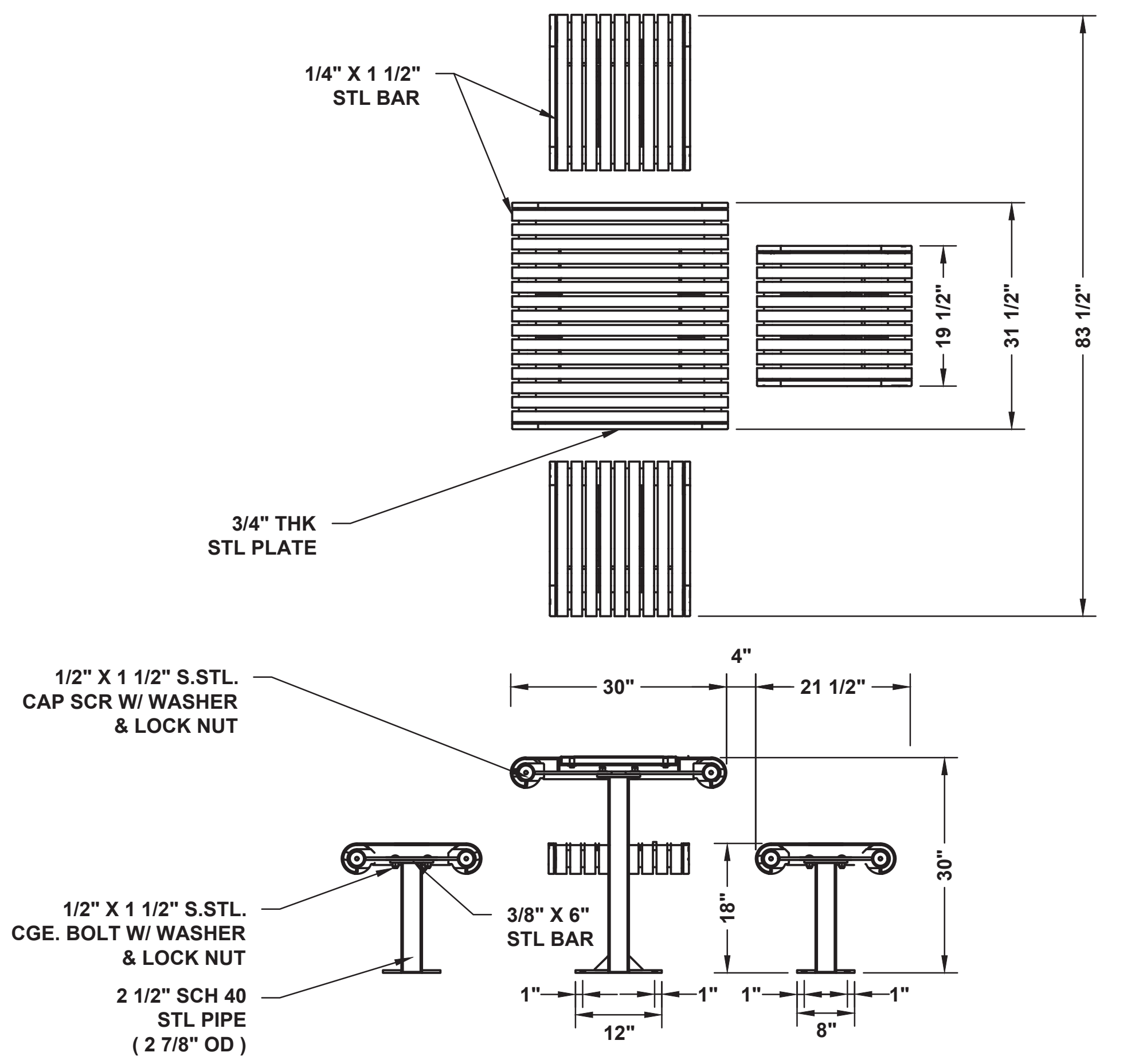
N.T.S.


2'-9 3/8"
1'-6"
LID AT HMA PAVEMENT GRADE
MIN. SIX (6) 6" EXTENSIONS
HMA PAVEMENT, 5" THICK (SEE DETAIL, SHEET 33)
3'-6"
3'-0" MIN.
2'-10"
0'-6"
FROST LINE
OUTLET
INLET
2"
2"
14"
10 1/2"

NOTE:
1. CONTRACTOR SHALL FURNISH AND INSTALL PDI CERTIFIED GREASE TRAP INTERCEPTOR, MODEL #WD-15, MANUFACTURED BY WATTS OR APPROVED EQUAL.

GREASE TRAP DETAIL

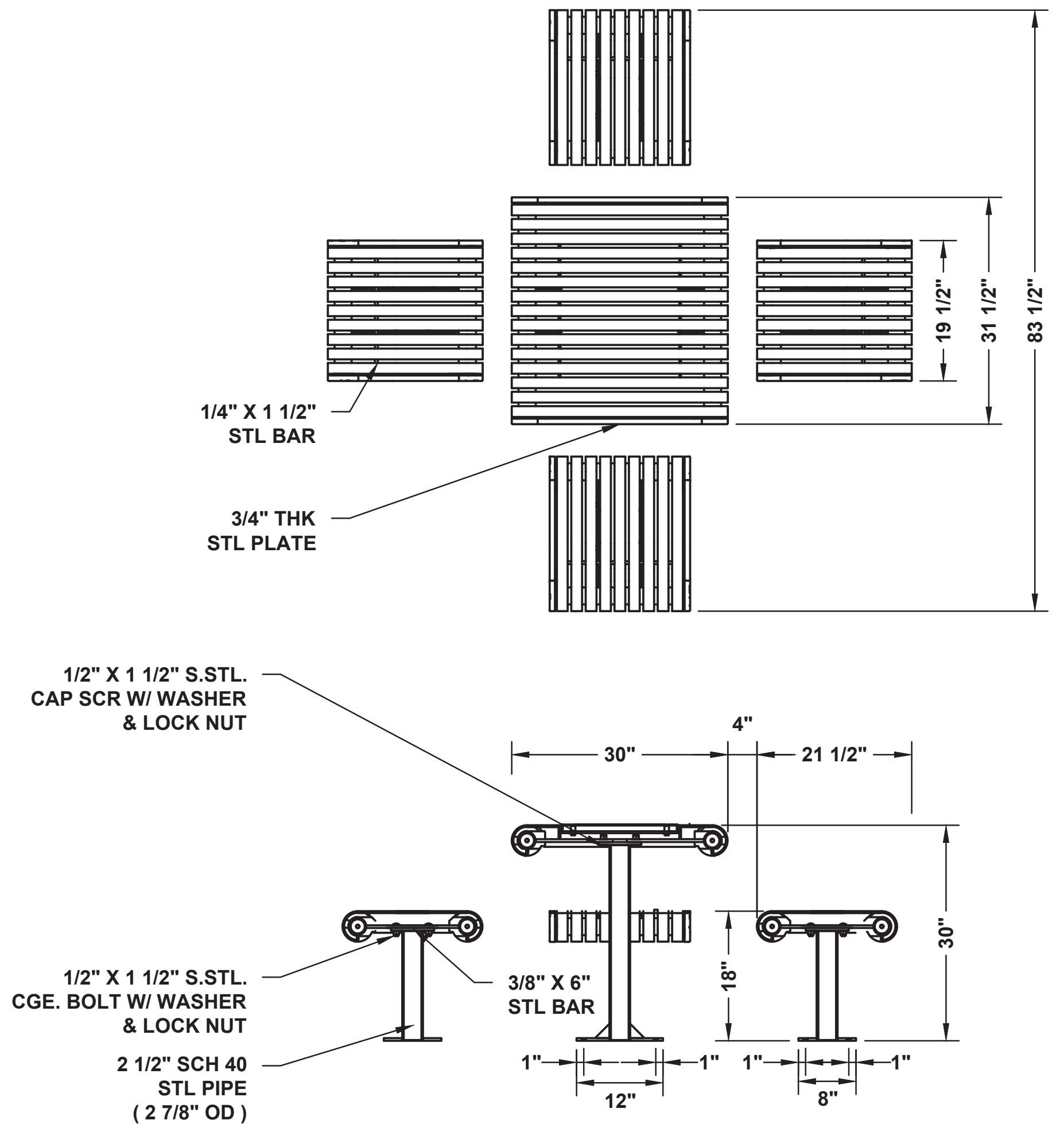
N.T.S.


1/4" X 1 1/2" STL BAR
3/4" THK STL PLATE
19 1/2"
31 1/2"
83 1/2"
1/2" X 1 1/2" S.STL. CAP SCR W/ WASHER & LOCK NUT
30"
4"
21 1/2"
1/2" X 1 1/2" S.STL. CGE. BOLT W/ WASHER & LOCK NUT
3/8" X 6" STL BAR
2 1/2" SCH 40 STL PIPE (2 7/8" OD)
18"
30"
1"
12"
1"
1"
8"
1"

NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL PICNIC TABLE - 4 SEATS, MODEL #448-33 /S-2, COLOR TO BE BLACK, MANUFACTURED BY DUMOR SITE FURNISHINGS OR APPROVED EQUAL.
2. ALL STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING.
3. ALL WELDS CONT. THEN GROUND SMOOTH.
4. 1/2" x 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
5. ALL GAME TABLES SHALL BE SURFACE MOUNTED AND INSTALLED WITH TAMPER RESISTANT STAINLESS STEEL HARDWARE.

PICNIC TABLE - 3 SEATS

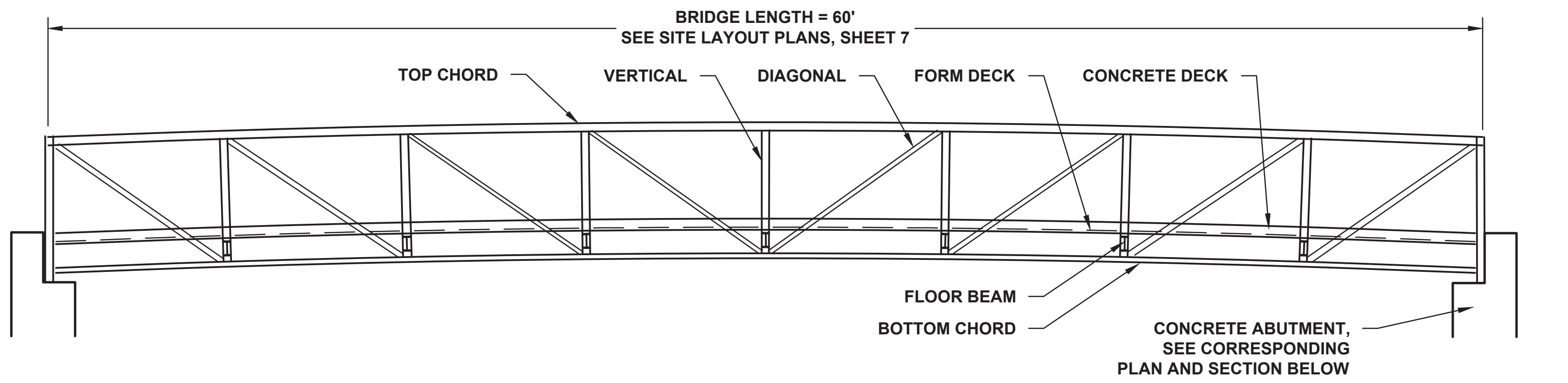
N.T.S.


1/4" X 1 1/2" STL BAR
3/4" THK STL PLATE
19 1/2"
31 1/2"
83 1/2"
1/2" X 1 1/2" S.STL. CAP SCR W/ WASHER & LOCK NUT
30"
4"
21 1/2"
1/2" X 1 1/2" S.STL. CGE. BOLT W/ WASHER & LOCK NUT
3/8" X 6" STL BAR
2 1/2" SCH 40 STL PIPE (2 7/8" OD)
18"
30"
1"
12"
1"
1"
8"
1"

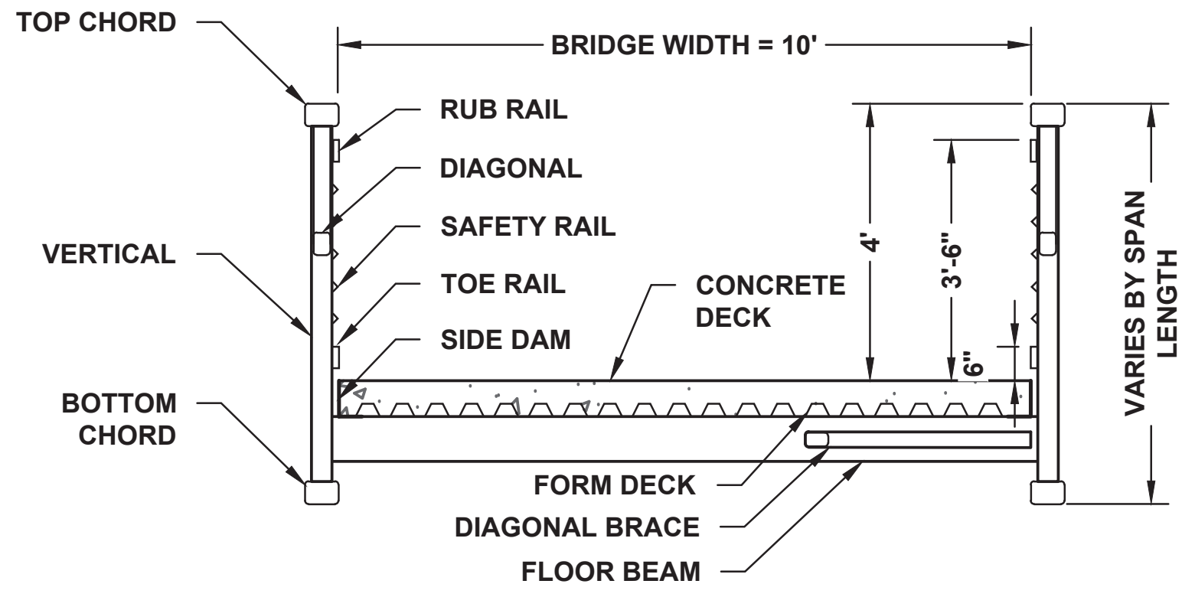
NOTES:
1. CONTRACTOR SHALL FURNISH AND INSTALL PICNIC TABLE - 4 SEATS, MODEL #448-34/S-2, COLOR TO BE BLACK, MANUFACTURED BY DUMOR SITE FURNISHINGS OR APPROVED EQUAL.
2. ALL STEEL MEMBERS COATED WITH ZINC RICH EPOXY THEN FINISHED WITH POLYESTER POWDER COATING.
3. ALL WELDS CONT. THEN GROUND SMOOTH.
4. 1/2" x 3 3/4" EXPANSION ANCHOR BOLTS PROVIDED.
5. ALL TABLES SHALL BE SURFACE MOUNTED AND INSTALLED WITH TAMPER RESISTANT STAINLESS STEEL HARDWARE.

PICNIC TABLE - 4 SEATS

N.T.S.


BRIDGE LENGTH = 60' SEE SITE LAYOUT PLANS, SHEET 7
TOP CHORD
VERTICAL
DIAGONAL
FORM DECK
CONCRETE DECK
FLOOR BEAM
BOTTOM CHORD
CONCRETE ABUTMENT, SEE CORRESPONDING PLAN AND SECTION BELOW

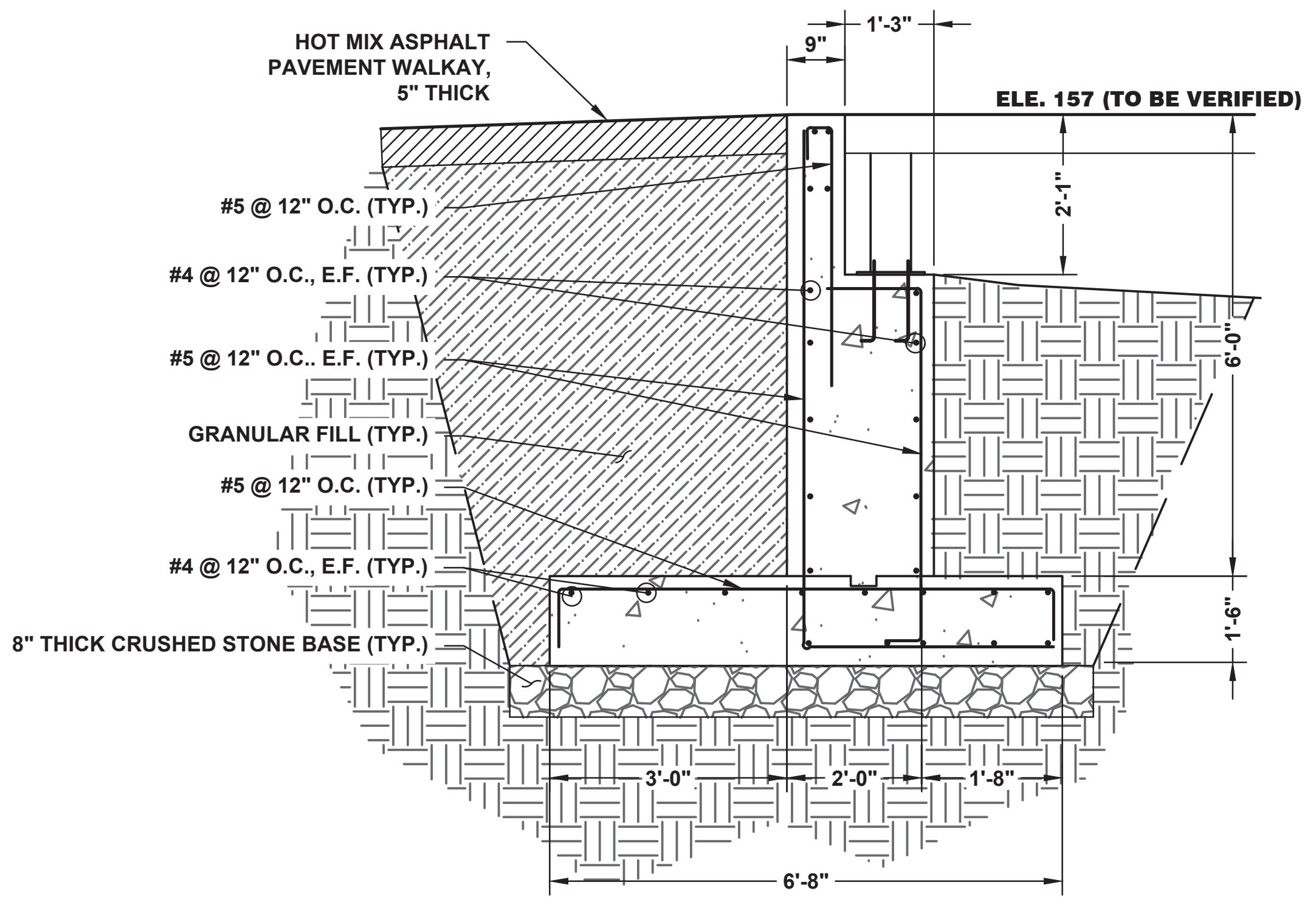
TYPCAL SPAN ELEVATION



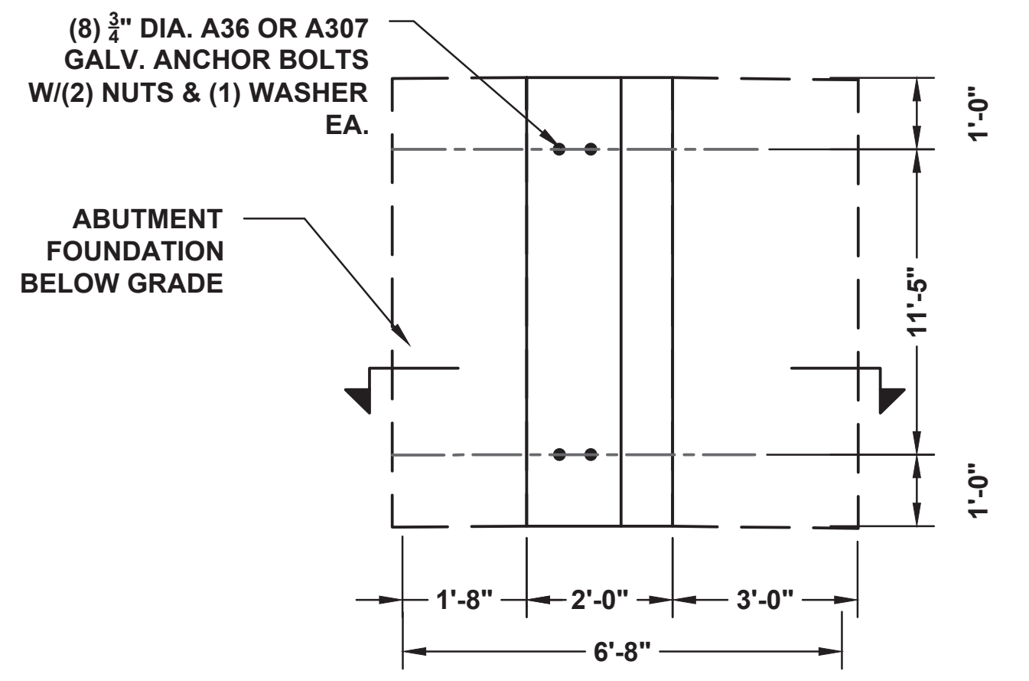
TYPCAL SPAN SECTION

GENERAL NOTES

1. DESIGN PROCEDURE IS IN ACCORDANCE WITH "LRFD BRIDGE DESIGN SPECIFICATIONS" 6TH EDITION & "GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES" BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) 2009.
2. BRIDGE MEMBERS ARE FABRICATED FROM HIGH STRENGTH, LOW ALLOY, ENHANCED ATMOSPHERIC CORROSION RESISTANT ASTM A847 COLD-FORMED WELDED SQUARE AND RECTANGULAR TUBING, AND ASTM A588, ASTM A606, OR ASTM A242 PLATE AND STRUCTURAL SHAPES (F_y=50,000 PSI).
3. CONCRETE DECK: GALVANIZED FORM DECK SUPPLIED BY CONTECH. CONCRETE, REINFORCING AND EXPANSION MATERIAL SUPPLIED BY OTHERS. SEE CONCRETE DECK SHEET.
4. THE GAS METAL ARC WELDING PROCESS OR FLUX CORED ARC WELDING PROCESS WILL BE USED. WELDING TO BE IN ACCORDANCE WITH AWS D1.1.
5. ALL TOP AND BOTTOM CHORD SHOP SPLICES TO BE COMPLETE PENETRATION TYPE WELDS. WELD BETWEEN TOP CHORD AND END VERTICAL SHALL BE AS DETAILED.
6. UNLESS OTHERWISE NOTED, WELDED CONNECTIONS SHALL BE FILLET WELDS (OR HAVE THE EFFECTIVE THROAT OF A FILLET WELD) OF A SIZE EQUAL TO THE THICKNESS OF THE LIGHTEST GAGE MEMBER IN THE CONNECTION. WELDS SHALL BE APPLIED AS FOLLOWS:
   - A. BOTH ENDS OF VERTICALS, DIAGONALS, AND FLOOR BEAMS SHALL BE WELDED ALL AROUND.
   - B. BRACE DIAGONALS WILL BE WELDED ALL AROUND.
   - C. MISCELLANEOUS NON-STRUCTURAL MEMBERS WILL BE STITCH WELDED TO THEIR SUPPORTING MEMBERS.
7. BRIDGE DESIGN WAS ONLY BASED ON COMBINATIONS OF THE FOLLOWING LOADS WHICH WILL PRODUCE MAXIMUM CRITICAL MEMBER STRESSES.
   - A. 85 PSF UNIFORM LIVE LOADING ON THE FULL DECK AREA OR ONE 10,000 LB VEHICLE LOAD. THE LOAD SHALL BE DISTRIBUTED AS A FOUR-WHEEL VEHICLE WITH 80% OF THE LOAD ON THE REAR WHEELS. THE WHEEL TRACK WIDTH OF THE VEHICLE SHALL BE 6'-0" AND THE WHEEL BASE SHALL BE 10'-0". THE VEHICLE SHALL BE POSITIONED SO AS TO PRODUCE THE MAXIMUM STRESSES IN EACH MEMBER, INCLUDING DECKING.
   - B. 35 PSF WIND LOAD ON THE FULL HEIGHT OF THE BRIDGE, AS IF ENCLOSED.
   - C. 20 PSF UPWARD FORCE APPLIED AT THE WINDWARD QUARTER POINT OF THE TRANSVERSE BRIDGE WIDTH (AASHTO 3.8.2).
8. CLEANING: ALL EXPOSED SURFACES OF STEEL SHALL BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACES PREPARATION SPECIFICATIONS NO. 7 BRUSH-OFF BLAST CLEANING. SSPC-SP7-LATEST EDITION.
9. MINIMUM MATERIAL THICKNESS OF 1/4" ON ALL STRUCTURAL MEMBERS.


HOT MIX ASPHALT PAVEMENT WALKAY, 5" THICK
9"
1'-3"
ELE. 157 (TO BE VERIFIED)
#5 @ 12" O.C. (TYP.)
#4 @ 12" O.C., E.F. (TYP.)
#5 @ 12" O.C.. E.F. (TYP.)
GRANULAR FILL (TYP.)
#5 @ 12" O.C. (TYP.)
#4 @ 12" O.C., E.F. (TYP.)
8" THICK CRUSHED STONE BASE (TYP.)
2'-1"
6'-0"
1'-6"
3'-0"
2'-0"
1'-8"
6'-8"

60' SPAN ABUTMENT SECTION


(8) 3/4" DIA. A36 OR A307 GALV. ANCHOR BOLTS W/(2) NUTS & (1) WASHER EA.
ABUTMENT FOUNDATION BELOW GRADE
1'-0"
11'-5"
1'-0"
1'-8"
2'-0"
3'-0"
6'-8"

60' SPAN ABUTMENT PLAN VIEW

COMBINE REACTIONS AS PER LOCAL OR GOVERNING BUILDING CODES AS REQUIRED

BRIDGE REACTIONS + DOWNWARD LOAD - UPWARD LOAD	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD ②	12,525		
UNIFORM LIVE LOAD	13,500		
VEHICLE LOAD	5,000		
WIND UPLIFT 20 PSF WINDWARD LEEWARD	-4,875 -1,625		
WIND	±1,925	5,995	
THERMAL ②			1,880

"P" - VERTICAL LOAD EACH BASE PLATE (4 PER BRIDGE)
"H" - HORIZONTAL LOAD EACH FOOTING (2 PER BRIDGE)
"L" - LONGITUDINAL LOAD EACH BASE PLATE (4 PER BRIDGE)

① BRIDGE LIFTING WEIGHT: 13,500 LBS

BRIDGE FINAL WEIGHT: 50,100 LBS

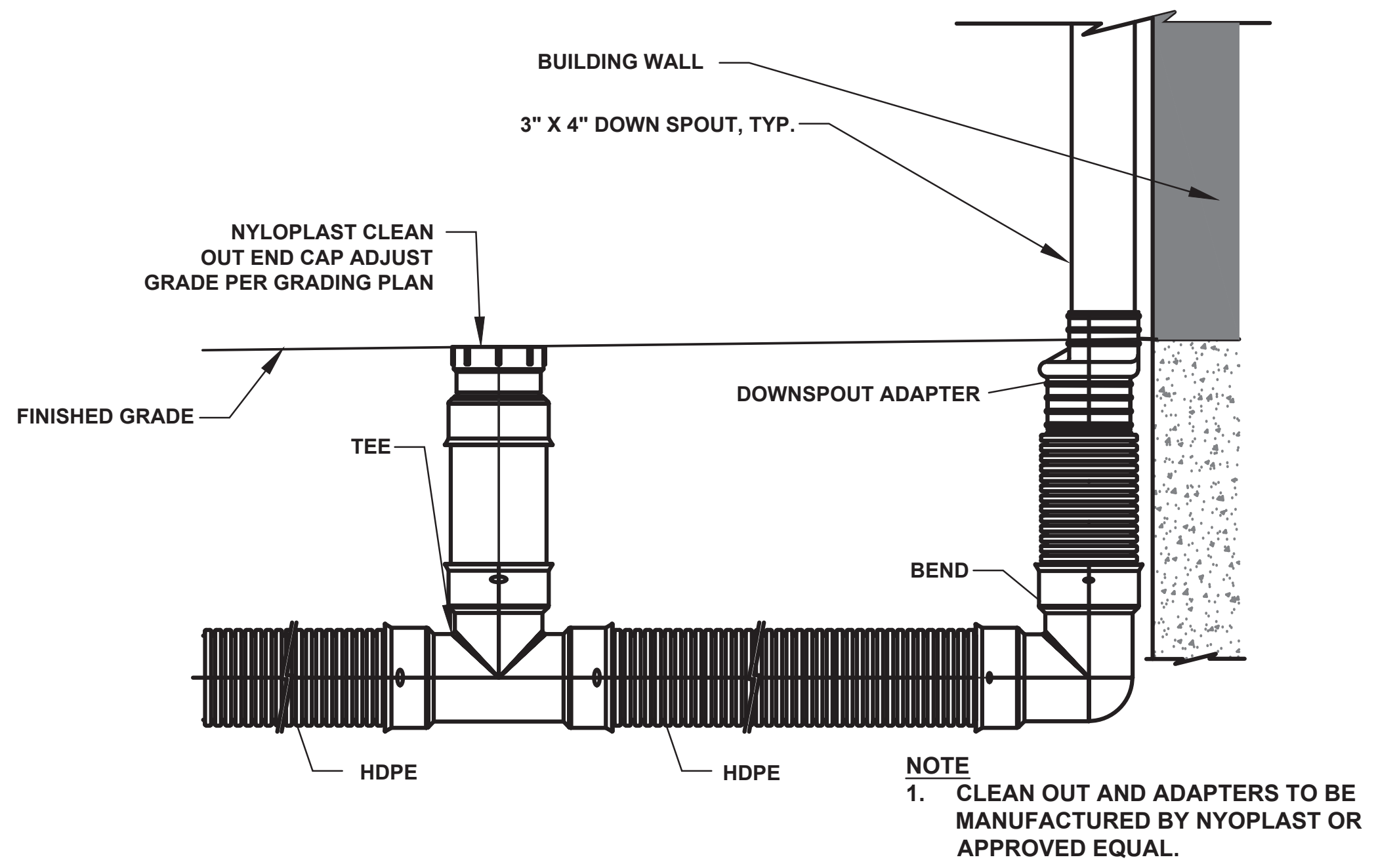
① DOES NOT INCLUDE CONCRETE WEIGHT

② INCLUDES CONCRETE WEIGHT

60' SPAN LOAD REACTIONS

PEDESTRIAN BRIDGE - 60' SPAN

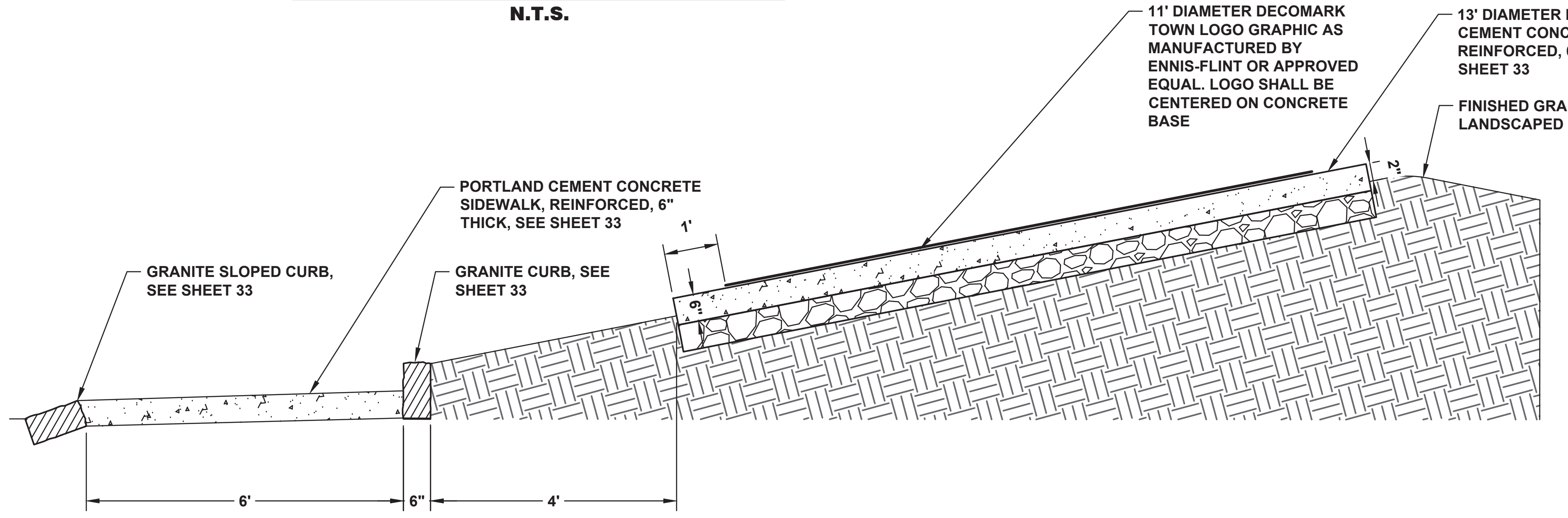
N.T.S.



NOTE
1. CLEAN OUT AND ADAPTERS TO BE MANUFACTURED BY NYOPLAST OR APPROVED EQUAL.

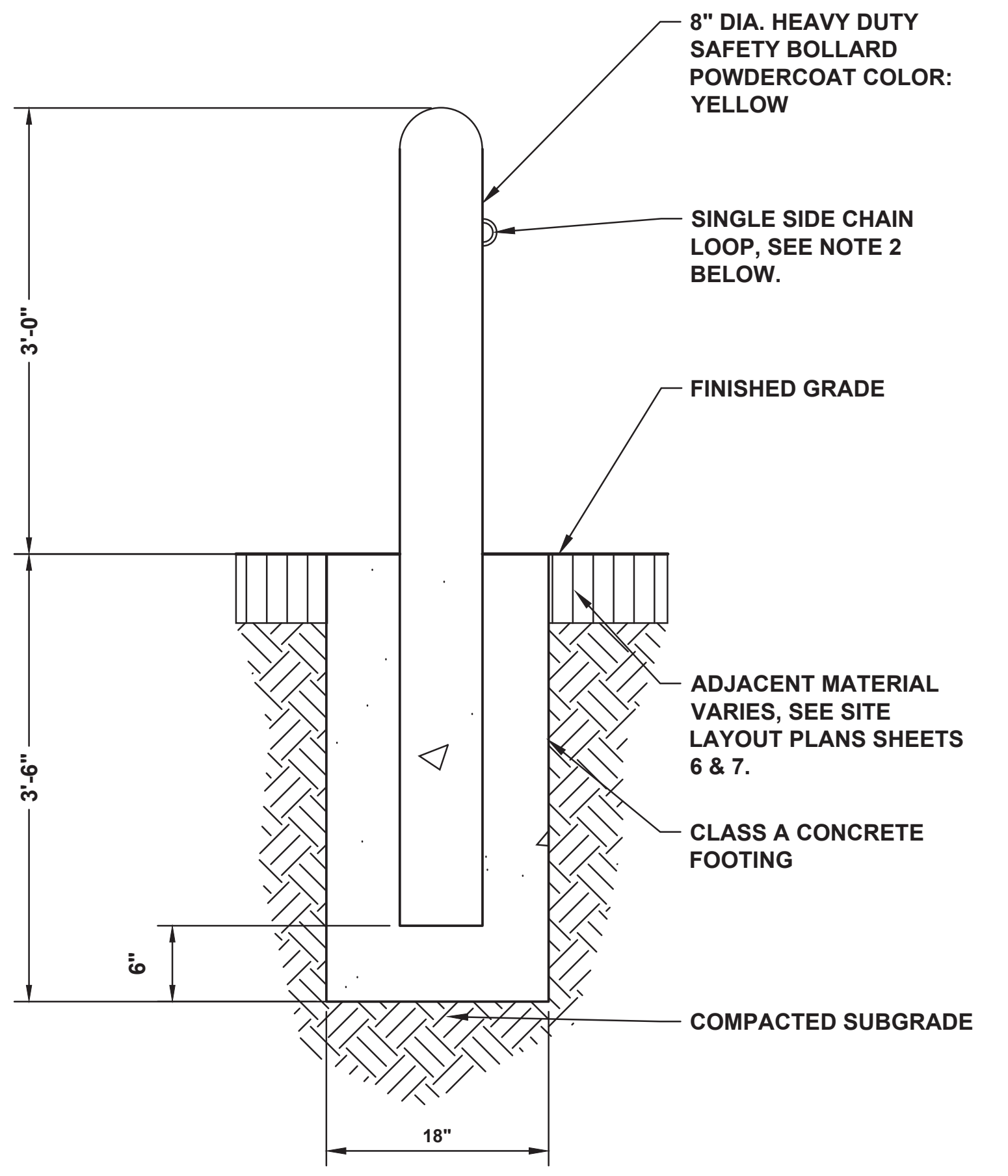
ROOF DRAIN WITH CLEANOUT

N.T.S.


11' DIAMETER DECOMARK TOWN LOGO GRAPHIC AS MANUFACTURED BY ENNIS-FLINT OR APPROVED EQUAL. LOGO SHALL BE CENTERED ON CONCRETE BASE
13' DIAMETER PORTLAND CEMENT CONCRETE SIDEWALK, REINFORCED, 6" THICK, SEE SHEET 33
FINISHED GRADE OF LANDSCAPED MOUND
PORTLAND CEMENT CONCRETE SIDEWALK, REINFORCED, 6" THICK, SEE SHEET 33
1'
2"
6"
GRANITE SLOPED CURB, SEE SHEET 33
GRANITE CURB, SEE SHEET 33
6'
6"
4'

TOWN SEAL GRAPHIC ON CONCRETE SIDEWALK, 6" THICK, REINFORCED

N.T.S.


8" DIA. HEAVY DUTY SAFETY BOLLARD POWDERCOAT COLOR: YELLOW
SINGLE SIDE CHAIN LOOP, SEE NOTE 2 BELOW.
FINISHED GRADE
3'-0"
ADJACENT MATERIAL VARIES, SEE SITE LAYOUT PLANS SHEETS 6 & 7.
CLASS A CONCRETE FOOTING
3'-6"
6"
COMPACTED SUBGRADE
18"

NOTES:

1. BOLLARDS SHALL BE MODEL 2803S AS MANUFACTURED BY BELSON OUTDOORS, (800) 323-5664, OR APPROVED EQUAL
2. BOLLARDS LOCATED AT ACCESS PATHWAY TO SANITARY LIFT STATION SHALL HAVE SINGLE SIDE CHAIN LOOP, MODEL 2803S-1, FOR ATTACHING HEAVY DUTY CHAIN AND CONNECTOR LINKS.
3. COLOR SHALL BE YELLOW AND APPROVED/CONFIRMED BY OWNER.

SAFETY BOLLARD DETAIL

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

NOTICE

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EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CONSTRUCTION DETAIL V

PROJECT NUMBER:
SCE-9755.021

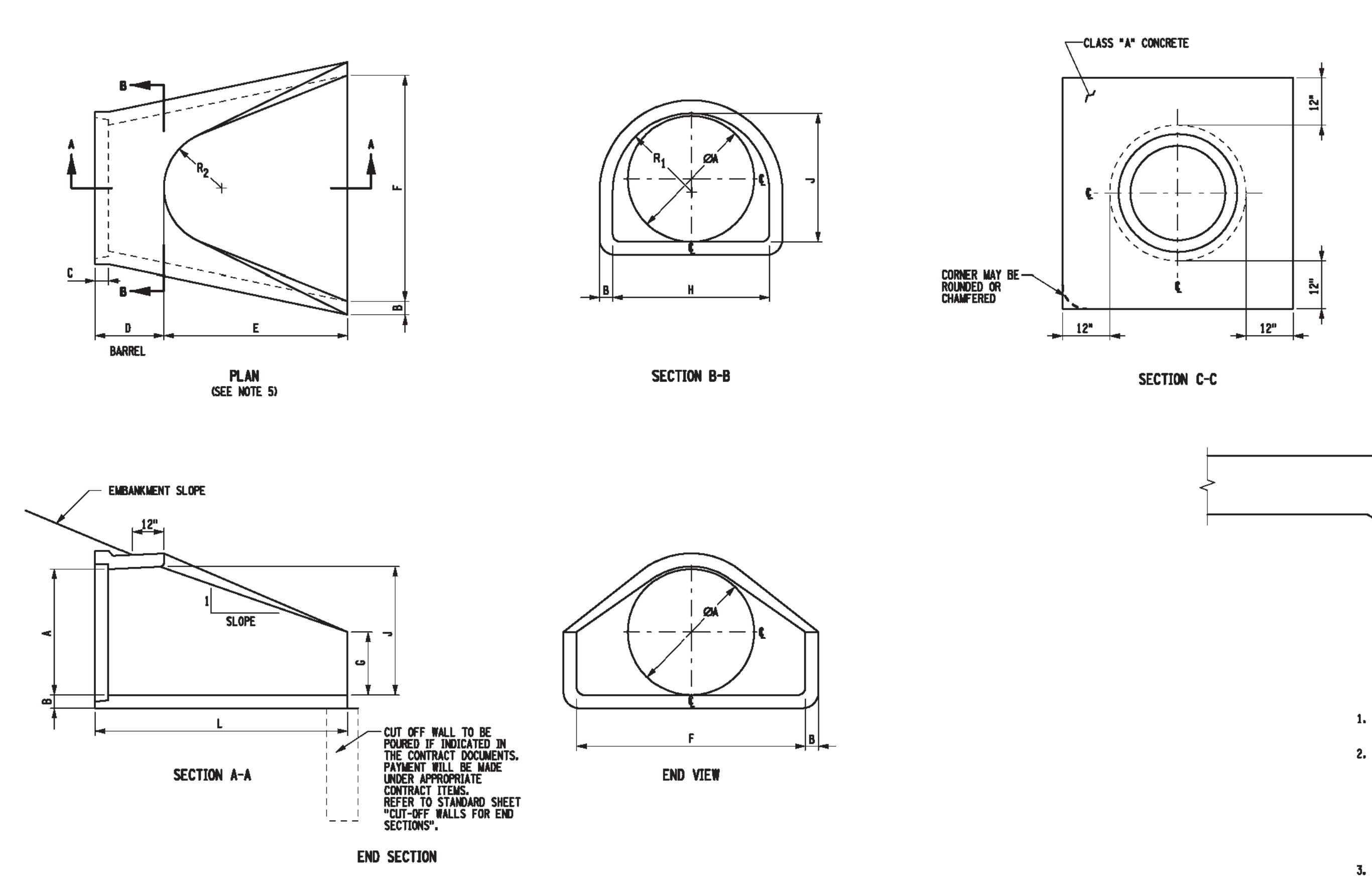
SCALE:
N.T.S.

SHEET 37 OF 47

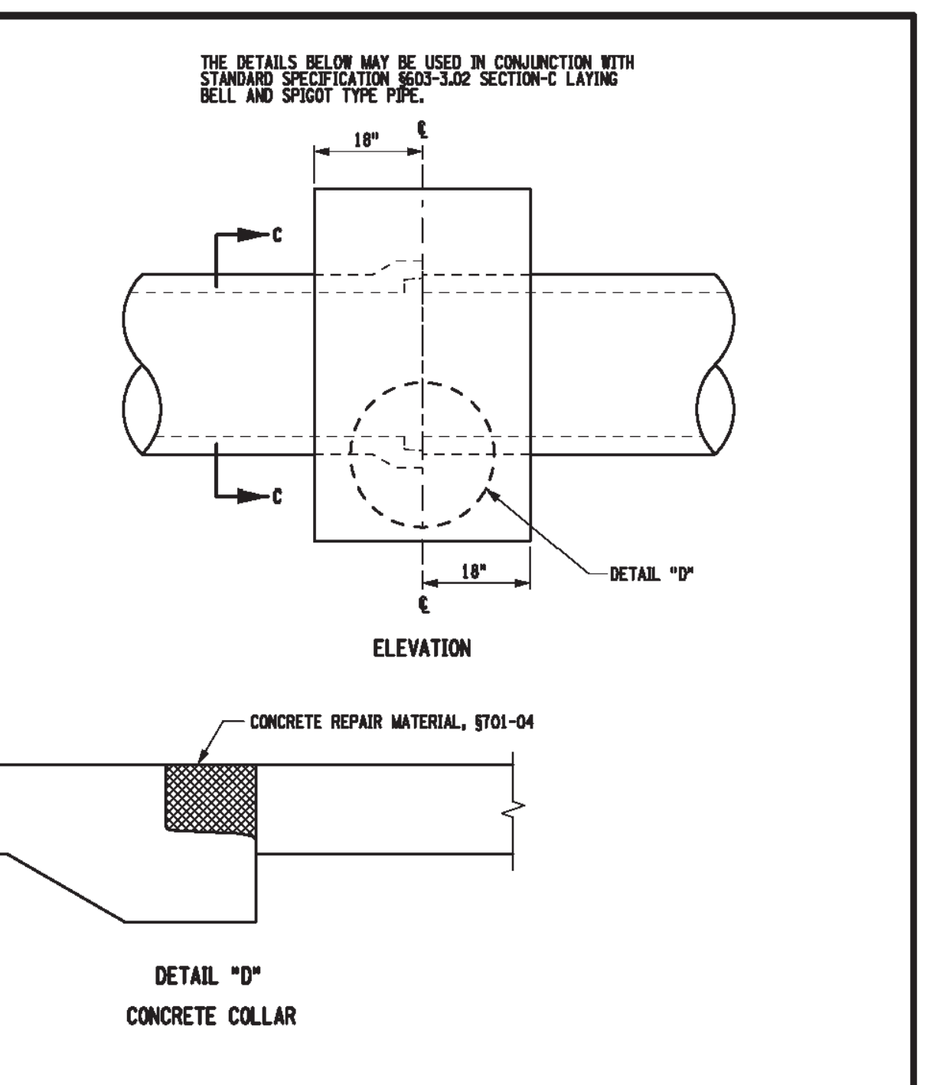
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 37 Construction Details V.dwg Tue, Mar 16, 2021 - 4:18pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 38-39 CONSTRUCTION DETAILS VI & VII.dwg Thu, Mar 11, 2021 - 3:09pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.

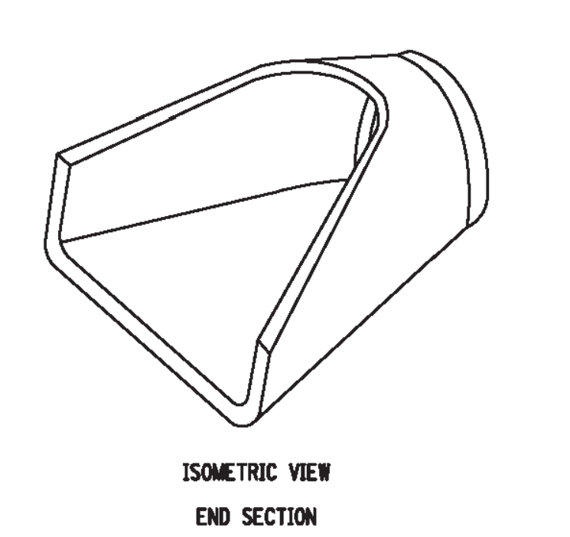


PLAN (SEE NOTE 5)
SECTION B-B
SECTION C-C
SECTION A-A
END VIEW
END SECTION
CUT OFF WALL TO BE POURED IF INDICATED IN THE CONTRACT DOCUMENTS. PAYMENT WILL BE MADE UNDER APPROPRIATE CONTRACT ITEMS. REFER TO STANDARD SHEET "CUT-OFF WALLS FOR END SECTIONS".



THE DETAILS BELOW MAY BE USED IN CONJUNCTION WITH STANDARD SPECIFICATION §603-3.02 SECTION-C LAYING BELL AND SPIGOT TYPE PIPE.
ELEVATION
DETAIL "D"
CONCRETE REPAIR MATERIAL, §701-04

DETAIL "D"
CONCRETE COLLAR


ISOMETRIC VIEW
END SECTION

GENERAL NOTES:

1. THE GENERAL SPECIFICATION FOR REINFORCED CONCRETE PIPE, CLASS IV, SHALL APPLY EXCEPT AS MODIFIED BELOW.
2. REINFORCING TO BE AS SPECIFIED FOR REINFORCED CONCRETE PIPE. CLASS III. WHERE TWO CAGES OF REINFORCING ARE SPECIFIED IN CLASS III PIPE. IT SHALL APPLY TO THE BARREL OF THE END SECTION ONLY. REINFORCING FOR THE APRON SECTION SHALL BE ONE CAGE EQUAL TO THE INNER CAGE REQUIRED IN THE BARREL. AS AN ALTERNATE FOR REINFORCING FOR REINFORCED CONCRETE PIPE CLASS III. BAR REINFORCEMENT MAY BE SUPPLIED. THE BARS SHALL CONFORM TO THE REQUIREMENTS OF §709-01 BAR REINFORCEMENT FOR CEMENT CONCRETE AND SHALL BE SUPPLIED IN THE AMOUNT NEEDED TO MEET THE REQUIRED MAXIMUM REINFORCEMENT IN SQUARE INCHES PER LINEAR FEET OF PIPE BARREL.
3. JOINTS SHALL BE THE SAME AS REQUIRED FOR REINFORCED CONCRETE PIPE.
4. THE DIMENSIONS INDICATED IN THE TABLE ENTITLED "BASIC DIMENSIONS" ARE APPROXIMATE. REFER TO INDIVIDUAL PRODUCERS, APPROVED SHOP DRAWINGS FOR THE ACTUAL DIMENSIONS.
5. PLAN AND SECTION A-A INDICATES GROOVE TYPE JOINT ONLY. OTHER TYPES OF JOINTS (TONGUE, BELL, SPIGOT) SHALL BE FURNISHED AS REQUIRED.

BASIC DIMENSIONS

A	B	C	D	E	F	G	H	J	SLOPE	R_1	R_2	RATIO $\frac{*A2}{A1}$	L
12"	2"	SEE NOTE 3	48⅜"	24"	24"	4"	19¹⁵⁄₁₆"	13"	2.7:1	10⅛"	9"	1.92	6'-0⅜"
15"	2⅜"		48⅜"	24"	29½"	6½"	26⅝"	16"	2.7:1	12⅜"	10½"	1.90	6'-0⅜"
18"	2½"		46"	27"	36"	9"	29"	19"	2.7:1	15½"	12"	1.88	6'-1"
21"	2¾"		38¾"	35"	42"	9"	29½"	22"	2.8:1	16⅛"	13"	2.37	6'-1¼"
24"	3"		30"	43½"	48"	9½"	33⅜"	25"	2.8:1	16¹³⁄₁₆"	14"	1.58	6'-1½"
27"	3¼"		25½"	48"	54"	10½"	36"	28"	2.8:1	18½"	14½"	1.89	6'-1½"
30"	3½"		19¾"	54"	60"	12"	37"	31"	2.8:1	18⅝"	15"	1.41	6'-1¾"
33"	3¾"		39⅜"	58½"	66"	13½"	43¼"	34"	2.9:1	21½"	19¼"	1.49	8'-1⅞"
36"	4"		34¾"	63"	72"	15"	47¹³⁄₁₆"	37"	2.9:1	24⁵⁄₁₆"	20"	1.50	8'-1¾"
42"	4½"		35"	63"	78"	21"	53⅞"	43"	2.9:1	27½"	22"	1.46	8'-2"
48"	5"		26"	72"	87"	24"	59½"	49"	2.9:1	30"	22"	1.40	8'-2"

A1 = AREA OF NOMINAL DIAMETER
*A2 = AREA THRU SECTION B-B

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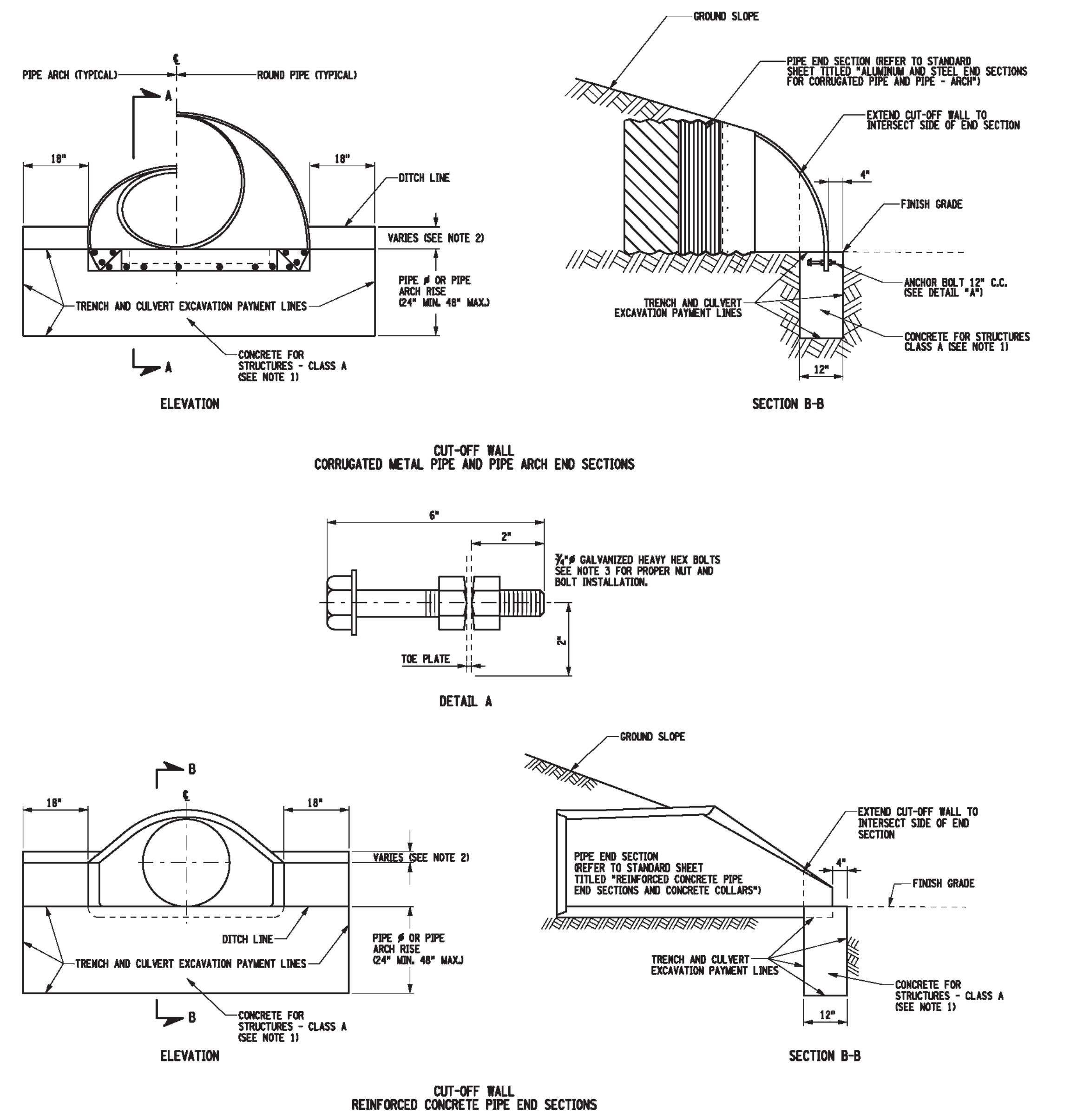
DATE/TIME = 06-NOV-2008 15:00
USER = jturley

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
U.S. CUSTOMARY STANDARD SHEET
REINFORCED CONCRETE PIPE
END SECTIONS AND CONCRETE COLLARS
APPROVED OCTOBER 01, 2008
/S/ ROBERT L. SACK, P.E.
DEPUTY CHIEF ENGINEER (TECHNICAL SERVICES)
ISSUED UNDER EB 08-036
603-01
EFFECTIVE DATE: 01/08/09



ELEVATION
SECTION B-B
CUT-OFF WALL
CORRUGATED METAL PIPE AND PIPE ARCH END SECTIONS
DETAIL A
CUT-OFF WALL
REINFORCED CONCRETE PIPE END SECTIONS

TABLE 1

PIPE DIAMETER (IN.)	CORRUGATED METAL PIPE		2⅔" X ½" CORRUGATION		3" X 1" OR 5" X 1" CORRUGATION		CORRUGATED METAL PIPE ARCH	
	EXCAVATION PAYMENT VOLUME (yd³)	CONCRETE PAYMENT VOLUME (yd³)	SPAN (IN.)	RISE (IN.)	SPAN (IN.)	RISE (IN.)	EXCAVATION PAYMENT VOLUME (yd³)	CONCRETE PAYMENT VOLUME (yd³)
12	0.43	0.46	17	13			0.47	0.52
15	0.47	0.51	21	15			0.51	0.56
18	0.52	0.56	24	18			0.56	0.61
21	0.58	0.61	28	20			0.60	0.67
24	0.61	0.67	35	24			0.71	0.77
30	0.89	0.94	42	29			0.99	1.06
36	1.22	1.27	49	33			1.23	1.29
42	1.58	1.65	57	38			1.56	1.63
48	1.94	2.00	64	43	60	46	1.99	2.07
54	2.08	2.15	71	47	66	51	2.22	2.32
60	2.22	2.29	77	52	73	55	2.37	2.47
66	2.29	2.35	83	57	81	59	2.51	2.63
72	2.37	2.43			87	63	2.72	2.86
78	2.43	2.50			95	67	2.89	3.05
84	2.51	2.58			103	71	3.03	3.20
90	2.72	2.80			112	75	3.07	3.27
96	2.81	2.89						

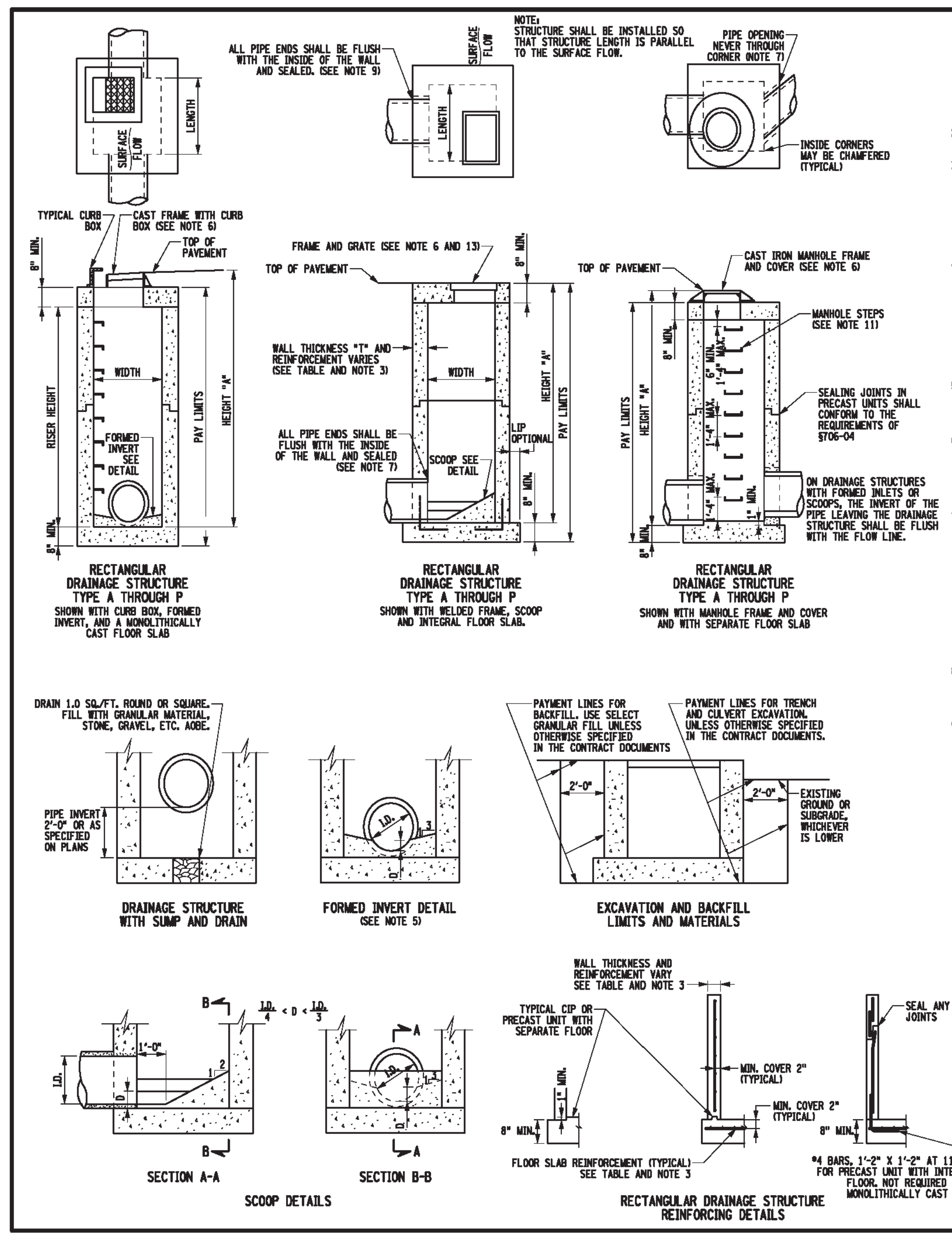
TABLE 2

CONCRETE END SECTION DIAMETER (IN.)	EXCAVATION PAYMENT VOLUME (yd³)	CONCRETE PAYMENT VOLUME (yd³)
12	0.38	0.41
15	0.42	0.46
18	0.46	0.50
21	0.50	0.54
24	0.54	0.58
27	0.64	0.69
30	0.76	0.80
33	0.92	0.95
36	1.02	1.07
42	1.27	1.35
48	1.57	1.65

NOTES:

1. CUT-OFF WALL SHALL BE CAST IN PLACE. THE PORTION OF THE CONCRETE CUT-OFF WALL BELOW THE FINAL GRADE LINE SHALL BE CAST AGAINST UNDISTURBED SOIL IF FEASIBLE. THE CONCRETE CUT-OFF WALL SHALL BE POURED AFTER THE END SECTION IS INSTALLED.
2. VARIES BASED ON DIMENSIONS OF SPECIFIED END SECTION.
3. ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF §707-20. THE NUTS AND BOLTS SHALL BE SO ASSEMBLED THAT IN THE FINAL ASSEMBLY, THE BOLT AND ONE OF THE NUTS IS EMBEDDED IN CONCRETE, THAT THE CHAMFERED FACES OF THE NUTS FACE EACH OTHER, AND SECURE THE TOE PLATE BETWEEN THEM.

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
U.S. CUSTOMARY STANDARD SHEET
CUT - OFF WALLS
FOR END SECTIONS
APPROVED JUNE 6, 2011
/S/ ANTHONY J. TORRE
DEPUTY CHIEF ENGINEER TECHNICAL SERVICES (ACTING)
ISSUED UNDER EB 11-013
603-04
EFFECTIVE DATE: 01/12/2012



RECTANGULAR DRAINAGE STRUCTURE TYPE A THROUGH P SHOWN WITH CURB BOX, FORMED INVERT, AND A UNIFORMLY CAST BASE SLAB
RECTANGULAR DRAINAGE STRUCTURE TYPE A THROUGH P SHOWN WITH WELDED FRAME, SCOOP AND INTEGRAL FLOOR SLAB.
RECTANGULAR DRAINAGE STRUCTURE TYPE A THROUGH P SHOWN WITH MANHOLE FRAME AND COVER AND WITH SEPARATE FLOOR SLAB
DRAINAGE STRUCTURE WITH SUMP AND DRAIN
FORMED INVERT DETAIL (SEE NOTE 5)
EXCAVATION AND BACKFILL LIMITS AND MATERIALS
SCOOP DETAILS
RECTANGULAR DRAINAGE STRUCTURE REINFORCING DETAILS

GENERAL NOTES:

1. DRAINAGE STRUCTURES SHALL BE CAST IN PLACE OR PRECAST UNITS. ROUND DRAINAGE STRUCTURES SHALL BE PRECAST ONLY. ALL CAST IN PLACE CONCRETE SHALL BE CLASS A. THE CONTRACTORS SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF ANY CHANGES TO THE STRUCTURES SHOWN ON THE STANDARD SHEETS OR CONTACT PLANS, OTHER THAN MINOR CHANGES APPROVED BY THE ENGINEER. USE OF FLAT SLAB TOPS ON ROUND PRECAST UNITS SHALL REQUIRE SUBMISSION OF WORKING DRAWINGS.
2. SEE PLANS FOR ELEVATIONS, DRAINAGE STRUCTURE LOCATIONS, TYPE OF GRATE UTILIZED, LOCATION OF SCOOPS, FORMED INVERTS, SUMPS AND DRAINS.
3. REINFORCEMENT FOR RECTANGULAR DRAINAGE UNITS (CAST IN PLACE OR PRECAST) BAR REINFORCEMENT INDICATED FOR RECTANGULAR TOP SLABS, RISERS AND BASES SHALL BE GRADE 60. WIRE FABRIC FOR CONCRETE REINFORCEMENT SHALL MEET THE REQUIREMENTS OF §709-02. RISER REINFORCEMENT SHALL BE PLACED SO IT WILL HAVE A MINIMUM COVER OF 2" BUT NO MORE THAN 4" FROM THE INSIDE FACE. THE REINFORCEMENT SHALL EXTEND COMPLETELY AROUND THE DRAINAGE STRUCTURE RISER AND SHALL BE LAPPED AND TIED. BASE REINFORCEMENT SHALL BE PLACED ABOVE THE MIDPOINT OF SLAB AND SHALL HAVE A MINIMUM CONCRETE COVER OF 2".
4. ROUND ALTERNATIVE:
WHEN SPECIFIED BY PAYMENT ITEM, THE CONTRACTOR MAY SUBSTITUTE ROUND, PRECAST DRAINAGE STRUCTURES IN PLACE OF RECTANGULAR STRUCTURES USING SIZES INDICATED IN THE "SELECTION TABLE FOR ALTERNATE ROUND DRAINAGE STRUCTURES" ON SHEET 4 OF 4. THE RISER, TOP SLAB, AND BOTTOM SLAB FOR THE ROUND ALTERNATE SHALL BE MANUFACTURED IN ACCORDANCE WITH THE PROVISIONS OF §706-04 OF THE STANDARD SPECIFICATIONS. WORKING DRAWINGS FOR THE ROUND ALTERNATES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL, UNLESS THE ROUND ALTERNATE PROPOSED HAS BEEN PREVIOUSLY APPROVED. FOR PREVIOUSLY APPROVED ROUND UNITS THE CONTRACTOR SHALL SUBMIT A COPY OF THE APPROVED DRAWINGS TO THE ENGINEER.
5. FORMED INVERTS:
FORMED INVERTS, SCOOP AND SUMPS SHALL BE PROVIDED AND INCLUDED IN THE PRICES BID FOR DRAINAGE STRUCTURES CALLED FOR IN THE CONTRACT DOCUMENTS. WHEN NON-CIRCULAR PIPES ARE USED, THE FORMED INVERT AND SUMP DETAILS SHALL BE MODIFIED TO FIT THE INVERTS.
6. GRATES:
CAST FRAMES MAY HAVE EITHER RETICULINE OR PARALLEL BAR GRATES, AND WELDED FRAMES MAY HAVE EITHER RETICULINE OR RECTANGULAR GRATES. IF NO GRATE IS SPECIFIED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR MAY FURNISH EITHER TYPE. GRATES SHALL BE INSTALLED SO THAT THE LENGTH OF THE GRATE IS PARALLEL TO THE SURFACE FLOW.
7. WALL OPENINGS:
RECTANGULAR DRAINAGE STRUCTURES SHOWN ON THESE STANDARD SHEETS SHOULD NEVER HAVE CORNER PIPE ENTRIES. IF PIPE ALIGNMENT WOULD REQUIRE A CORNER ENTRY, USE A ROUND DRAINAGE STRUCTURE OR USE A SPECIAL DRAINAGE STRUCTURE. ALL WALL OPENINGS SHALL BE FORMED COMPLETELY THROUGH THE WALL SECTION. CIRCULAR WALL OPENINGS SHALL BE FORMED FOR EACH CIRCULAR PIPE ENTERING PERPENDICULAR TO THE WALL. WHEN NON-CIRCULAR PIPES ARE SPECIFIED, OR ROUND PIPE ENTRIES ARE SKEWED, RECTANGULAR OPENINGS MAY BE USED. THE CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE OPENING SHALL BE AT LEAST 2" BUT NO MORE THAN 3". THIS CLEARANCE SHALL BE MEASURED BETWEEN THE OUTSIDE OF THE PIPE AND NEAREST POINT ON THE RECTANGULAR OPENING. IF A CORNER HAS PIPE ENTRIES ON BOTH SIDES, AND THERE IS LESS THAN 2" BETWEEN EITHER OPENING AND THE CORNER. THEN THAT SECTION OF THE DRAINAGE STRUCTURE MUST HAVE 8" THICK WALLS.
8. MONOLITHIC AND INTEGRAL BASES MAY HAVE A MAXIMUM VERTICAL DRAFT OF ½" ON ALL INTERIOR DIMENSIONS, TO FACILITATE FORM REMOVAL. FOR WALL OPENINGS THAT EXTEND THE FULL WIDTH OR LENGTH OF THE STRUCTURE, THE MINIMUM CLEARANCE BETWEEN THE OUTSIDE OF THE PIPE AND THE WALL OPENING SHALL BE 1½".
9. FINISHING PIPE ENTRIES:
THE BELLS OF CONCRETE PIPE SHALL BE CUT OFF AT EVERY PIPE ENTRY WHERE THE BELL ENTERS A STRUCTURE. CONNECTIONS BETWEEN THE STRUCTURE AND PIPE SHALL BE MADE BY EITHER USING A RESILIENT CONNECTOR MEETING THE REQUIREMENTS OF ASTM C1478 OR BY COMPLETELY FILLING THE SPACE AROUND EACH PIPE WITH CONCRETE GROUTING MATERIAL OR CONCRETE REPAIR MATERIAL. IN CASE OF LARGE SPACES AROUND PIPES, CONCRETE PAVERS, COMPLETELY BEDDED IN GROUT OR CONCRETE REPAIR MATERIAL, MAY BE USED.
10. TOP SLAB AND OR FRAME AND GRATE ADJUSTMENT
A MINIMUM OF ½" OF BEDDING SHALL BE PLACED BETWEEN RISERS AND PRECAST TOP SLABS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 2½" SHALL BE MADE WITH BEDDING MATERIAL MEETING THE REQUIREMENTS OF CONCRETE GROUTING MATERIALS OR CONCRETE REPAIR MATERIAL. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 6" SHALL BE MADE WITH A COMBINATION OF PRECAST CONCRETE PAVERS AND BEDDING MATERIALS. GRADE ADJUSTMENT FOR TOP SLABS AND/OR FRAMES AND GRATES OF UP TO 1'-0" SHALL BE MADE WITH CAST-IN-PLACE CONCRETE OR A COMBINATION OF PRECAST CONCRETE ADJUSTMENT ELEMENTS AND BEDDING MATERIALS. ALTERNATELY, GRADE ADJUSTMENTS FOR FRAMES AND GRATES OF UP TO 2" MAY BE MADE WITH RECYCLED RUBBER ELEMENTS OR UP TO 3" WITH HDPE ELEMENTS. RECYCLED RUBBER AND HDPE ELEMENTS SHALL BE PRODUCTS APPROVED BY THE MATERIALS BUREAU AND SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
11. STEPS:
MANHOLE STEPS SHALL BE REQUIRED IN ALL DRAINAGE STRUCTURES DEEPER THAN 4'-0".
12. CORBELED OR CONICAL RISER SECTIONS AND FLAT SLAB REDUCERS:
ROUND PRECAST DRAINAGE STRUCTURES OR MANHOLES (WHEN ALLOWED OR SPECIFIED) MAY BE FITTED WITH CONCENTRIC OR ECCENTRIC CONICAL SECTIONS TO REDUCE THEIR DIAMETERS, PROVIDED THE USE OF SUCH DEVICES IS COMPATIBLE WITH THE DRAINAGE SYSTEM DESIGN. THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR REVIEW AND APPROVAL OF FLAT SLAB REDUCERS FOR ROUND OR RECTANGULAR STRUCTURES. A WALL SECTION WITH A HEIGHT LESS THAN 6" BETWEEN THE TOP OF THE HIGHEST PIPE ENTRY AND THE BOTTOM OF A CONICAL SECTION OR FLAT SLAB REDUCER SHALL NOT BE PERMITTED.
13. WHEN PIPE LOCATIONS PROVIDE FOR LESS THAN 8" BETWEEN THE TOP OF THE UPPERMOST PIPE AND THE TOP OF THE RISER AND THE STRUCTURE MAY BE SUBJECTED TO HIGHWAY LOADS, CONTACT STRUCTURES DIVISION FOR A SPECIAL DESIGN.
14. WHEN SITE CONDITIONS REQUIRE A DRAINAGE STRUCTURE TO BE INSTALLED TO A DEPTH GREATER THAN THAT SHOWN IN THE CONTRACT DOCUMENTS, AN INSTALLATION TOLERANCE OF 8" IS PERMITTED WITHOUT REQUIRING AN INCREASE IN WALL THICKNESS OR REINFORCING STEEL AS REQUIRED BY THE DRAINAGE STRUCTURE REINFORCEMENT TABLE.
15. THE PAY ITEMS FOR DRAINAGE STRUCTURES SPECIFY THE STRUCTURE AND FRAME. DRAINAGE STRUCTURE ITEM NUMBERS:
RECTANGULAR DRAINAGE STRUCTURE ITEM 604.30XXYY
RECTANGULAR DRAINAGE STRUCTURE WITH ROUND OPTION ITEM 604.31XXYY
RECTANGULAR DRAINAGE STRUCTURE WITH CONCRETE CAP ITEM 604.32XXYY
SEE TABLES BELOW FOR XX AND YY CODES.
EXAMPLE: 604.300706 - RECTANGULAR STRUCTURE TYPE G WITH TYPE 6 WELDED FRAME (SEE SHEET 4 OF 4 FOR ITEM NUMBERS FOR STRUCTURE TYPE Q, R, S, T, AND U)

DRAINAGE STRUCTURE REINFORCEMENT

HEIGHT "A"	WALL THICKNESS	RISER REINFORCEMENT (SEE NOTE 3 AND 15)
UP TO 7'-0"	6"	6"X6"- W6 X W6 OR #3 BARS AT 10" BOTH HORIZ. AND VERT.
	8"	UNREINFORCED
7'-0" TO 14'-0"	8"	6"X6"- W8.5 X W8.5 OR #3 BARS AT 8" BOTH HORIZ. AND VERT.
14'-0" TO 21'-0"	8"	4"X4"- W8.5 X W8.5 OR #3 BARS AT 5" BOTH HORIZ. AND VERT.
		FLOOR SLAB REINFORCEMENT (SEE NOTE 3)
UP TO 7'-0"		6"X6"- W11 X W11 OR #3 BARS AT 6" IN BOTH DIRECTIONS
7'-0" TO 14'-0"		4"X4"- W11 X W11 OR #3 BARS AT 4" IN BOTH DIRECTIONS
14'-0" TO 21'-0"		4"X4"- W14 X W14 OR #3 BARS AT 3" IN BOTH DIRECTIONS

*T MAY BE 6" OR 8" FOR THE FIRST 7'-0". EXCEPTIONS ARE SIZE S, T, AND U WITH CURB, RECTANGULAR STRUCTURES WITH ROUND MANHOLE OPENING, OR IF THERE IS LESS THAN 2" ON EITHER SIDE OF A CORNER. (NOTE 7) WHICH MUST HAVE 8" THICK WALLS.

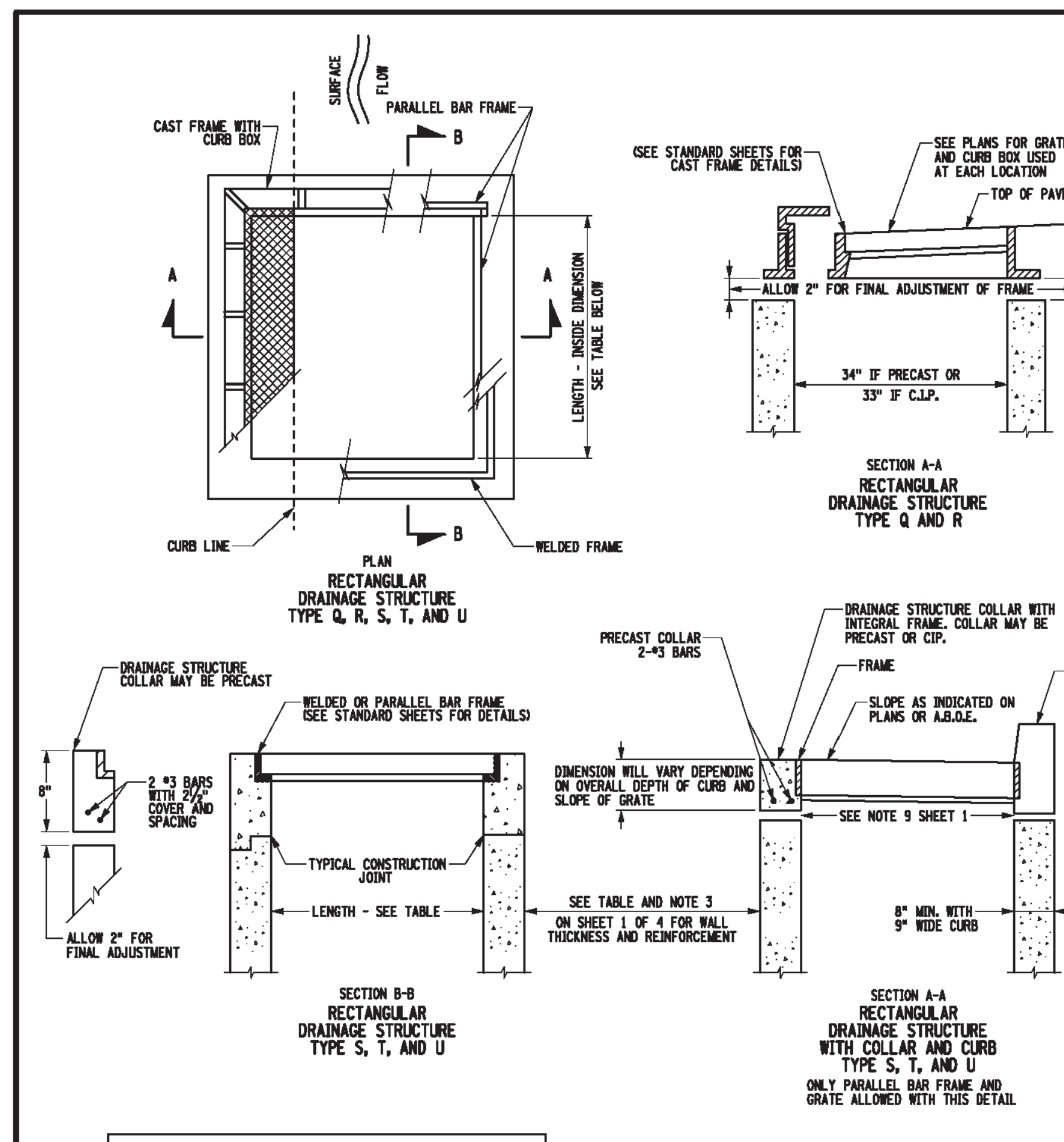
STRUCTURE SIZES AND PAY CODES

STRUCTURE TYPE	INSIDE DIMENSIONS		PAY ITEM XX CODE
	WIDTH	LENGTH	
A	3'-0"	3'-0"	01
B	4'-0"	3'-0"	02
C	5'-0"	3'-0"	03
D	6'-8"	3'-0"	04
E	3'-0"	4'-0"	05
F	4'-0"	4'-0"	06
G	5'-0"	4'-0"	07
H	6'-8"	4'-0"	08
I	3'-0"	5'-0"	09
J	4'-0"	5'-0"	10
K	5'-0"	5'-0"	11
L	6'-8"	5'-0"	12
M	3'-0"	6'-8"	13
N	4'-0"	6'-8"	14
O	5'-0"	6'-8"	15
P	6'-8"	6'-8"	16

FRAMES AND PAY CODES

FRAME TYPE	PAY ITEM YY CODE
WELDED 3	03
WELDED 6	06
WELDED 11	11
WELDED 16	16
WELDED 22	22
MANHOLE 2'-8"	32
CAST F1	71
CAST F2	72
CAST F3	73
PARALLEL BAR 10PCB	90
PARALLEL BAR 11PCB	91
PARALLEL BAR 12PCB	92

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
U.S. CUSTOMARY STANDARD SHEET
DRAINAGE STRUCTURE DETAILS
(SHEET 1 OF 4)
APPROVED: NOVEMBER 28, 2012
/S/ RICHARD W. LEE, P.E.
DEPUTY CHIEF ENGINEER (DESIGN)
ISSUED UNDER EB 12-044
604-02
EFFECTIVE DATE: 05/02/13



PLAN
RECTANGULAR DRAINAGE STRUCTURE TYPE Q, R, S, T, AND U
SECTION A-A
RECTANGULAR DRAINAGE STRUCTURE TYPE Q AND R
SECTION B-B
RECTANGULAR DRAINAGE STRUCTURE TYPE S, T, AND U
SECTION A-A
RECTANGULAR DRAINAGE STRUCTURE WITH COLLAR AND CURB TYPE S, T, AND U
ONLY PARALLEL BAR FRAME AND GRATE ALLOWED WITH THIS DETAIL

SELECTION TABLES FOR ALTERNATE ROUND DRAINAGE STRUCTURES

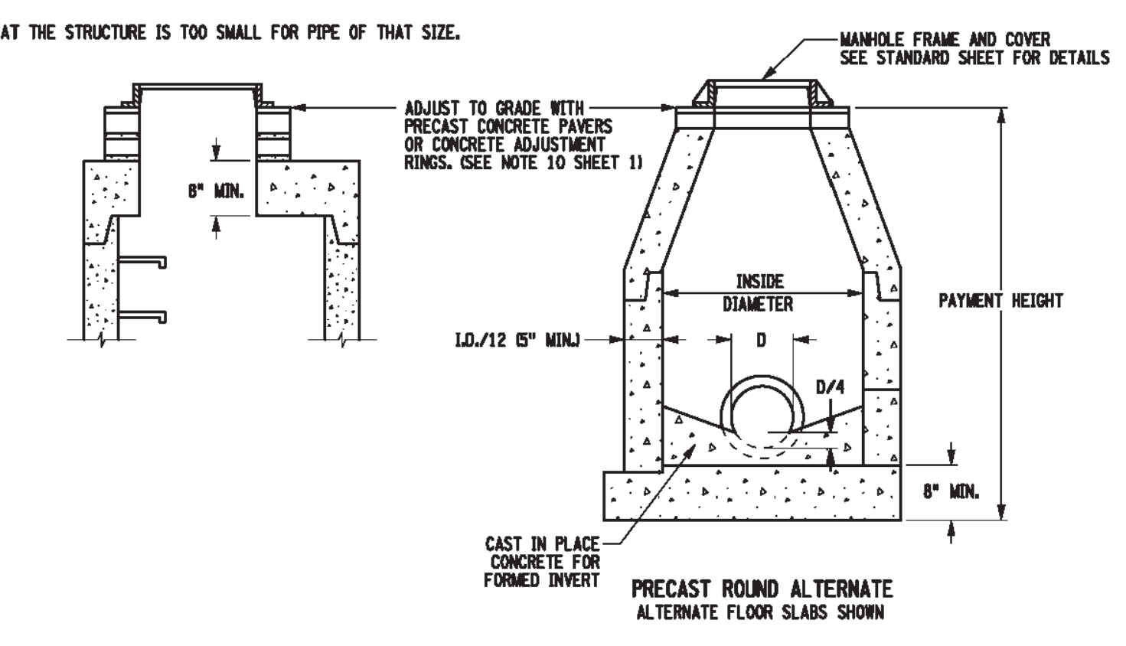
CONCRETE OR POLYETHYLENE PIPES		STRUCTURE INTERNAL DIAMETER				
		48"	60"	72"	84"	96"
RCP H.E. RISE X SPAN	ROUND INTERNAL DIAMETER	MINIMUM ANGLE BETWEEN PIPE ENTRIES (NOTE 5)				
	12"	84	63	50	41	35
	15"	94	70	56	46	39
	18"	104	78	62	51	43
	21"	115	85	68	56	48
	24"	127	93	74	61	52
	27"	141	102	81	67	57
	30"	157	111	87	72	61
19" X 30"		157	112	88	73	62
	34"		121	95	78	66
22" X 34"			125	97	80	68
	36"		133	102	84	71
24" X 38"			140	106	87	74
27" X 42"			156	115	94	79
	42"		164	119	96	81
29" X 45"				130	104	87
	48"			140	110	92
32" X 49"				145	113	94
34" X 53"				166	123	101
	54"			175	126	104
	60"				147	117

SELECTION TABLES FOR ALTERNATE ROUND DRAINAGE STRUCTURES

METAL PIPES		STRUCTURE INTERNAL DIAMETER				
		48"	60"	72"	84"	96"
CMP ARCH SPAN AND RISE	ROUND INTERNAL DIAMETER	MINIMUM ANGLE BETWEEN PIPE ENTRIES (NOTE 5)				
	12"	68	54	45	38	34
	15"	76	60	50	43	37
17" X 13"		82	64	53	45	40
	18"	85	67	55	47	41
		91	71	59	50	43
21" X 15"	21"	94	73	60	51	45
24" X 18"	24"	103	80	66	56	49
28" X 20"		116	89	73	62	54
	30"	124	94	76	65	56
35" X 24"		145	106	86	72	63
	36"	152	110	88	74	64
42" X 29"	42"		128	101	84	72
	48"		153	115	95	81
49" X 33"			158	117	96	82
	54"			132	106	90
57" X 38"				141	112	94
60" X 46"				150	117	98
	60"			154	119	100
64" X 43"					129	107
	66"				134	110
71" X 47"					151	120
	72"				155	122

NOTES:

1. THE DIAMETER OF THE ALTERNATE ROUND UNIT SHALL NOT BE LESS THAN THE LARGER DIMENSION OF THE SPECIFIED RECTANGULAR UNIT IT REPLACES. IT SHALL ALSO BE LARGE ENOUGH TO HAVE THE SPECIFIED GRATE FIT WITHIN THE INSIDE DIAMETER OF THE ROUND ALTERNATE.
2. THE ABOVE VALUES ARE BASED ON THE CENTERLINE OF ALL PIPES INTERSECTING AT THE CENTER OF THE ROUND ALTERNATE.
3. THE ANGLE BETWEEN ADJACENT PIPE ENTRIES SHALL NOT BE LESS THAN THE MINIMUM SHOWN IN THE TABLE ABOVE. WHEN THE ADJACENT PIPES HAVE DIFFERENT SIZES, THE MINIMUM ANGLE SHALL BE THE VALUE FOR THE LARGER OF THE TWO PIPES.
4. THE SUM OF THE MINIMUM ANGLES BETWEEN PIPES AT THE SAME LEVEL SHALL NOT BE MORE THAN 360 DEGREES. THEY SHALL BE REGARDED AS BEING AT THE SAME LEVEL IF THEIR RISES OVERLAP.
5. A BLANK (NO ENTRY) IN TABLE INDICATES THAT THE STRUCTURE IS TOO SMALL FOR PIPE OF THAT SIZE.



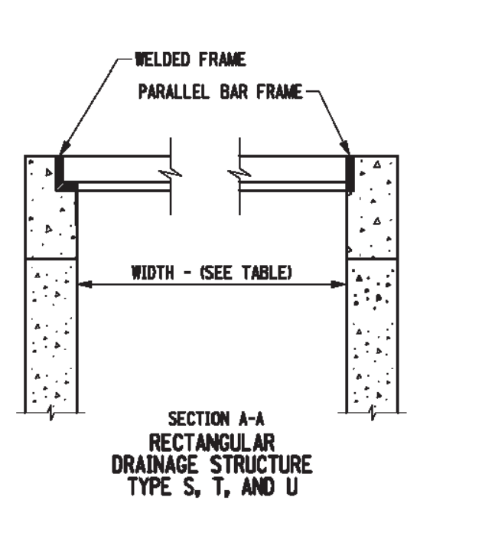
MANHOLE FRAME AND COVER SEE STANDARD SHEET FOR DETAILS
ADJUST TO GRADE WITH PRECAST CONCRETE PAVERS OR CONCRETE ADJUSTMENT RINGS. (SEE NOTE 10 SHEET 1)
PAYMENT HEIGHT
CAST IN PLACE CONCRETE FOR FORMED INVERT
PRECAST ROUND ALTERNATE
ALTERNATE FLOOR SLABS SHOWN

RECTANGULAR DRAINAGE STRUCTURE

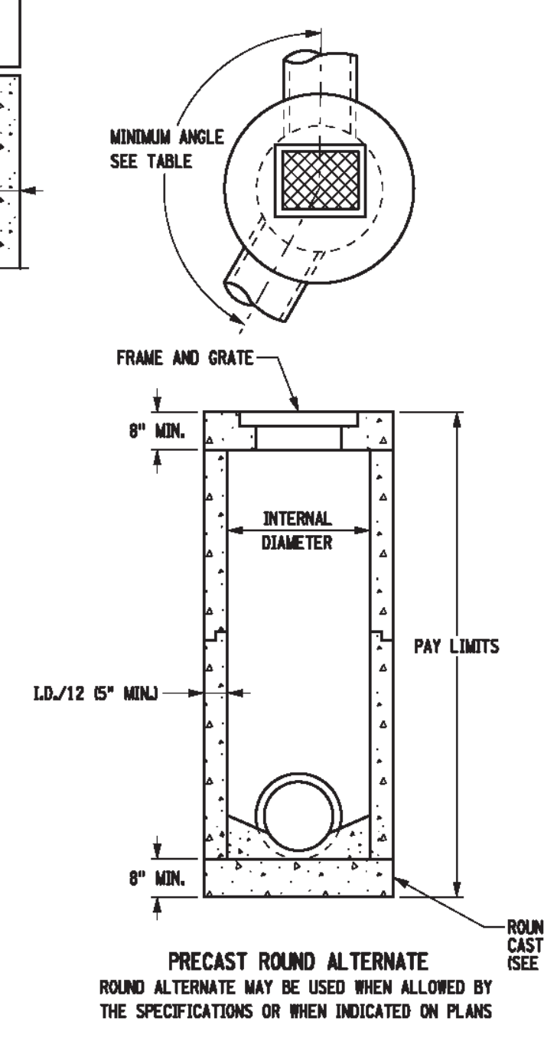
(TYPES Q THRU U)			INSIDE DIMENSIONS			
			PRECAST **		CAST IN PLACE	
ITEM	TYPE	FRAME	WIDTH	LENGTH	WIDTH	LENGTH
604.301772	Q	F2*	34	36	33	36½
604.301873	R	F3*	34	46	33	46½
604.301911	S	11	24	32	24	32½
604.301990	S	10PCB	24	32	24	32½
604.302016	T	16	26	42	26½	42½
604.302091	T	11PCB	26	42	26½	42½
604.302122	U	22	34	38	34	37½
604.302192	U	12PCB	34	38	34	37½

* SEE CONTRACT DOCUMENTS FOR GRATE AND CURB BOX TYPE

** PRECAST TYPES S,T, AND U REQUIRE THE FRAME TO BE CAST INTO A SEPARATE COLLAR. THE FRAME COLLAR SHALL HAVE INSIDE DIMENSIONS AS SHOWN FOR "CAST-IN-PLACE" IN THIS TABLE, OUTSIDE DIMENSIONS TO MATCH THE PRECAST RISER, AND BE 8" HIGH MIN.



SECTION A-A
RECTANGULAR DRAINAGE STRUCTURE
TYPE S, T, AND U



PRECAST ROUND ALTERNATE
ROUND ALTERNATE MAY BE USED WHEN ALLOWED BY THE SPECIFICATIONS OR WHEN INDICATED ON PLANS

ROUND ALTERNATIVES MAY HAVE MONOLITHICALLY CAST, INTEGRAL, OR SEPERATE FLOOR SLABS. (SEE SHEET 1 OF 4)

PRECAST ROUND MANHOLES

ITEM	TYPE	CIRCUMFERENTIAL STEEL - SQUARE INCHES PER VERTICAL FOOT	INSIDE DIAMETER
604.4048	48	0.12	48
604.4060	60	0.15	60
604.4072	72	0.18	72
604.4084	84	0.21	84
604.4096	96	0.24	96

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
U.S. CUSTOMARY STANDARD SHEET
DRAINAGE STRUCTURE DETAILS
(SHEET 4 OF 4)
APPROVED SEPTEMBER 19, 2008
/S/ DANIEL D'ANGELO, P.E.
DEPUTY CHIEF ENGINEER (DESIGN)
ISSUED UNDER EB 08-036
604-02
EFFECTIVE DATE: 01/08/09

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:
REVISIONS				

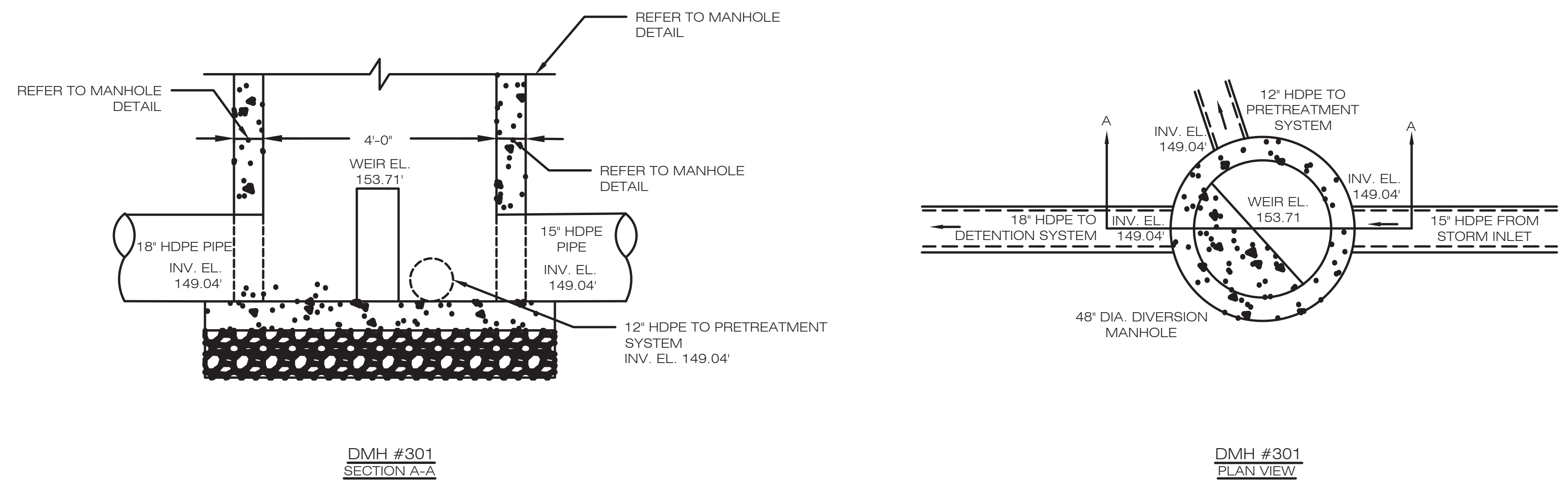
DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CONSTRUCTION DETAILS VI

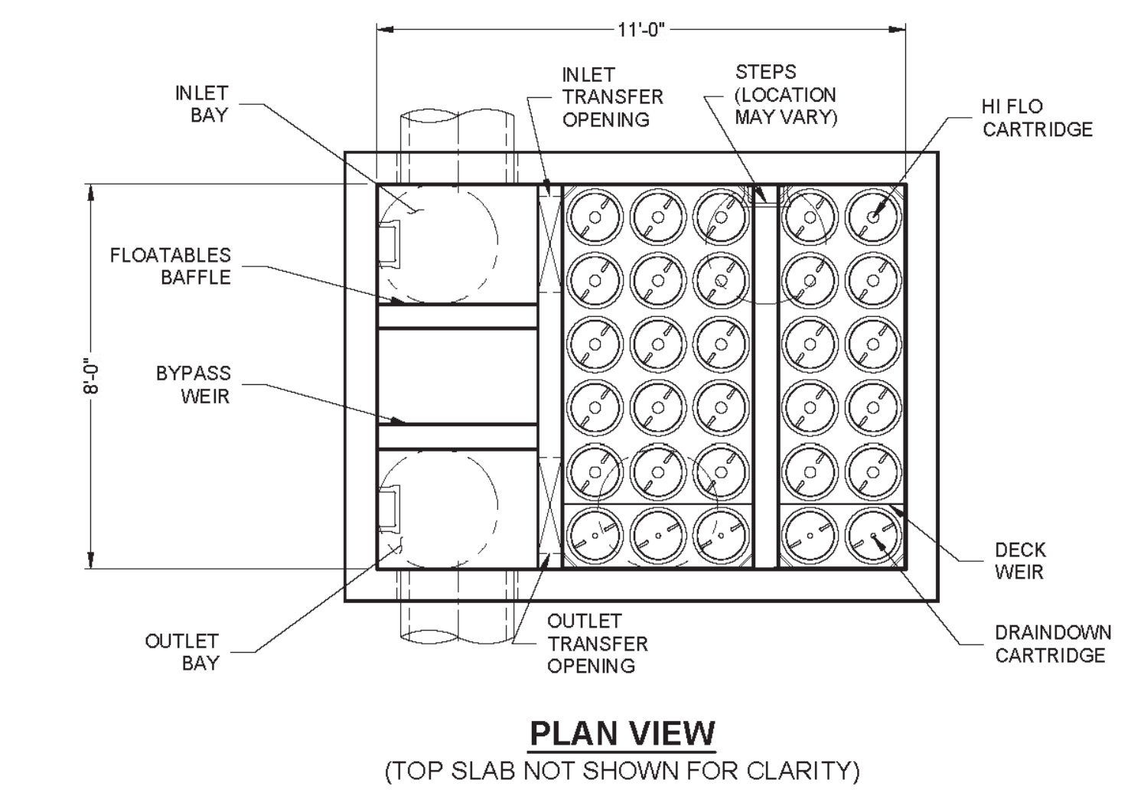
PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 38 OF 47
REVISION -



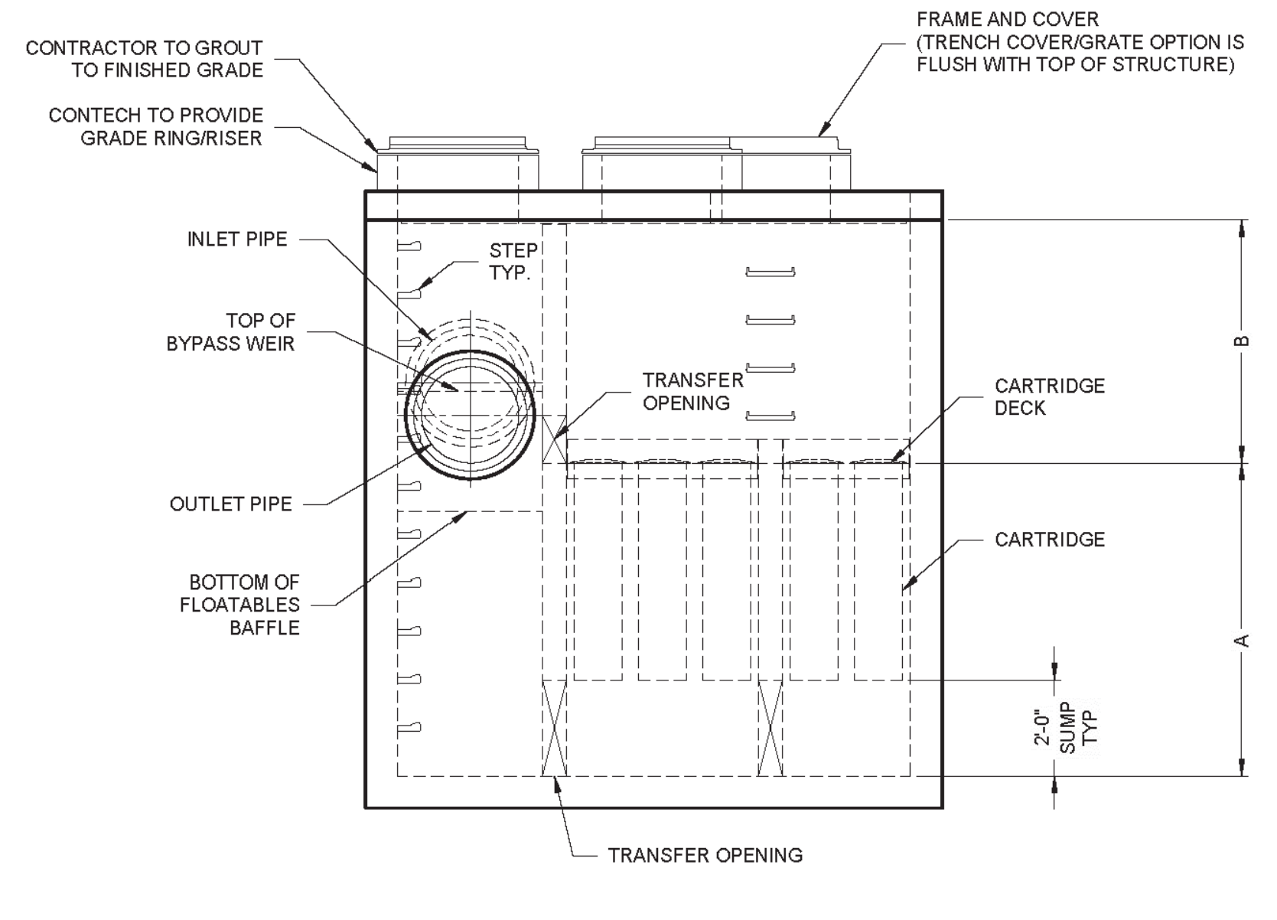
DMH #301
SECTION A-A

DMH #301
PLAN VIEW

DIVERSION MANHOLE DETAIL



PLAN VIEW
(TOP SLAB NOT SHOWN FOR CLARITY)


FRAME AND COVER (TRENCH COVER/GRATE OPTION IS FLUSH WITH TOP OF STRUCTURE)
CONTRACTOR TO GROUT TO FINISHED GRADE
CONTACH TO PROVIDE GRADE RING/RISER
INLET PIPE
STEP TYP.
TOP OF BYPASS WEIR
TRANSFER OPENING
CARTRIDGE DECK
OUTLET PIPE
CARTRIDGE
BOTTOM OF FLOATABLES BAFFLE
B
A
2'-0" SUMP TYP.
TRANSFER OPENING

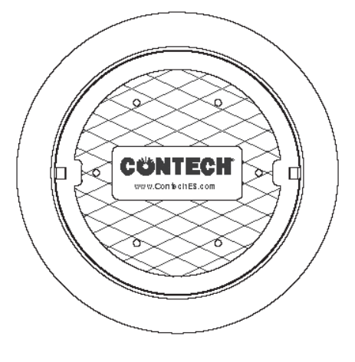
ELEVATION VIEW

JELLYFISH DESIGN NOTES

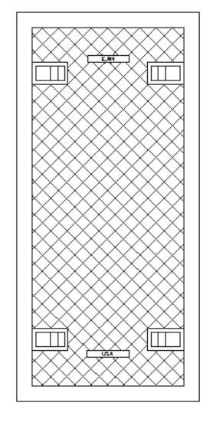
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE LENGTH AND THE NUMBER OF CARTRIDGES. THE STANDARD PEAK DIVERSION STYLE WITH PRECAST TOP SLAB IS SHOWN. ALTERNATE OFFLINE VAULT AND/OR SHALLOW ORIENTATIONS ARE AVAILABLE. PEAK CONVEYANCE CAPACITY TO BE DETERMINED BY ENGINEER OF RECORD

CARTRIDGE SELECTION

CARTRIDGE LENGTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-6"	5'-4"	4'-3"	3'-3"
FLOW RATE HIGH-FLO / DRAINDOWN (CFS) (PER CART)	0.178 / 0.089	0.133 / 0.067	0.089 / 0.045	0.049 / 0.025
MAX. TREATMENT (CFS)	4.90	3.67	2.45	1.36
DECK TO INSIDE TOP (MIN) (B)	5.00	4.00	4.00	4.00



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



24"
TRENCH COVER
(LENGTH VARIES)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID					*
WATER QUALITY FLOW RATE (cfs)					*
PEAK FLOW RATE (cfs)					*
RETURN PERIOD OF PEAK FLOW (yrs)					*
# OF CARTRIDGES REQUIRED (HF / DD)					*
CARTRIDGE LENGTH					*
PIPE DATA:	I.E.	MAT'L	DIA	SLOPE %	HGL
INLET #1	*	*	*	*	*
INLET #2	*	*	*	*	*
OUTLET	*	*	*	*	*
SEE GENERAL NOTES 6-7 FOR INLET AND OUTLET HYDRAULIC AND SIZING REQUIREMENTS.					
RIM ELEVATION					*
ANTI-FLOTATION BALLAST		WIDTH		HEIGHT	
		*		*	
NOTES/SPECIAL REQUIREMENTS:					

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 10', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-857, ASTM C-918, AND AASHTO LOAD FACTOR DESIGN METHOD.
6. OUTLET PIPE INVERT IS EQUAL TO THE CARTRIDGE DECK ELEVATION.
7. THE OUTLET PIPE DIAMETER FOR NEW INSTALLATIONS IS RECOMMENDED TO BE ONE PIPE SIZE LARGER THAN THE INLET PIPE AT EQUAL OR GREATER SLOPE.
8. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE.
- C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT).
- D. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION.

Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

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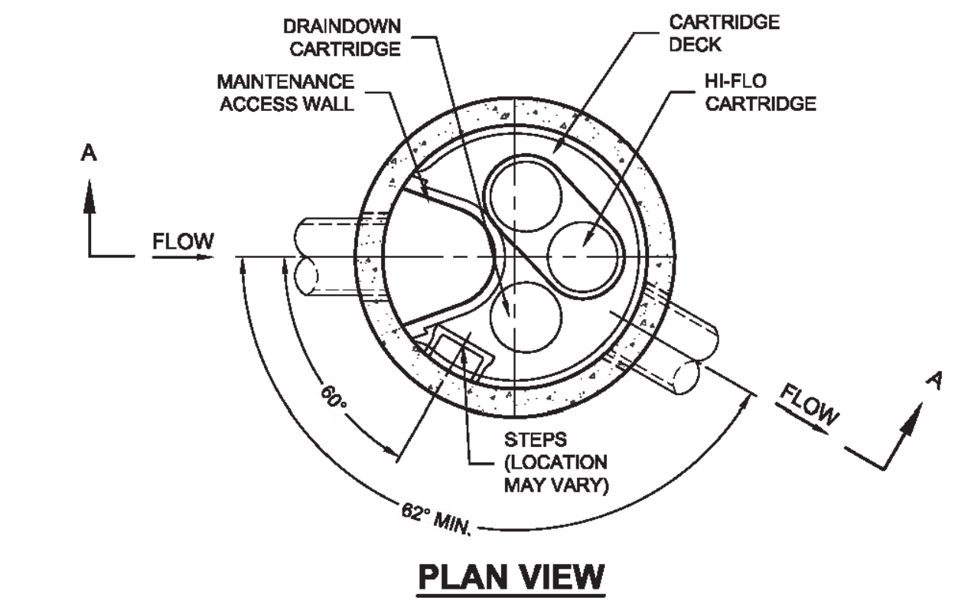
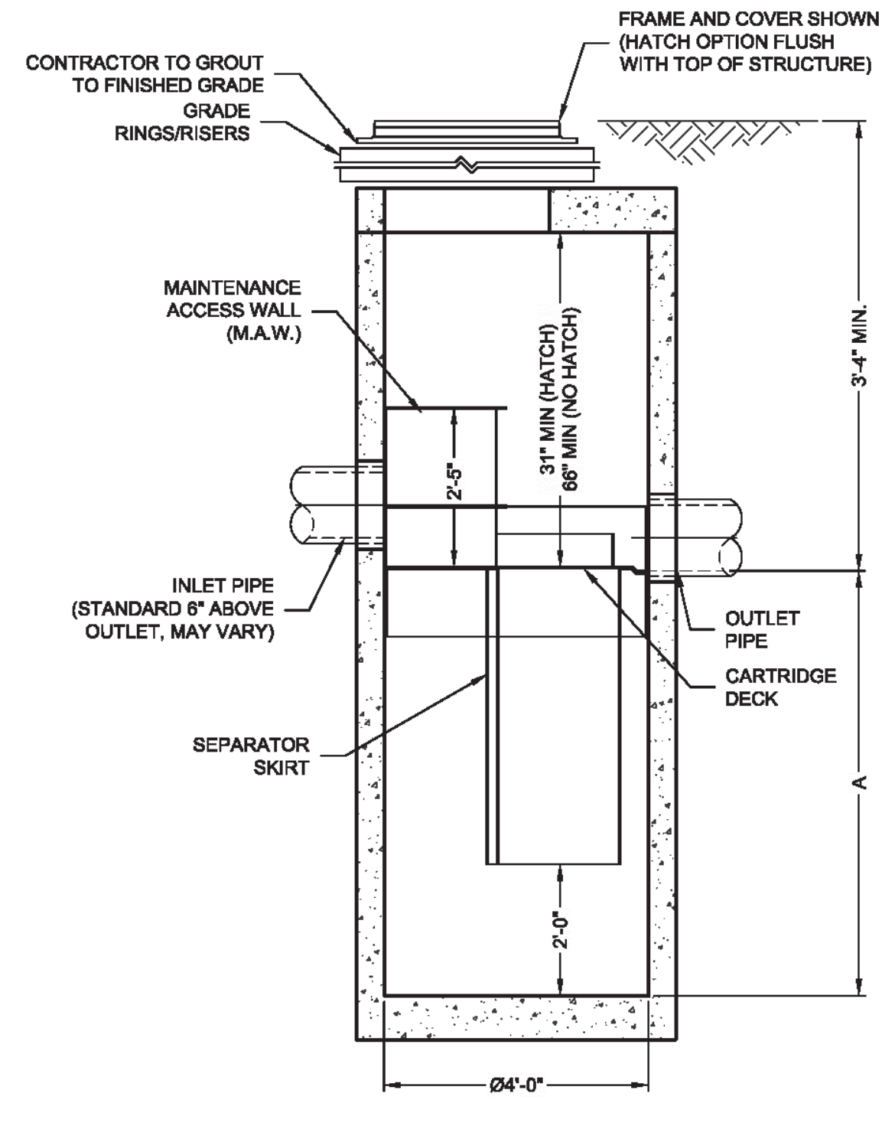
JELLYFISH JFPD0811
STANDARD DETAIL
PEAK DIVERSION CONFIGURATION



PLAN VIEW


CONTRACTOR TO GROUT TO FINISHED GRADE
FRAME AND COVER SHOWN (HATCH OPTION FLUSH WITH TOP OF STRUCTURE)
GRADE RINGS/RISERS
MAINTENANCE ACCESS WALL (M.A.W.)
3'-4" MIN.
21" MIN (HATCH) 66" MIN (NO HATCH)
INLET PIPE (STANDARD 6" ABOVE OUTLET, MAY VARY)
OUTLET PIPE
CARTRIDGE DECK
SEPARATOR SKIRT
A
2'-0"
Ø4'-0"

SECTION A-A

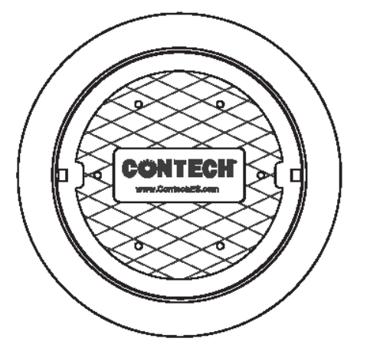
Jellyfish® Filter
THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENT NO. 8,287,726; 8,221,618; US 8,123,935; OTHER INTERNATIONAL PATENTS PENDING

JELLYFISH DESIGN NOTES

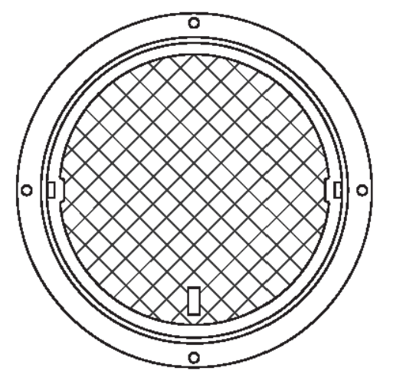
JELLYFISH TREATMENT CAPACITY IS A FUNCTION OF THE CARTRIDGE SELECTION AND THE NUMBER OF CARTRIDGES. THE STANDARD MANHOLE STYLE IS SHOWN. Ø48" MANHOLE JELLYFISH PEAK TREATMENT CAPACITY IS 0.45 CFS. IF THE SITE CONDITIONS EXCEED 0.45 CFS AN UPSTREAM BYPASS STRUCTURE IS REQUIRED.

CARTRIDGE SELECTION

CARTRIDGE DEPTH	54"	40"	27"	15"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-5"	5'-3"	4'-2"	3'-2"
FLOW RATE HIGH-FLO / DRAINDOWN (cfs) (per cart)	0.18 / 0.09	0.13 / 0.065	0.09 / 0.045	0.05 / 0.025
MAX. CARTS HIGH-FLO / DRAINDOWN	2 / 1			



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



HATCH
(Ø36" CAST INTO SLAB)
N.T.S.

SITE SPECIFIC DATA REQUIREMENTS

STRUCTURE ID			*
WATER QUALITY FLOW RATE (cfs)			*
PEAK FLOW RATE (cfs)			*
RETURN PERIOD OF PEAK FLOW (yrs)			*
# OF CARTRIDGES REQUIRED (HF / DD)			* / *
CARTRIDGE SIZE			*
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	*	*	*
INLET PIPE #2	*	*	*
OUTLET PIPE	*	*	*
RIM ELEVATION			*
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		*	*
NOTES/SPECIAL REQUIREMENTS:			

* PER ENGINEER OF RECORD

GENERAL NOTES:
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. FOR SITE SPECIFIC DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHT, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS REPRESENTATIVE. www.ContechES.com
3. JELLYFISH WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
4. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING AND BE CAST WITH THE CONTECH LOGO.
5. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
6. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

INSTALLATION NOTES
- A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
- B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
- C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
- D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
- E. CARTRIDGE INSTALLATION, BY CONTECH, SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CONTACT CONTECH TO COORDINATE CARTRIDGE INSTALLATION WITH SITE STABILIZATION AT (866) 740-3318.

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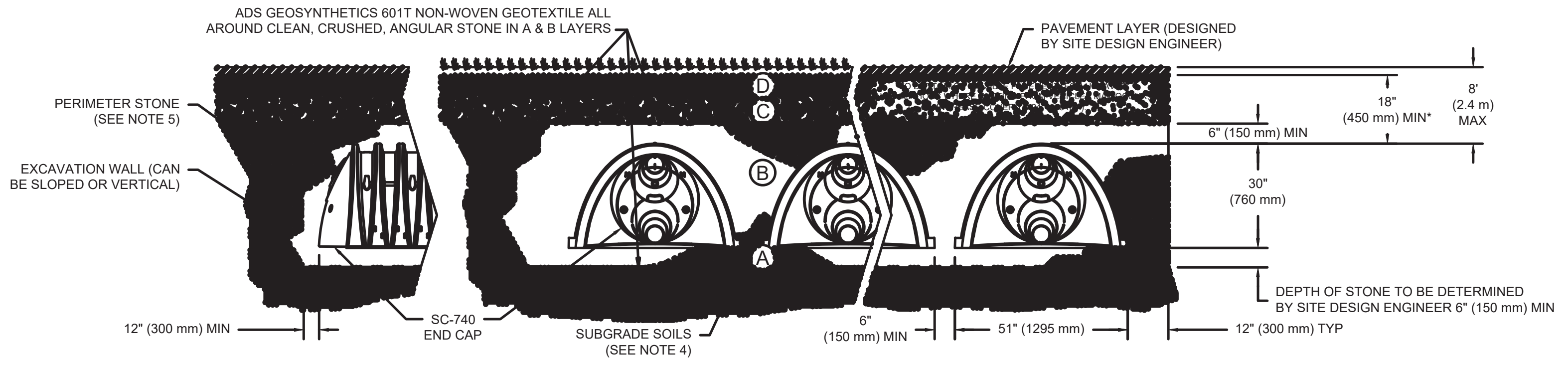
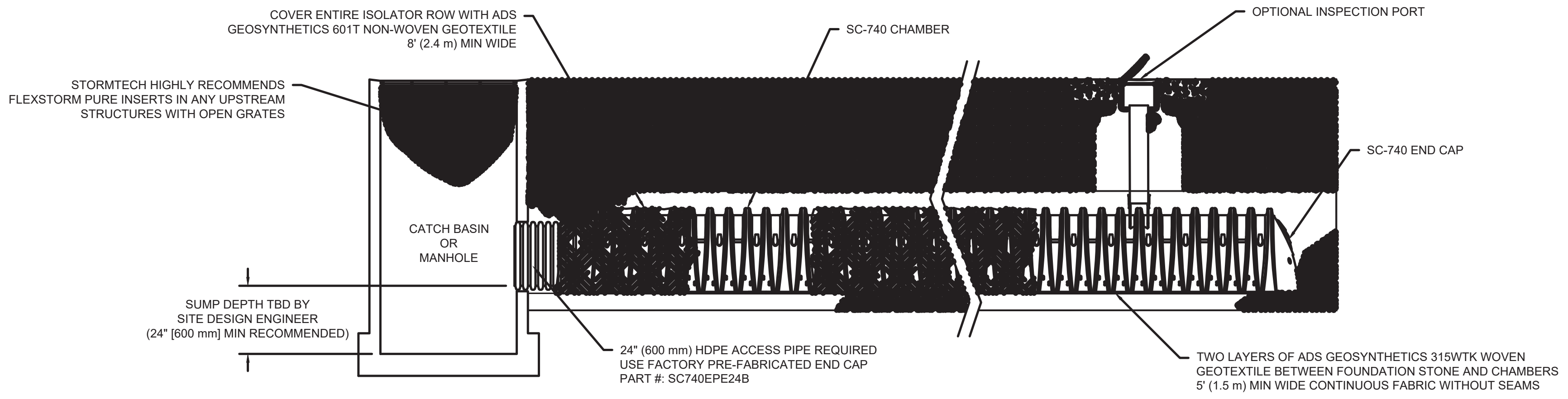
JELLYFISH JF4
STANDARD DETAIL
OFFLINE CONFIGURATION

ACCEPTABLE FILL MATERIALS: STORMTECH SC-740 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 18" (450 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 20,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.

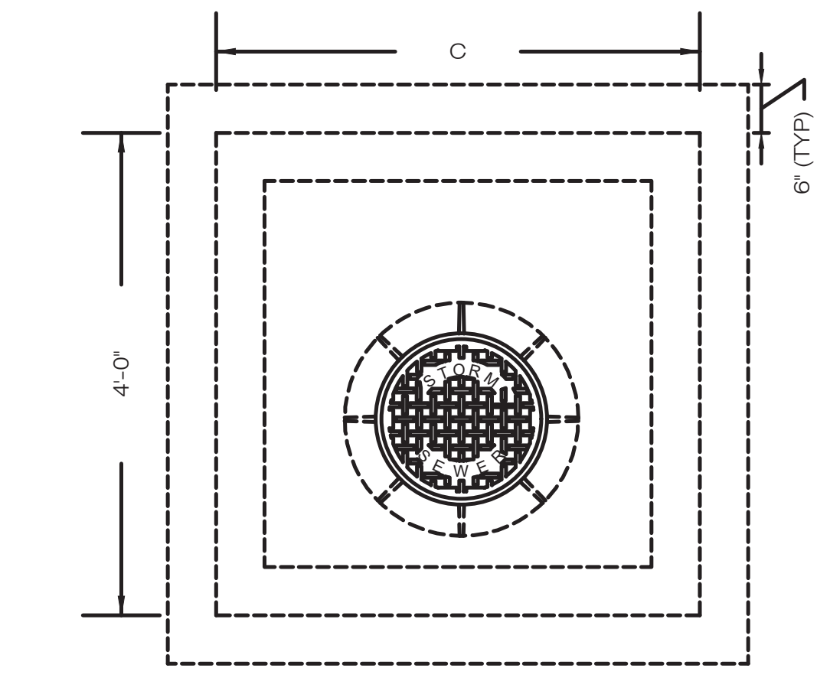

ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE ALL AROUND CLEAN, CRUSHED, ANGULAR STONE IN A & B LAYERS
PAVEMENT LAYER (DESIGNED BY SITE DESIGN ENGINEER)
PERIMETER STONE (SEE NOTE 5)
EXCAVATION WALL (CAN BE SLOPED OR VERTICAL)
D
C
B
A
18" (450 mm) MIN*
8' (2.4 m) MAX
6" (150 mm) MIN
30" (760 mm)
DEPTH OF STONE TO BE DETERMINED BY SITE DESIGN ENGINEER 6" (150 mm) MIN
12" (300 mm) MIN
SC-740 END CAP
SUBGRADE SOILS (SEE NOTE 4)
6" (150 mm) MIN
51" (1295 mm)
12" (300 mm) TYP


COVER ENTIRE ISOLATOR ROW WITH ADS GEOSYNTHETICS 601T NON-WOVEN GEOTEXTILE 8' (2.4 m) MIN WIDE
SC-740 CHAMBER
OPTIONAL INSPECTION PORT
STORMTECH HIGHLY RECOMMENDS FLEXSTORM PURE INSERTS IN ANY UPSTREAM STRUCTURES WITH OPEN GRATES
SC-740 END CAP
CATCH BASIN OR MANHOLE
SUMP DEPTH TBD BY SITE DESIGN ENGINEER (24" [600 mm] MIN RECOMMENDED)
24" (600 mm) HDPE ACCESS PIPE REQUIRED USE FACTORY PRE-FABRICATED END CAP PART #: SC740EPE24B
TWO LAYERS OF ADS GEOSYNTHETICS 315WTK WOVEN GEOTEXTILE BETWEEN FOUNDATION STONE AND CHAMBERS 5' (1.5 m) MIN WIDE CONTINUOUS FABRIC WITHOUT SEAMS

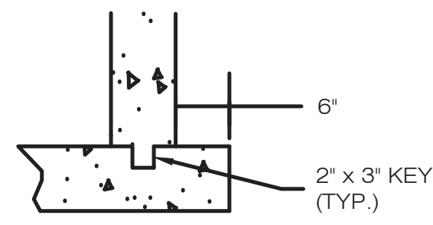
SC-740 ISOLATOR ROW DETAIL
NTS

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-740 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 550 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



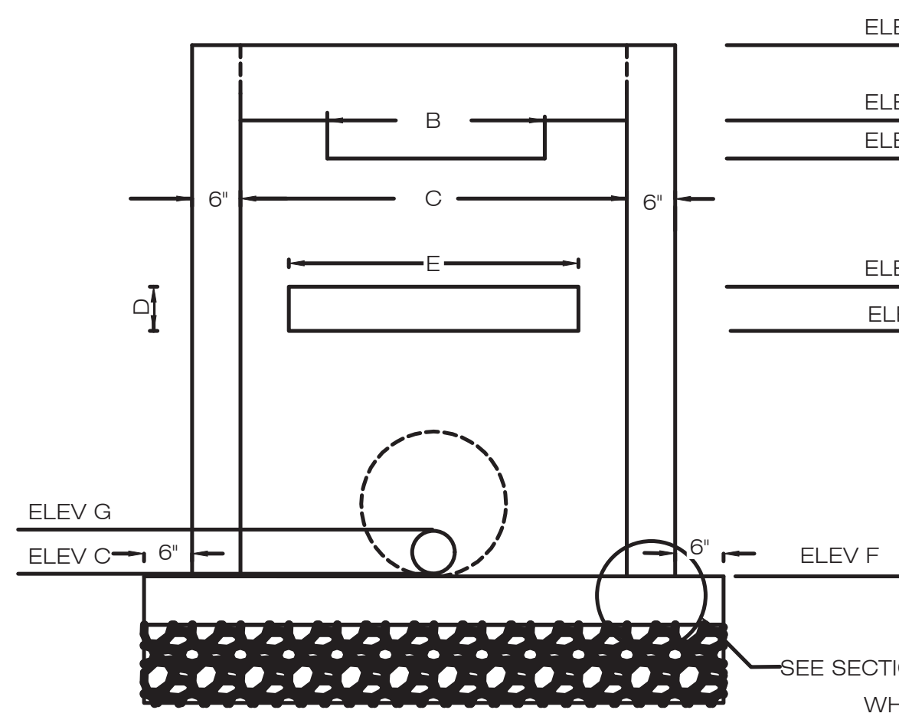
PLAN



SECTION C-C

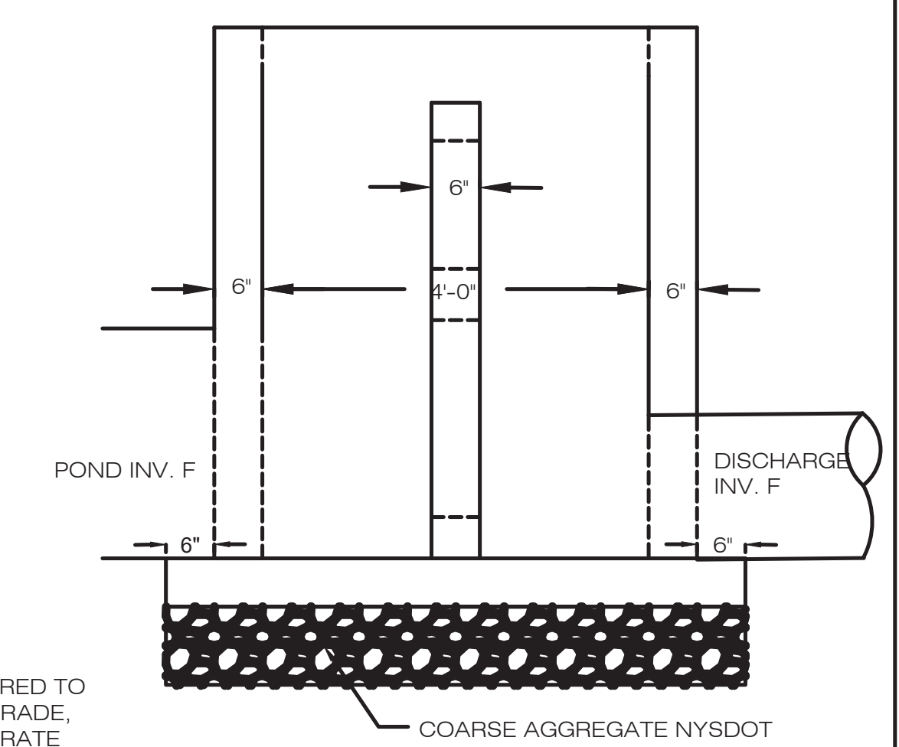
NOTES:
1. SEE DRAINAGE PLAN FOR LOCATIONS.
2. ALL CONCRETE TO BE POURED IN PLACE.
3. ALL CONCRETE SHALL BE CLASS 'B' PER NYSDOT SPECIFICATIONS.
4. GRATING TO BE "AL-48X48 FRAME & GRATE"-HEAVY DUTY H-20 LOADING CAST-IRON FRAME.

NOTES
1. STRUCTURE TO MEET THE REQUIREMENTS OF ASTM SPEC. C-913 "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES".
2. ALL EXPOSED CONCRETE IS TO BE 4,000 P.S.I. AIR-ENTRAINED 4-6%, 28 DAY COMPRESSIVE STRENGTH. (UNLESS OTHERWISE NOTED)



WHERE FILL IS REQUIRED TO BRING FOOTING TO GRADE, A DRY COMPACTION RATE OF 90 TO 95% COMPACTION OF MAXIMUM DRY DENSITY SHALL BE PROVIDED IN 12" LIFTS

SECTION B-B

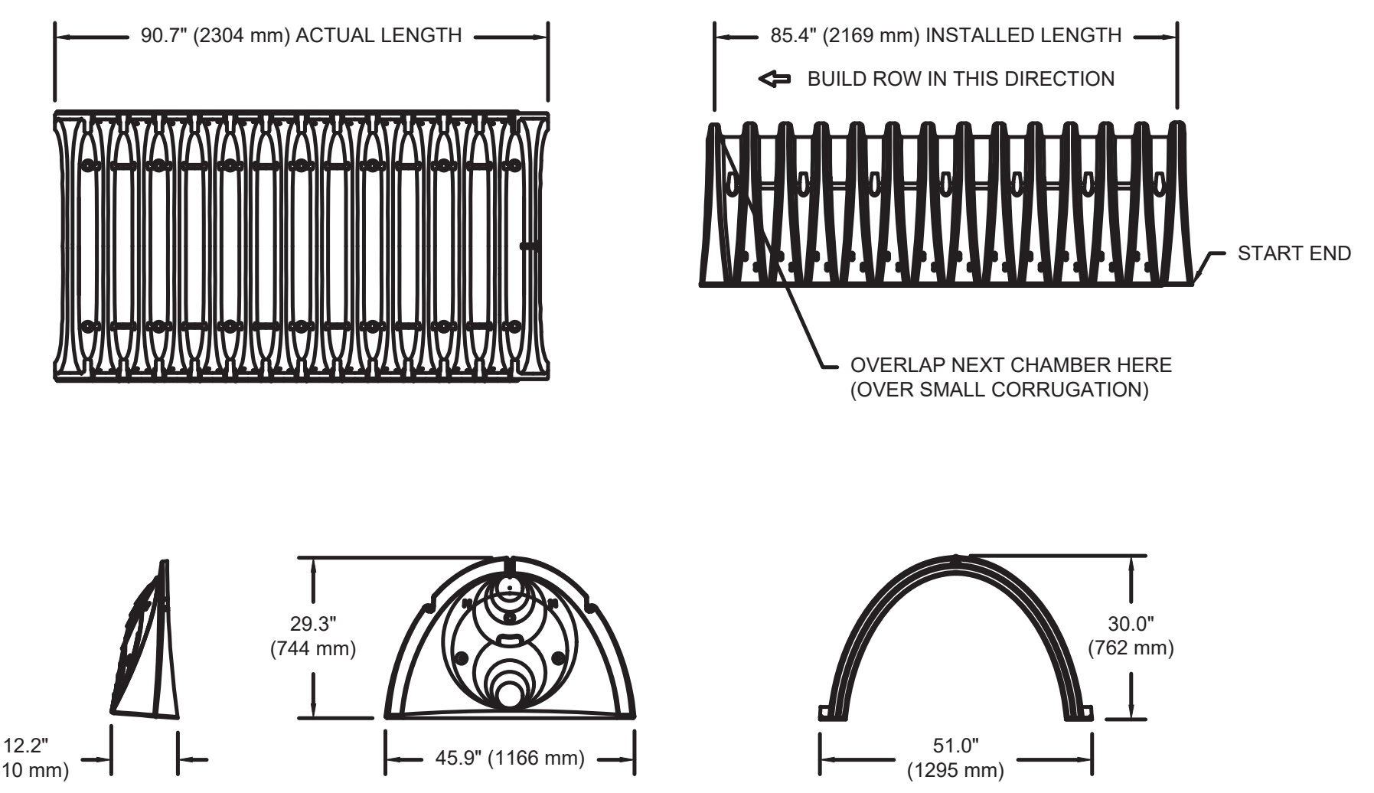

6"
6"
4'-0"
6"
POND INV. F
DISCHARGE INV. F
6"
6"
COARSE AGGREGATE NYSDOT SPECIFICATIONS, 12" THICK (MIN.) (TYP.) OR AS DIRECTED BY ENGINEER

SECTION A-A

DIMENSIONS											
STRUCTURE	A	B	C	D	E	F	G	H	J	K	M
#1	150.04'	45.5"	4'	N/A	N/A	146.00'	146.25'	N/A	N/A	148.30'	6"
#2	155.85	48"	4'	N/A	N/A	153.00'	153.17'	N/A	N/A	154.75	6"
#3	158.10'	54"	4'	N/A	N/A	148.73'	148.81'	N/A	N/A	149.53	6"

OUTLET CONTROL STRUCTURE DETAIL

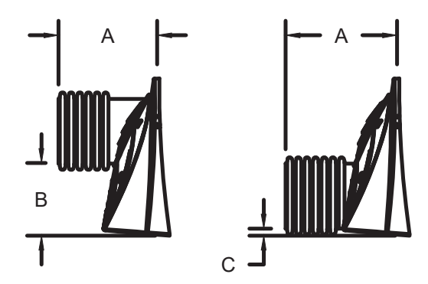
SC-740 TECHNICAL SPECIFICATION
NTS


90.7" (2304 mm) ACTUAL LENGTH
85.4" (2169 mm) INSTALLED LENGTH
BUILD ROW IN THIS DIRECTION
START END
OVERLAP NEXT CHAMBER HERE (OVER SMALL CORRUGATION)
12.2" (310 mm)
29.3" (744 mm)
45.9" (1166 mm)
30.0" (762 mm)
51.0" (1295 mm)

NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 30.0" X 85.4"	(1295 mm X 762 mm X 2169 mm)
CHAMBER STORAGE	45.9 CUBIC FEET	$(1.30 m^3)$
MINIMUM INSTALLED STORAGE*	74.9 CUBIC FEET	$(2.12 m^3)$
WEIGHT	75.0 lbs.	(33.6 kg)

*ASSUMES 6" (152 mm) STONE ABOVE, BELOW, AND BETWEEN CHAMBERS



PRE-FAB STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PRE-FAB STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
PRE-CORED END CAPS END WITH "PC"

PART #	STUB	A	B	C
SC740EPE06T / SC740EPE06TPC	6" (150 mm)	10.9" (277 mm)	18.5" (470 mm)	---
SC740EPE06B / SC740EPE06BPC			---	0.5" (13 mm)
SC740EPE08T /SC740EPE08TPC	8" (200 mm)	12.2" (310 mm)	16.5" (419 mm)	---
SC740EPE08B / SC740EPE08BPC			---	0.6" (15 mm)
SC740EPE10T / SC740EPE10TPC	10" (250 mm)	13.4" (340 mm)	14.5" (368 mm)	---
SC740EPE10B / SC740EPE10BPC			---	0.7" (18 mm)
SC740EPE12T / SC740EPE12TPC	12" (300 mm)	14.7" (373 mm)	12.5" (318 mm)	---
SC740EPE12B / SC740EPE12BPC			---	1.2" (30 mm)
SC740EPE15T / SC740EPE15TPC	15" (375 mm)	18.4" (467 mm)	9.0" (229 mm)	---
SC740EPE15B / SC740EPE15BPC			---	1.3" (33 mm)
SC740EPE18T / SC740EPE18TPC	18" (450 mm)	19.7" (500 mm)	5.0" (127 mm)	---
SC740EPE18B / SC740EPE18BPC			---	1.6" (41 mm)
SC740EPE24B*	24" (600 mm)	18.5" (470 mm)	---	0.1" (3 mm)

ALL STUBS, EXCEPT FOR THE SC740EPE24B ARE PLACED AT BOTTOM OF END CAP SUCH THAT THE OUTSIDE DIAMETER OF THE STUB IS FLUSH WITH THE BOTTOM OF THE END CAP. FOR ADDITIONAL INFORMATION CONTACT STORMTECH AT 1-888-892-2694.

* FOR THE SC740EPE24B THE 24" (600 mm) STUB LIES BELOW THE BOTTOM OF THE END CAP APPROXIMATELY 1.75" (44 mm). BACKFILL MATERIAL SHOULD BE REMOVED FROM BELOW THE N-12 STUB SO THAT THE FITTING SITS LEVEL.

NOTE: ALL DIMENSIONS ARE NOMINAL

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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DESCRIPTION	NO.	DATE:	BY:	CHK:
REVISIONS				

DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

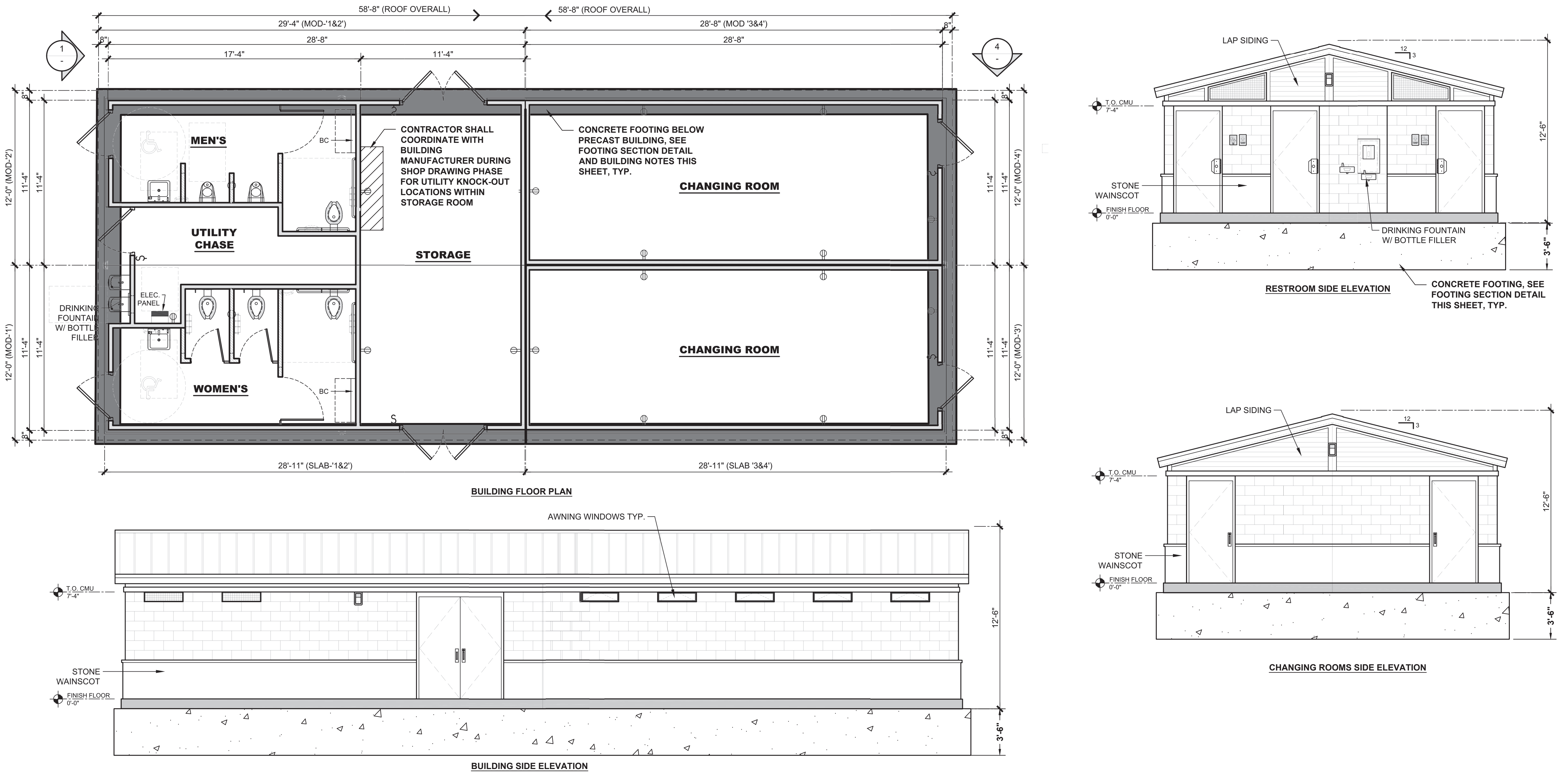
SUBURBAN ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CONSTRUCTION DETAILS VII

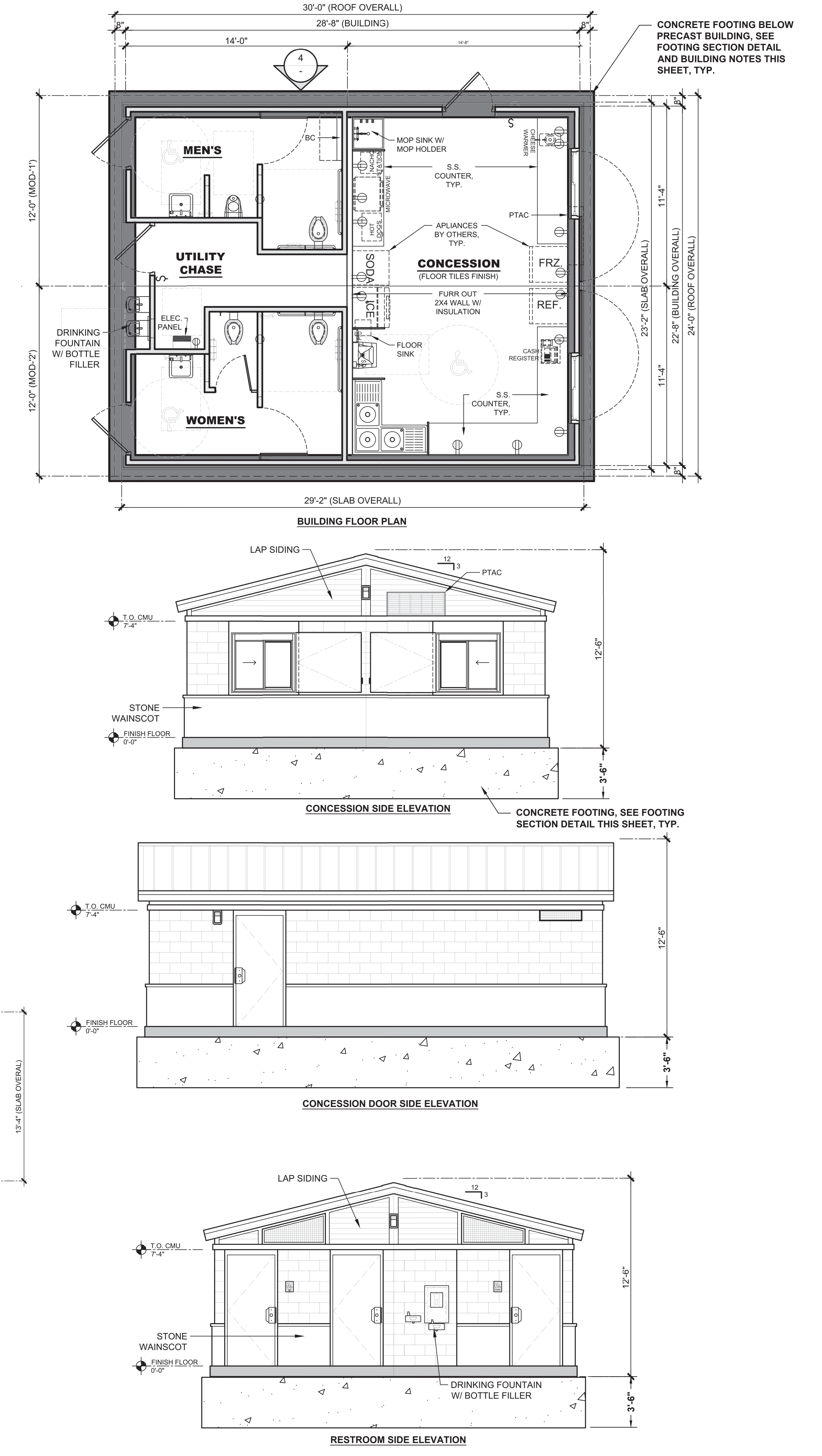
PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 39 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 38-39 CONSTRUCTION DETAILS VI & VII.dwg Thu, Mar 11, 2021 - 3:10pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.



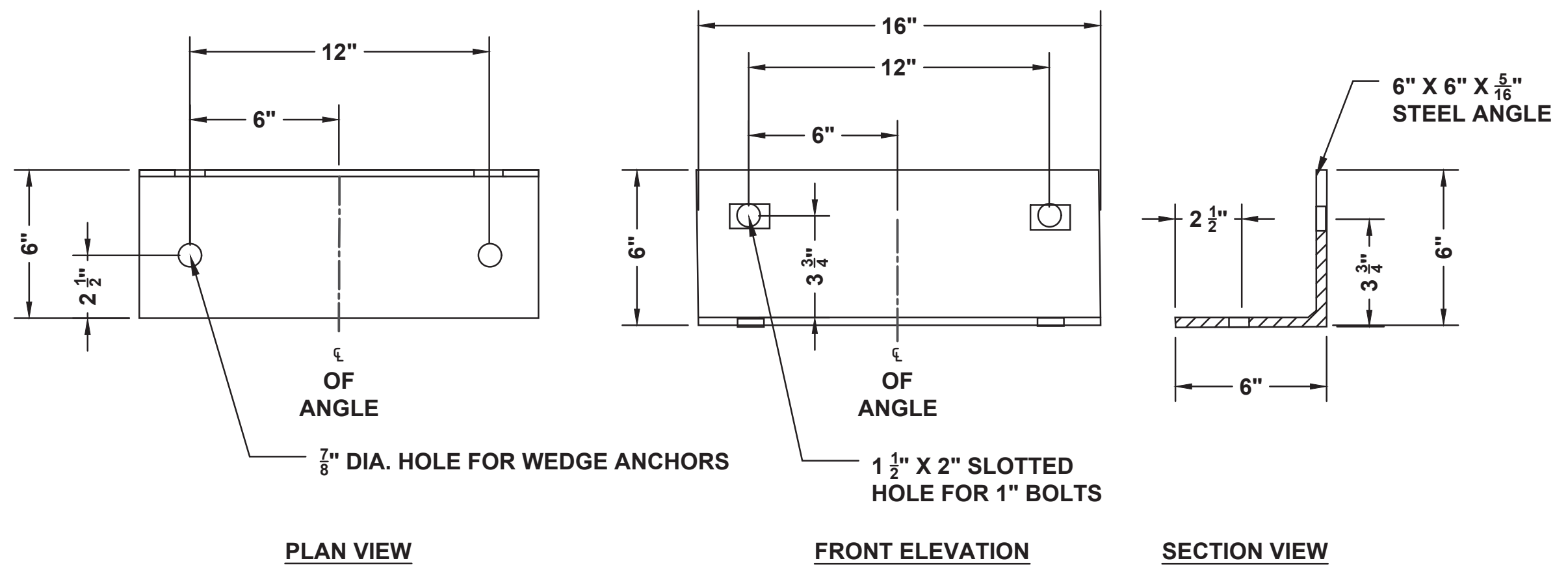
BUILDING 3 (10955C) - RESTROOMS/CHANGING ROOM/STORAGE DETAIL

N.T.S.



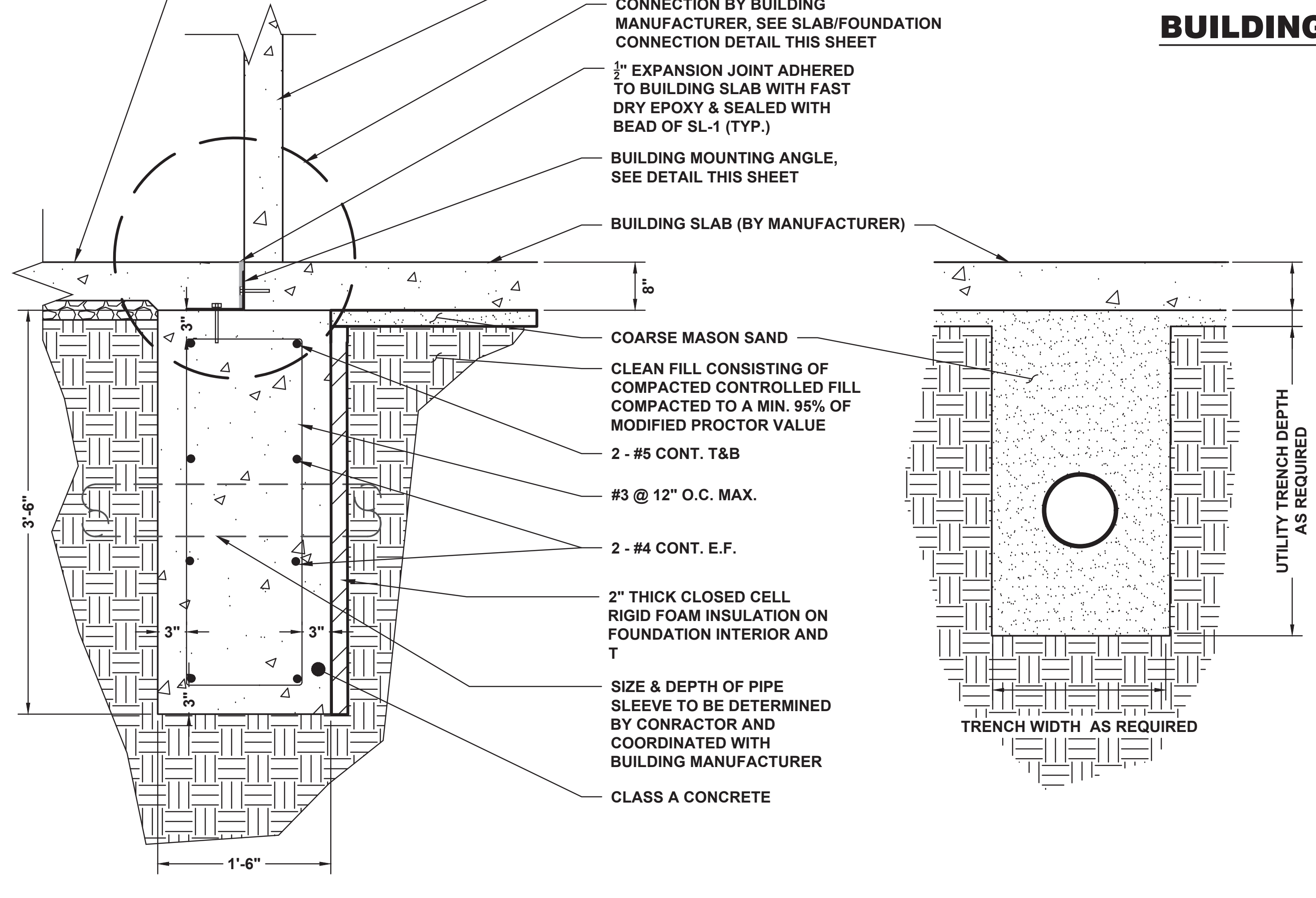
BUILDING 5 (10955B)- RESTROOMS/CONCESSION DETAIL

N.T.S.



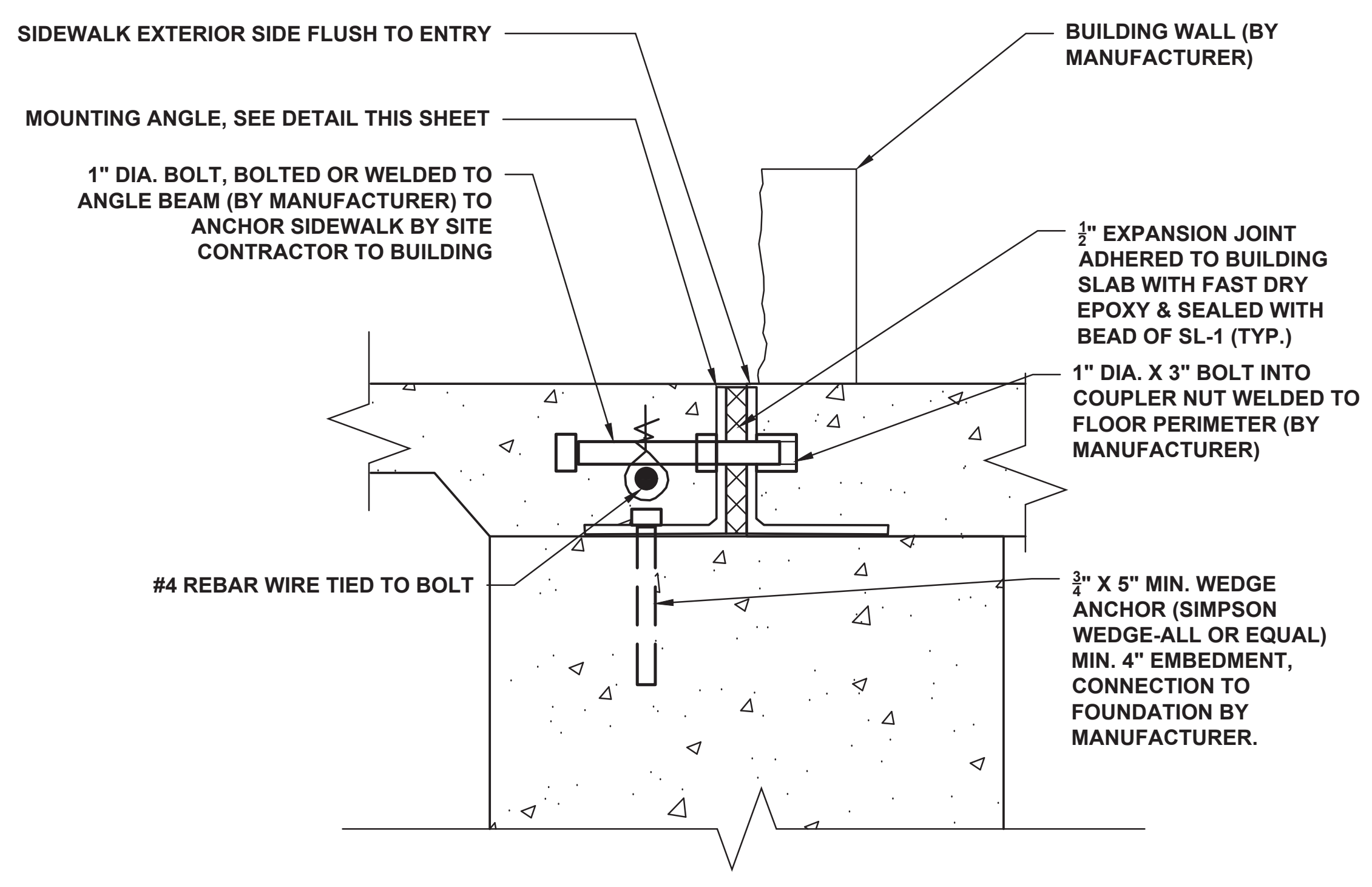
BUILDING MOUNTING ANGLE DETAIL

N.T.S.


CONCRETE SIDEWALK, 6" THICK, SEE DETAIL. INSTALLED BY SITE CONTRACTOR
BUILDING WALL (BY MANUFACTURER)
CONNECTION BY BUILDING MANUFACTURER, SEE SLAB/FOUNDATION CONNECTION DETAIL THIS SHEET
1/2" EXPANSION JOINT ADHERED TO BUILDING SLAB WITH FAST DRY EPOXY & SEALED WITH BEAD OF SL-1 (TYP.)
BUILDING MOUNTING ANGLE, SEE DETAIL THIS SHEET
BUILDING SLAB (BY MANUFACTURER)
8"
2"
COARSE MASON SAND
CLEAN FILL CONSISTING OF COMPACTED CONTROLLED FILL COMPACTED TO A MIN. 95% OF MODIFIED PROCTOR VALUE
2 - #5 CONT. T&B
#3 @ 12" O.C. MAX.
2 - #4 CONT. E.F.
2" THICK CLOSED CELL RIGID FOAM INSULATION ON FOUNDATION INTERIOR AND T
SIZE & DEPTH OF PIPE SLEEVE TO BE DETERMINED BY CONRACTOR AND COORDINATED WITH BUILDING MANUFACTURER
CLASS A CONCRETE
3'-6"
3"
3"
3"
3"
1'-6"
UTILITY TRENCH DEPTH AS REQUIRED
TRENCH WIDTH AS REQUIRED

TYPICAL BUILDING FOOTING SECTION DETAIL

N.T.S.


SIDEWALK EXTERIOR SIDE FLUSH TO ENTRY
MOUNTING ANGLE, SEE DETAIL THIS SHEET
1" DIA. BOLT, BOLTED OR WELDED TO ANGLE BEAM (BY MANUFACTURER) TO ANCHOR SIDEWALK BY SITE CONTRACTOR TO BUILDING
#4 REBAR WIRE TIED TO BOLT
BUILDING WALL (BY MANUFACTURER)
1/2" EXPANSION JOINT ADHERED TO BUILDING SLAB WITH FAST DRY EPOXY & SEALED WITH BEAD OF SL-1 (TYP.)
1" DIA. X 3" BOLT INTO COUPLER NUT WELDED TO FLOOR PERIMETER (BY MANUFACTURER)
3/4" X 5" MIN. WEDGE ANCHOR (SIMPSON WEDGE-ALL OR EQUAL) MIN. 4" EMBEDMENT, CONNECTION TO FOUNDATION BY MANUFACTURER.

BUILDING SLAB/FOUNDATION CONNECTION DETAIL

N.T.S.

PRE-CAST BUILDING NOTES:

1. CONTRACTOR SHALL SUBMIT FULL SHOP DRAWINGS SHOWING ALL FINAL FINISHES, LAYOUT AND DIMENSIONS FOR APPROVAL BY OWNER AND PROJECT ENGINEER PRIOR TO FINAL PURCHASE AND INSTALLATION OF PRE-CAST BUILDING.

2. CONTRACTOR SHALL ATTACH SITE PLAN TO THE MANUFACTURER'S APPROVED DOCUMENTS AND FILE FOR REQUIRED BUILDING PERMITS.

3. BUILDING MANUFACTURER WILL PROVIDE FULL ARCHITECTURAL PLANS AND ENGINEERING CALCULATIONS STAMPED BY STATE GOVERNING AGENCY SUITABLE FOR CONTRACTOR TO FILE FOR REQUIRED BUILDING PERMIT.

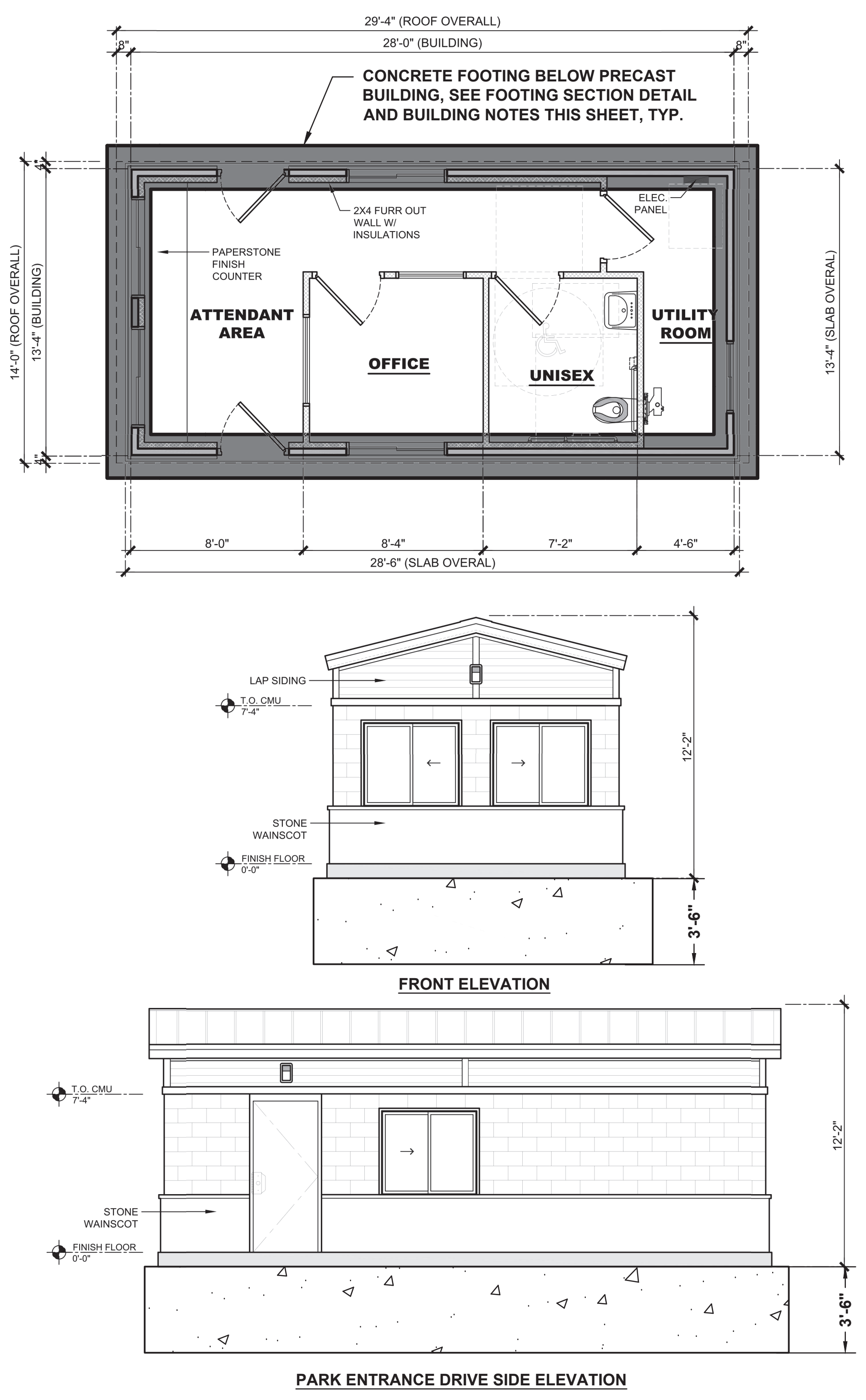
4. CONTRACTOR SHALL PREPARE BUILDING PAD PER DETAILS AND NOTES ON THIS SHEET AND CONSTRUCT BUILDING FOUNDATIONS PER DETAILS AND NOTES ON THIS SHEET.

5. BOTTOM OF PRE-FAB SLAB BY MANUFACTURER IS DEAD FLAT. FOOTING TOP & COMPACTED BACK FILL MUST BE DEAD LEVEL. POUR FOOTING WITH LSER TRANSIT TO VERIFY TOP OF FOOTING. CONTRACTOR SHALL BE RESPONSIBLE FOR COST OF SHIM PLATES IF REQUIRED.

6. CONTRACTOR IS RESPONSIBLE FOR UTILITY CONNECTIONS AND WILL MAKE FINAL CONNECTIONS TO SEWER, WATER AND ELECTRIC.

7. ALL UTILITIES SHALL BE INSTALLED WITH SWING JOINT CONNECTIONS. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER THE LOCATIONS OF ALL UTILITIES FOR PROPER WALL SLEEVE SIZING AND PLACEMENT PRIOR TO INSTALLATION OF BUILDING FOUNDATIONS AND BUILDING INSTALLATION.

8. CONTRACTOR SHALL COORDINATE WITH MANUFACTURER DURING SHOP DRAWING PROCESS FOR KNOCK-OUT LOCATIONS WITHIN STORAGE ROOM OF BUILDING 3 (10955C) FOR ELECTRICAL SITE ELECTRICAL UTILITIES.



BUILDING 1 (10955D)- GATEHOUSE DETAIL

N.T.S.

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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SUBURBAN ENGINEERING

ELECTRONIC SUBMISSIONS NOT CONTAINING A VALID DIGITAL SEAL OR PAPER COPIES NOT CONTAINING A RAISED SEAL ARE NOT ORIGINALS AND MAY HAVE BEEN ALTERED.

DESCRIPTION	NO.	DATE:	BY:	CHK:
REVISIONS				

DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

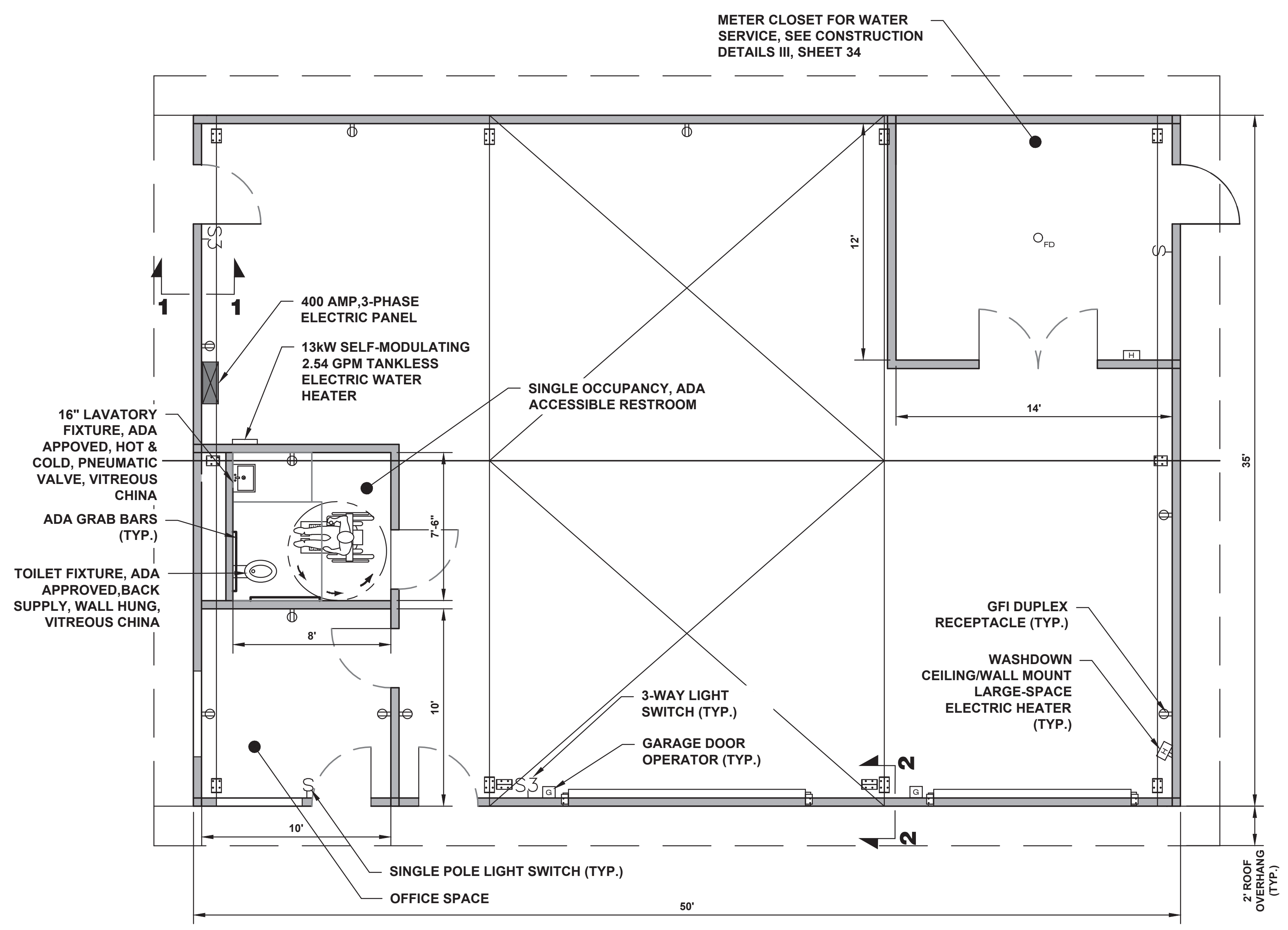
SUBURBAN
ENGINEERING
- Civil Engineers -
- Landscape Architects -
- Land Surveyors -
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

BUILDING DETAILS I

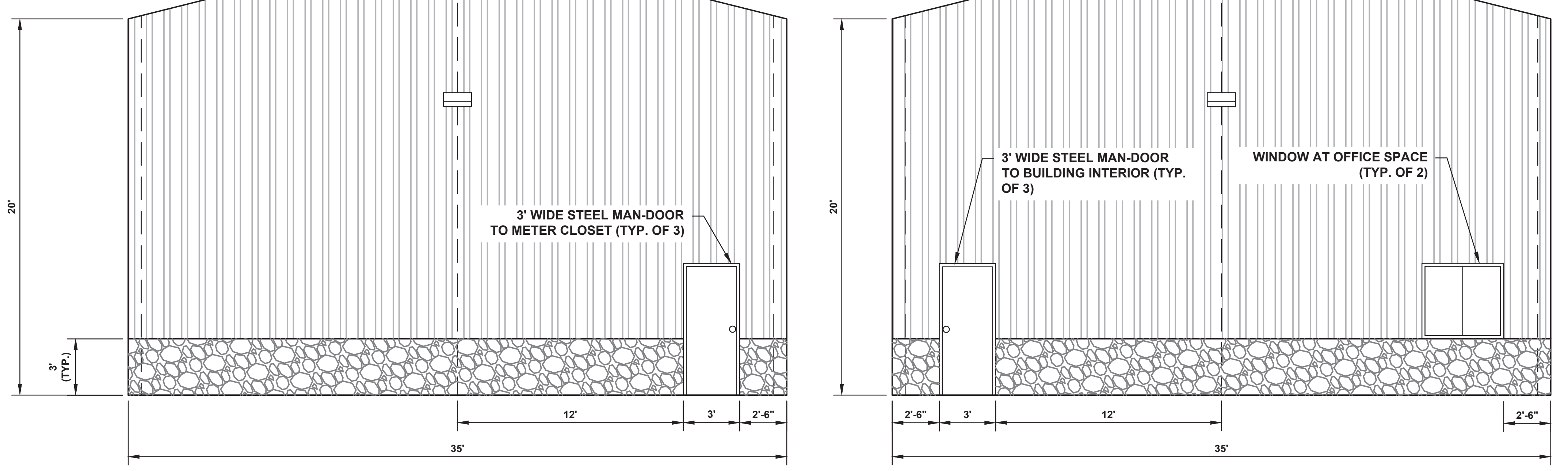
PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 40 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 40-41 Building Details.dwg Tue, Mar 16, 2021 - 4:24pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.


METER CLOSET FOR WATER SERVICE, SEE CONSTRUCTION DETAILS III, SHEET 34
400 AMP,3-PHASE ELECTRIC PANEL
13kW SELF-MODULATING 2.54 GPM TANKLESS ELECTRIC WATER HEATER
SINGLE OCCUPANCY, ADA ACCESSIBLE RESTROOM
16" LAVATORY FIXTURE, ADA APPOVED, HOT & COLD, PNEUMATIC VALVE, VITREOUS CHINA
ADA GRAB BARS (TYP.)
TOILET FIXTURE, ADA APPROVED,BACK SUPPLY, WALL HUNG, VITREOUS CHINA
GFI DUPLEX RECEPTACLE (TYP.)
WASHDOWN CEILING/WALL MOUNT LARGE-SPACE ELECTRIC HEATER (TYP.)
3-WAY LIGHT SWITCH (TYP.)
GARAGE DOOR OPERATOR (TYP.)
SINGLE POLE LIGHT SWITCH (TYP.)
OFFICE SPACE
2' ROOF OVERHANG (TYP.)
1
1
2
2
S3
S
FD
H
G
12'
14'
7'-6"
8'
10'
10'
35'
50'

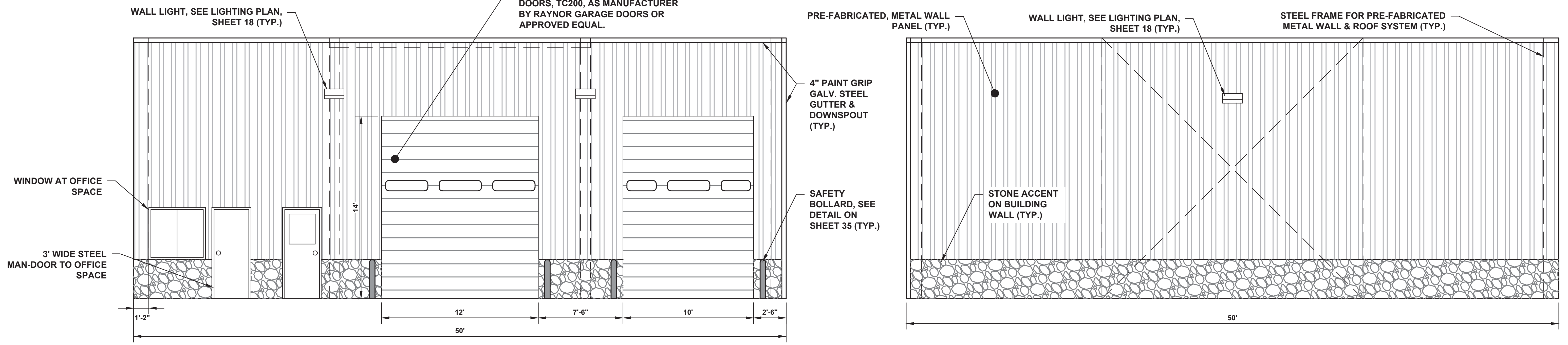
BUILDING 4 FLOOR PLAN (BY OTHERS)

N.T.S.


3' WIDE STEEL MAN-DOOR TO METER CLOSET (TYP. OF 3)
3' WIDE STEEL MAN-DOOR TO BUILDING INTERIOR (TYP. OF 3)
WINDOW AT OFFICE SPACE (TYP. OF 2)
20'
3' (TYP.)
12'
3'
2'-6"
35'
2'-6"
3'
12'
2'-6"
35'

SOUTH SIDE ELEVATION
N.T.S.

NORTH SIDE ELEVATION
N.T.S.


WALL LIGHT, SEE LIGHTING PLAN, SHEET 18 (TYP.)
THERMAL SECTIONAL GARAGE DOORS, TC200, AS MANUFACTURER BY RAYNOR GARAGE DOORS OR APPROVED EQUAL.
4" PAINT GRIP GALV. STEEL GUTTER & DOWNSPOUT (TYP.)
SAFETY BOLLARD, SEE DETAIL ON SHEET 35 (TYP.)
WINDOW AT OFFICE SPACE
3' WIDE STEEL MAN-DOOR TO OFFICE SPACE
14'
1'-2"
12'
7'-6"
10'
2'-6"
50'
PRE-FABRICATED, METAL WALL PANEL (TYP.)
WALL LIGHT, SEE LIGHTING PLAN, SHEET 18 (TYP.)
STEEL FRAME FOR PRE-FABRICATED METAL WALL & ROOF SYSTEM (TYP.)
STONE ACCENT ON BUILDING WALL (TYP.)
50'

FRONT ELEVATION
N.T.S.

REAR ELEVATION
N.T.S.

BUILDING 4 ELEVATIONS (BY OTHERS)

N.T.S.

NOTES:

1. MAINTENANCE BUILDING SHALL BE TIER II CLASSIC BUILDING SYSTEM WITH BUTLER RIB II WALL & MR24 ROOF SYSTEM AS MANUFACTURED BY BUTLER STRUCTURAL SYSTEMS, TEL.717.867.3290, OR APPROVED EQUAL.

2. MAINTENANCE BUILDING TO BE PURCHASED BY TOWN AND SUPPLIED AND INSTALLED BY OTHERS. SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARATION OF BUILDING PAD AND INSTALLATION OF SITE UTILITIES TO WITHIN 6' OF THE MAINTENANCE BUILDING FOOTPRINT. ALL OTHER SITE WORK WITHIN THE MAINTENANCE AREA, INCLUDING, BUT NOT LIMITED TO HMA PAVEMENT, FENCING, CURBS, DRAINAGE, LIGHTING & LANDSCAPING SHALL BE INSTALLED BY SITE WORK CONTRACTOR.

3. BUILDING TO HAVE TWO POWER GARAGE DOORS, AS MANUFACTURED BY RAYNOR GARAGE DOORS, OR APPROVED EQUAL. GARAGE DOORS SHALL HAVE EXHAUST PORTS AND BE OPERATED BY CONTROL HOIST 2.0 BASIC COMMERCIAL OPERATOR (JACKSHAFT) WITH RADIO RECEIVER FOR REMOTE OPENING, 14' HT.

4. INTERIOR WALLS SHALL BE LIGHT GAUGE METAL FRAMING, 3 $\frac{5}{8}$" X 1 $\frac{1}{4}$", WITH $\frac{5}{8}$" GYPSUM BOARD, WITH 8' CEILING HEIGHT.

5. INTERIOR ROOM CEILINGS SHALL BE CONSTRUCTED OF LIGHT GAUGE METAL FRAMING AND FINISHED WITH $\frac{1}{2}$" INTERIOR CEILING GYPSUM BOARD.

6. ALL FIXTURES WITHIN SINGLE OCCUPANCY RESTROOM MUST BE ADA COMPLIANT. CONTRACTOR TO ALSO SUPPLY AND INSTALL TOILET TISSUE DISPENSER, SOAP DISPENSER AND VANDAL RESISTANT MIRROR.

7. ALL FLOOR DRAIN AND WASTE PIPING SHALL BE SHCEDULE 40 PVC. WATER LINES SHALL BE TYPE L COPPER.

8. MAN DOORS TO BE 18 GAGE GALV. STEEL DOOR, INSULATED, POWDER COAT COLOR TO MATCH BUILDING EXTERIOR, WITH SINGLE RABBET FRAME AND HEAVY DUTY COMMERCIAL GRAD HINGES. EXTERIOR DOORS SHALL HAVE HEAVY-DUTY COMMERCIAL GRADE CYLINDER LOCKS, WITH THE EXCEPTION OF METER CLOSET DOOR, SEE SHEET 33 FOR ADDITIONAL INFORMATION. DOOR COLOR TO BE SELECTED BY OWNER.

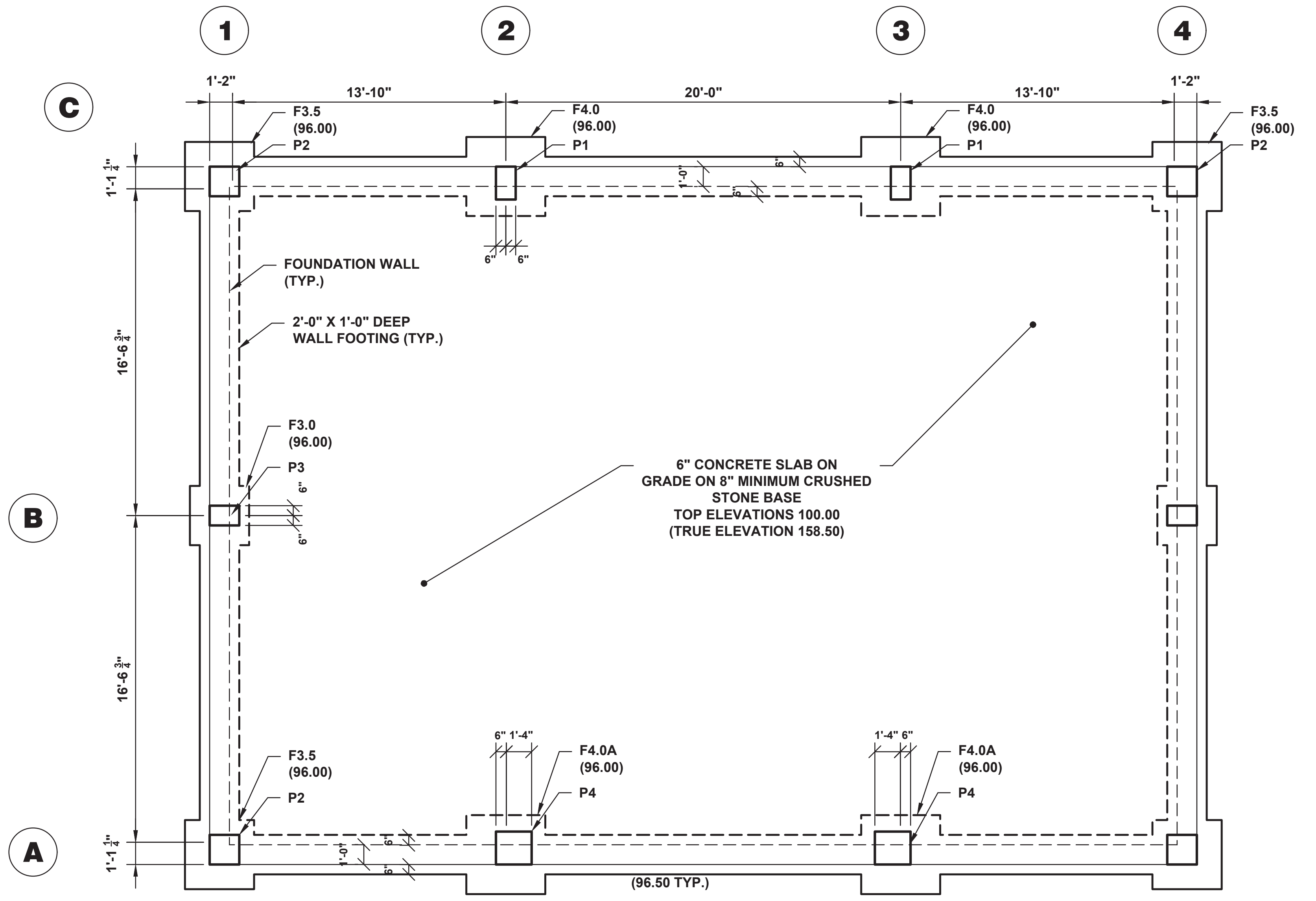
9. TANKLESS WATER HEATER SHALL BE MODEL NO. RETEX-13, AS MANUFACTURED BY RHEEM, OR APPROVED EQUAL.

10. WASH DOWN CEILING/WALL-MOUNTED LARGE SPACE HEATER SHALL BE MODEL NO. 19625K25, AS MANUFACTURED BY MCMASTER-CARR, OR APPROVED EQUAL.

11. FINAL FINISHES AND COLORS SHALL BE SELECTED/APPROVED BY OWNER AND SHALL MATCH THE GENERAL APPEARANCE OF THE EXAMPLE IMAGE BELOW.

12. CONTRACTOR SHALL SUBMIT A FULL SHOP DRAWING PACKAGE OF BUILDING SYSTEM FOR APPROVAL BY OWNER AND PROJECT ENGINEER PRIOR TO PURCHASE AND INSTALLATION.

13. BUILDING DESIGN MUST CONFORM TO ALL APPLICABLE ICC BUILDING CODES AND STATE AND LOCAL REGULATIONS.



NOTE:

(XX.XX) DENOTES BOTTOM OF FOOTING ELEVATION.

CONCRETE COLUMN FOOTING SCHEDULE

	L (LENGTH)	B (WIDTH)	D (DEPTH)	REINFORCEMENT
F-3.0	3'-0"	3'-0"	1'-6"	4- #4 B.E.W.
F-3.5	3'-6"	3'-6"	1'-6"	4- #5 B.E.W.
F-4.0	4'-0"	4'-0"	1'-6"	5- #5 B.E.W.
F-4.0A	4'-0"	4'-0"	1'-6"	5- #5 B&T E.W.

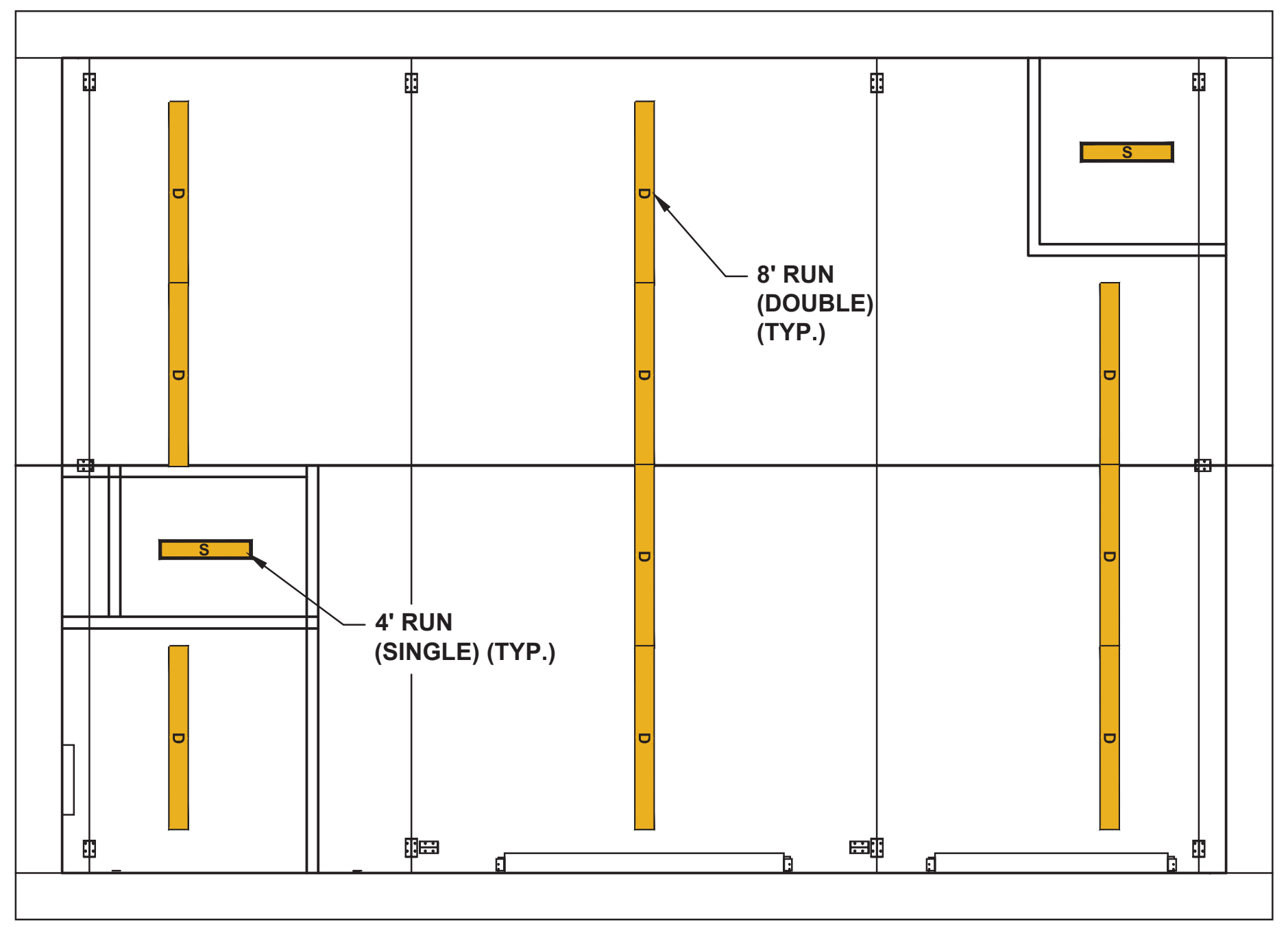
CONCRETE PIER SCHEDULE

	B (WIDTH)	T (THICKNESS)	REINFORCEMENT	
			VERTICAL	TIES
P1	12"	20"	6- #6	#3 @ 12"
P2	18"	18"	8- #5	#3 @ 12"
P3	12"	18"	6- #5	#3 @ 12"
P4	22"	20"	8- #6	#3 @ 12"

BUILDING 4 FOUNDATION PLAN (BY OTHERS)

N.T.S.

EXAMPLE BUILDING FINISH REFERENCE PHOTO

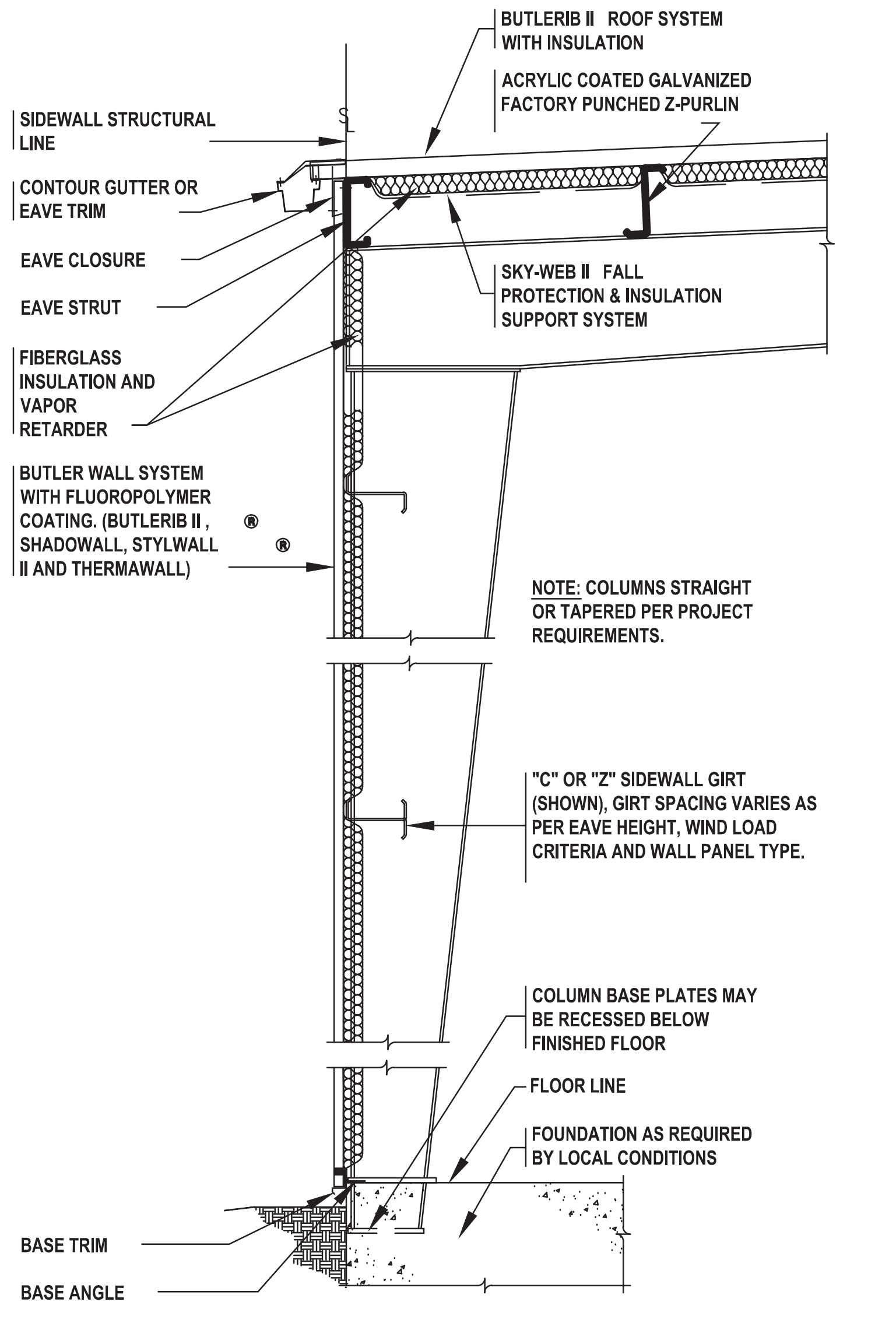


LIGHTING SCHEDULE

SYMBOL	TYPE/ARRANGEMENT	QTY	PRODUCT DESCRIPTION
D	8' RUN (DOUBLE)	10	MERCURY LM14-8-10000-40K-HTA-1%-UNI-SRA
S	4' RUN (SINGLE)	2	

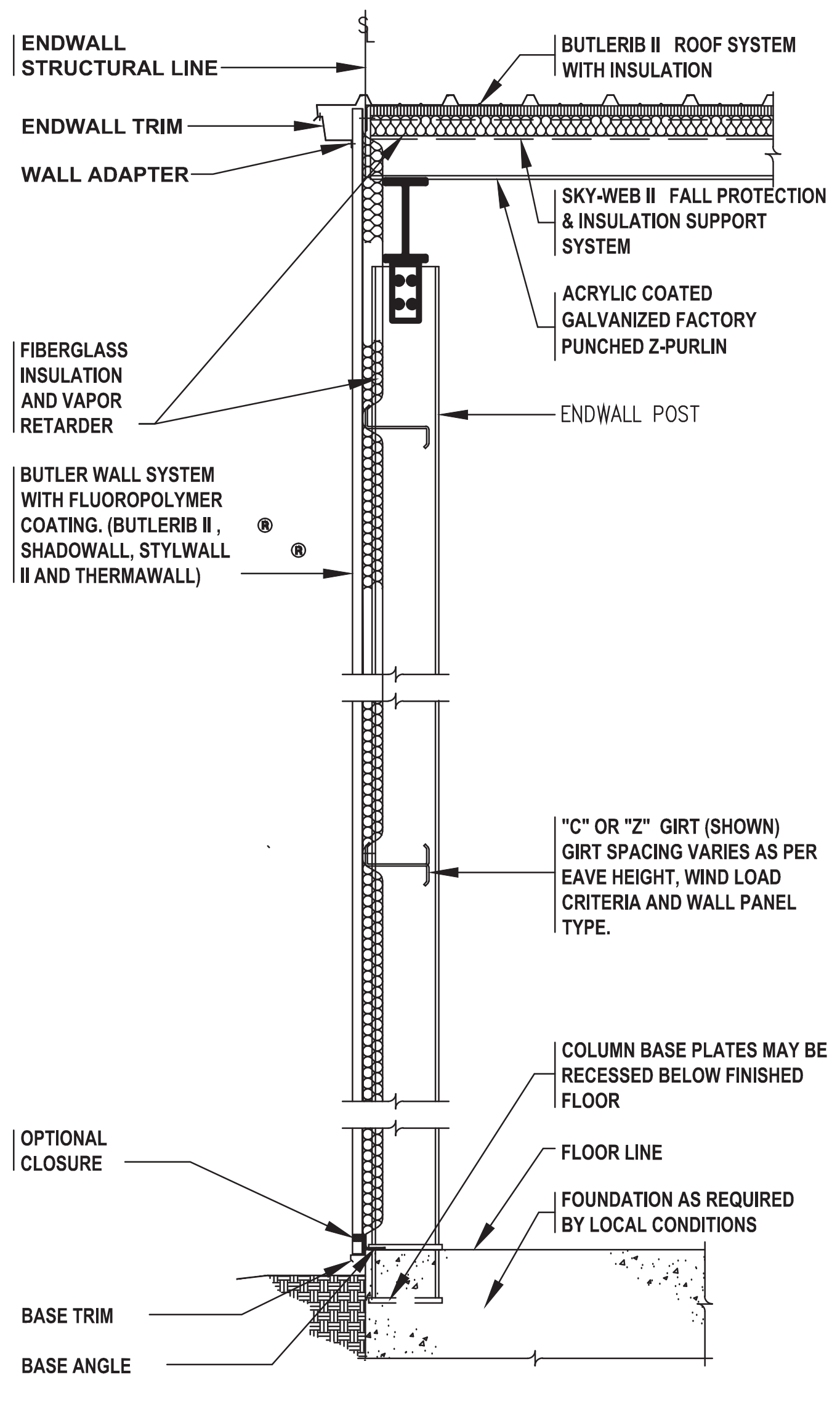
BUILDING 4 LIGHTING PLAN (BY OTHERS)

N.T.S.


BUTLERIB II ROOF SYSTEM WITH INSULATION
ACRYLIC COATED GALVANIZED FACTORY PUNCHED Z-PURLIN
SIDEWALL STRUCTURAL LINE
CONTOUR GUTTER OR EAVE TRIM
EAVE CLOSURE
EAVE STRUT
SKY-WEB II FALL PROTECTION & INSULATION SUPPORT SYSTEM
FIBERGLASS INSULATION AND VAPOR RETARDER
BUTLER WALL SYSTEM WITH FLUOROPOLYMER COATING. (BUTLERIB II ®, SHADOWALL, STYLWALL ® II AND THERMAWALL)
NOTE: COLUMNS STRAIGHT OR TAPERED PER PROJECT REQUIREMENTS.
"C" OR "Z" SIDEWALL GIRT (SHOWN), GIRT SPACING VARIES AS PER EAVE HEIGHT, WIND LOAD CRITERIA AND WALL PANEL TYPE.
COLUMN BASE PLATES MAY BE RECESSED BELOW FINISHED FLOOR
FLOOR LINE
FOUNDATION AS REQUIRED BY LOCAL CONDITIONS
BASE TRIM
BASE ANGLE

SECTION 1 - TYPICAL SIDEWALL SECTION WITH COLUMN AT STRUCTURAL LINE (BY OTHERS)

N.T.S.


ENDWALL STRUCTURAL LINE
ENDWALL TRIM
WALL ADAPTER
BUTLERIB II ROOF SYSTEM WITH INSULATION
SKY-WEB II FALL PROTECTION & INSULATION SUPPORT SYSTEM
ACRYLIC COATED GALVANIZED FACTORY PUNCHED Z-PURLIN
FIBERGLASS INSULATION AND VAPOR RETARDER
ENDWALL POST
BUTLER WALL SYSTEM WITH FLUOROPOLYMER COATING. (BUTLERIB II ®, SHADOWALL, STYLWALL ® II AND THERMAWALL)
"C" OR "Z" GIRT (SHOWN) GIRT SPACING VARIES AS PER EAVE HEIGHT, WIND LOAD CRITERIA AND WALL PANEL TYPE.
COLUMN BASE PLATES MAY BE RECESSED BELOW FINISHED FLOOR
FLOOR LINE
FOUNDATION AS REQUIRED BY LOCAL CONDITIONS
OPTIONAL CLOSURE
BASE TRIM
BASE ANGLE

SECTION 2 - TYPICAL ENDWALL SECTION WITH GABLE TRIM DETAIL (BY OTHERS)

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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REVISIONS

DRAWN BY: KAK 03/19/2021
CHECKED BY: ASH 03/19/2021
CHECKED BY: RCG 03/19/2021

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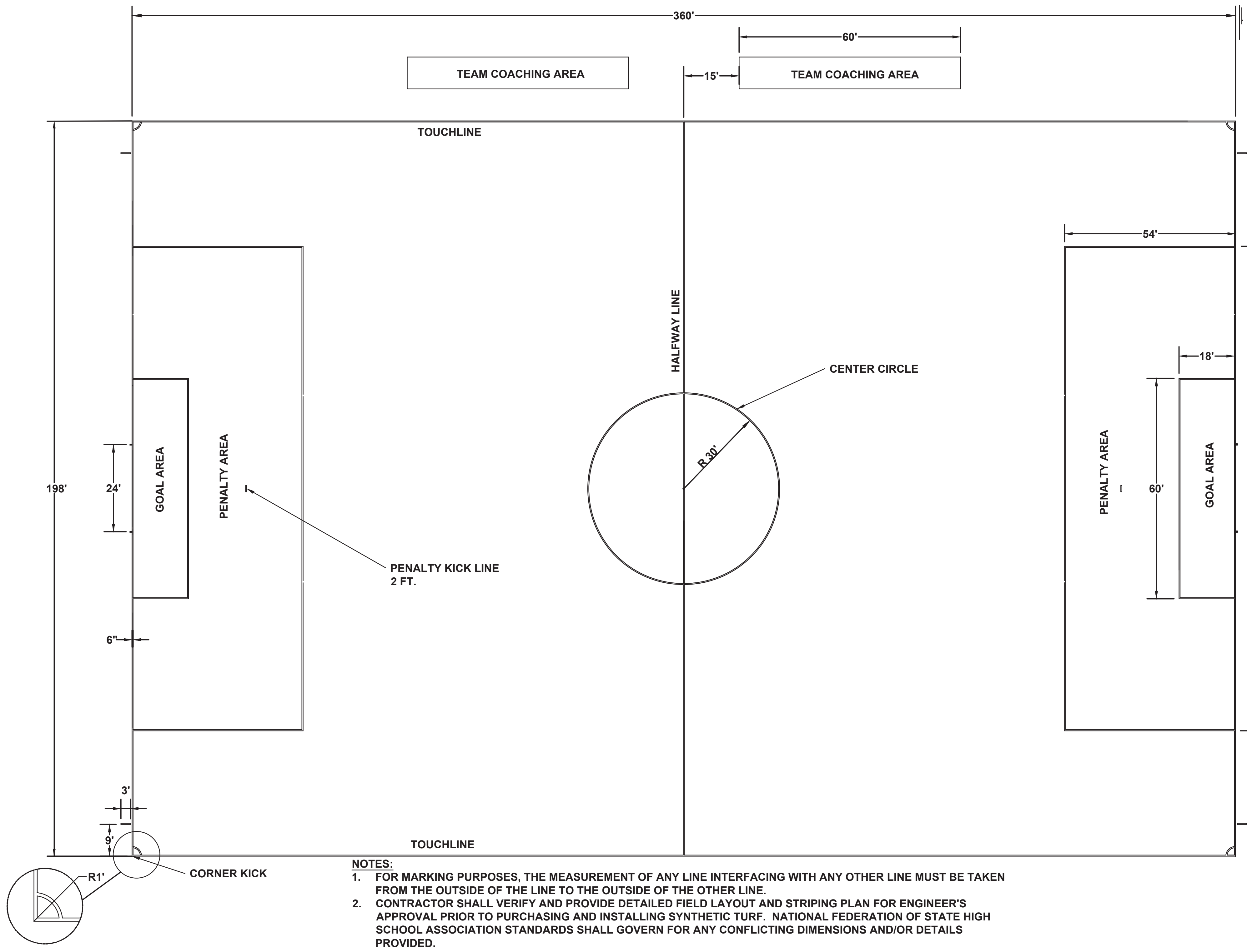
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

BUILDING DETAILS II

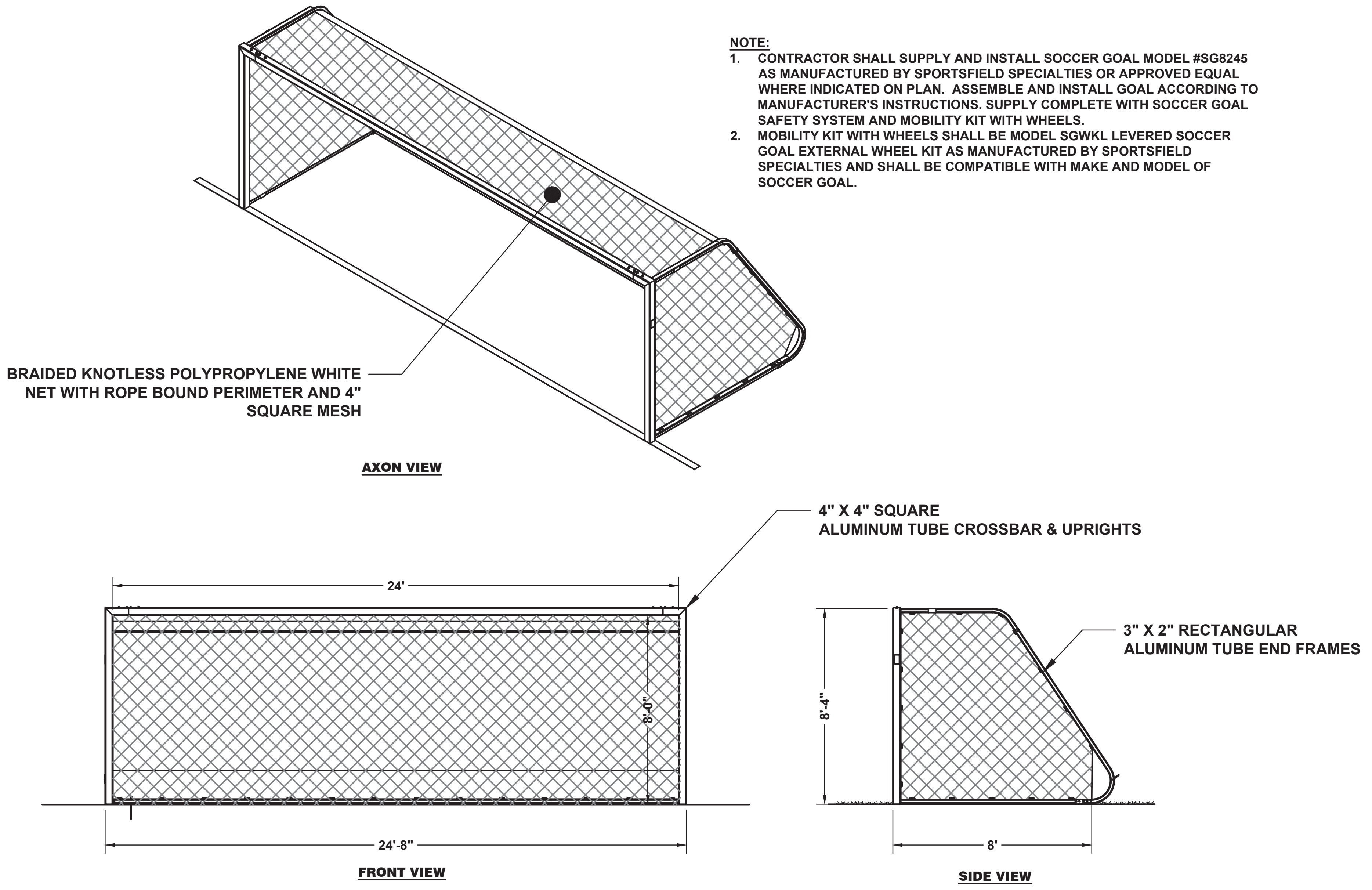
PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 41 OF 47
REVISION -



NOTES:
1. FOR MARKING PURPOSES, THE MEASUREMENT OF ANY LINE INTERFACING WITH ANY OTHER LINE MUST BE TAKEN FROM THE OUTSIDE OF THE LINE TO THE OUTSIDE OF THE OTHER LINE.
2. CONTRACTOR SHALL VERIFY AND PROVIDE DETAILED FIELD LAYOUT AND STRIPING PLAN FOR ENGINEER'S APPROVAL PRIOR TO PURCHASING AND INSTALLING SYNTHETIC TURF. NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATION STANDARDS SHALL GOVERN FOR ANY CONFLICTING DIMENSIONS AND/OR DETAILS PROVIDED.
3. IN AREAS WHERE LACROSSE, FIELD HOCKEY AND SOCCER STRIPING OVERLAP OR INTERSECT, SOCCER STRIPING SHALL COVER WOMEN'S LACROSSE FOLLOWED BY FIELD HOCKEY.
4. INLAID LINES TO BE COLOR WHITE FOR THE FULL SIZE FIELD AND COLOR YELLOW FOR THE YOUTH SIZE FIELD.

FULL SIZE SOCCER STRIPING LAYOUT (WHITE STRIPING) (BY OTHERS)

N.T.S.


BRAIDED KNOTLESS POLYPROPYLENE WHITE NET WITH ROPE BOUND PERIMETER AND 4" SQUARE MESH
AXON VIEW
4" X 4" SQUARE ALUMINUM TUBE CROSSBAR & UPRIGHTS
24'
8'-0"
24'-8"
FRONT VIEW
3" X 2" RECTANGULAR ALUMINUM TUBE END FRAMES
8'-4"
8'
SIDE VIEW

NOTE:
1. CONTRACTOR SHALL SUPPLY AND INSTALL SOCCER GOAL MODEL #SG8245 AS MANUFACTURED BY SPORTSFIELD SPECIALTIES OR APPROVED EQUAL WHERE INDICATED ON PLAN. ASSEMBLE AND INSTALL GOAL ACCORDING TO MANUFACTURER'S INSTRUCTIONS. SUPPLY COMPLETE WITH SOCCER GOAL SAFETY SYSTEM AND MOBILITY KIT WITH WHEELS.
2. MOBILITY KIT WITH WHEELS SHALL BE MODEL SGWKL LEVERED SOCCER GOAL EXTERNAL WHEEL KIT AS MANUFACTURED BY SPORTSFIELD SPECIALTIES AND SHALL BE COMPATIBLE WITH MAKE AND MODEL OF SOCCER GOAL.

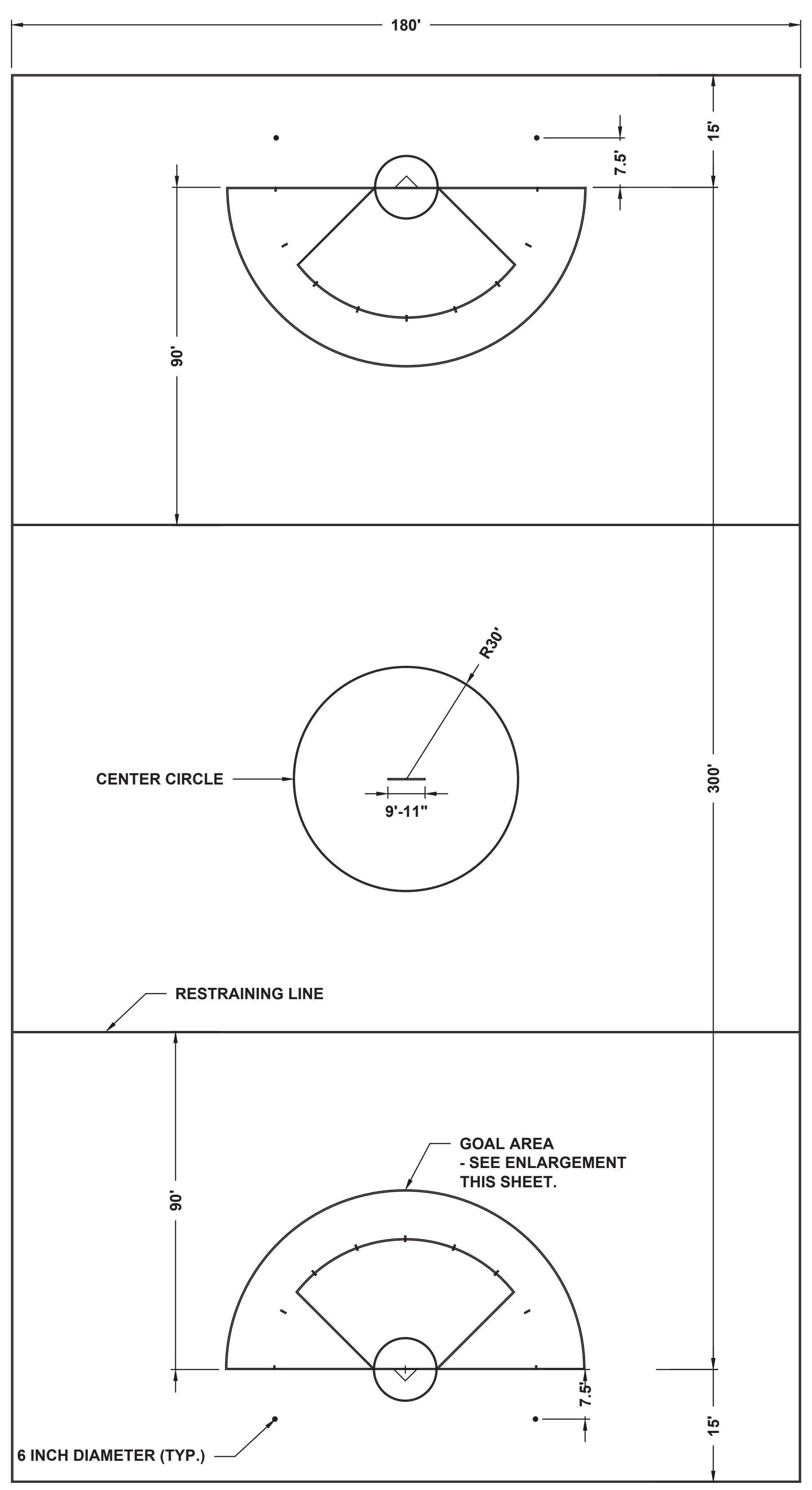
SOCCER GOALS (PAIR) (BY OTHERS)

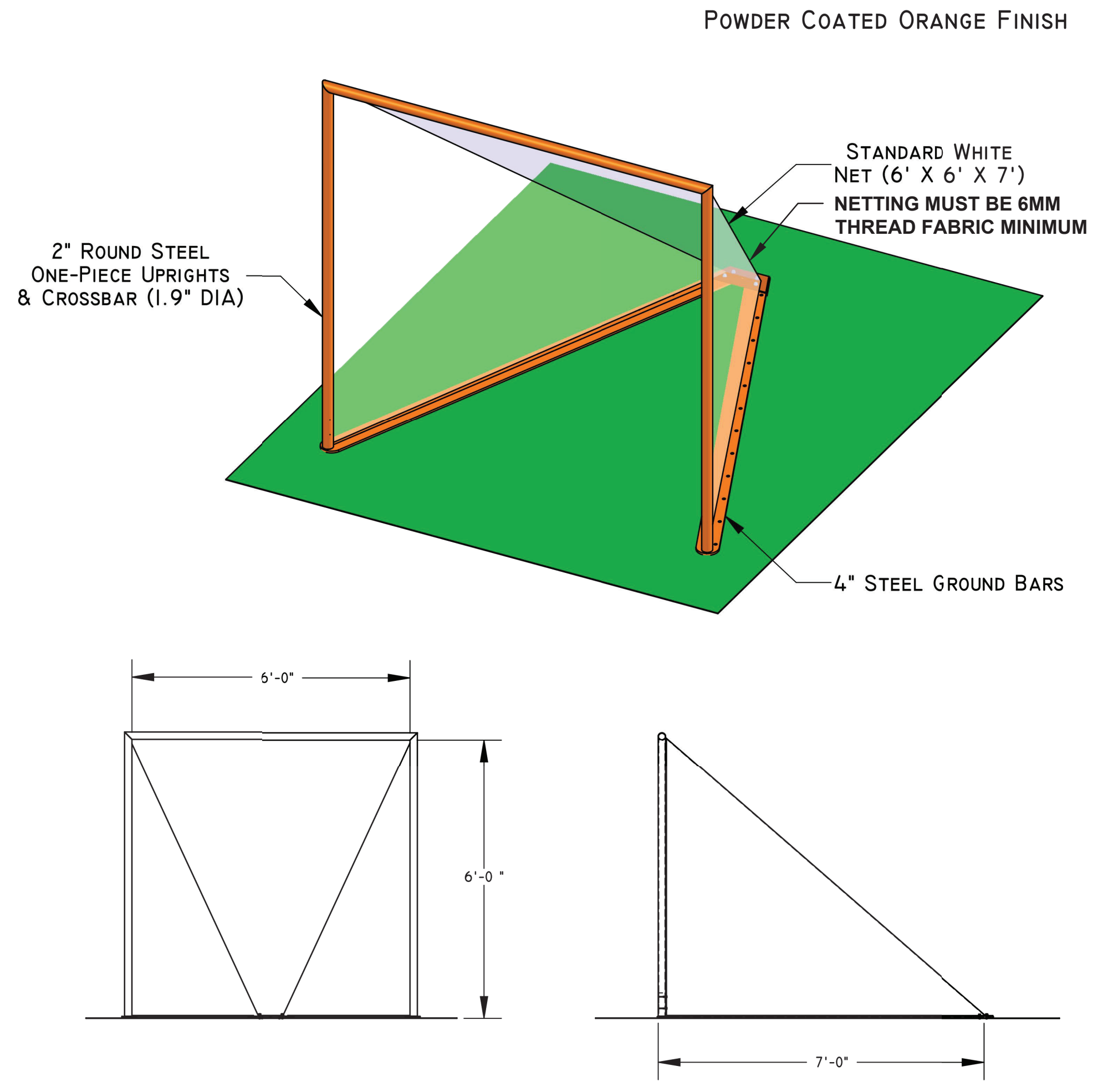
N.T.S.

NOTE:
1. CONTRACTOR TO FURNISH TITAN SERIES TEAM BENCHES WITH BACKREST, 15'-0" LENGTH, GALVANIZED STEEL FRAME, PORTABLE OPTIONS, MODEL #TB-TPG15 AS MANUFACTURED BY GT GRANDSTANDS, (866)-550-5511, OR APPROVED EQUAL.
2. CONTRACTOR SHALL FURNISH A TOTAL OF (4) BENCHES, (2) PER SIDE.

PORTABLE TEAM BENCH DETAIL (BY OTHERS)

N.T.S.

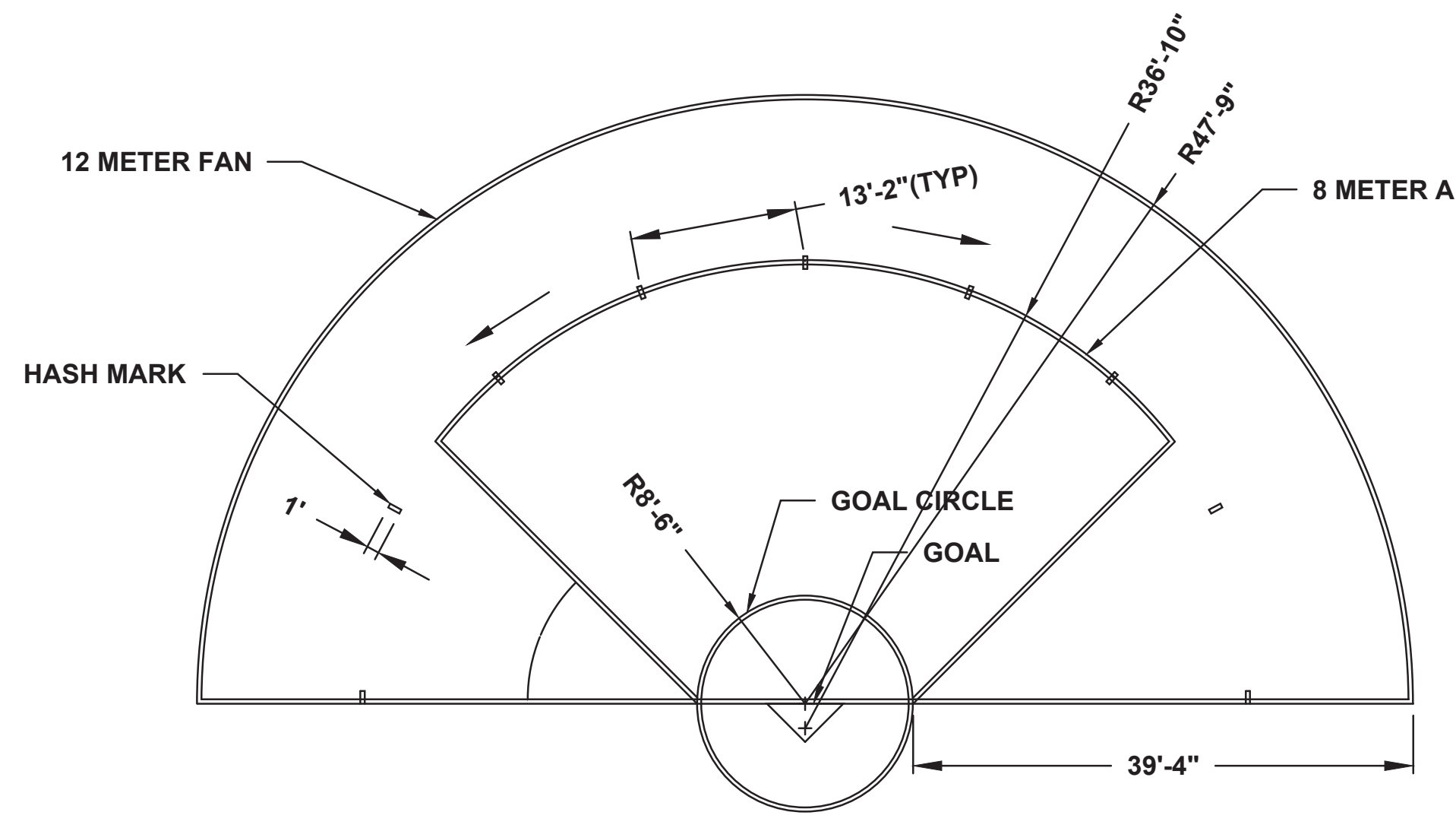



POWDER COATED ORANGE FINISH
STANDARD WHITE NET (6' X 6' X 7')
NETTING MUST BE 6MM THREAD FABRIC MINIMUM
2" ROUND STEEL ONE-PIECE UPRIGHTS & CROSSBAR (1.9" DIA)
4" STEEL GROUND BARS
6'-0"
6'-0 "
7'-0"

NOTE:
1. MODEL #LCG AS MANUFACTURED BY SPORTSFIELD SPECIALTIES OR APPROVED EQUAL.
2. OPENINGS IN NETTING ARE TO BE 6 MM MAXIMUM.

LACROSSE GOAL DETAIL (BY OTHERS)

N.T.S.

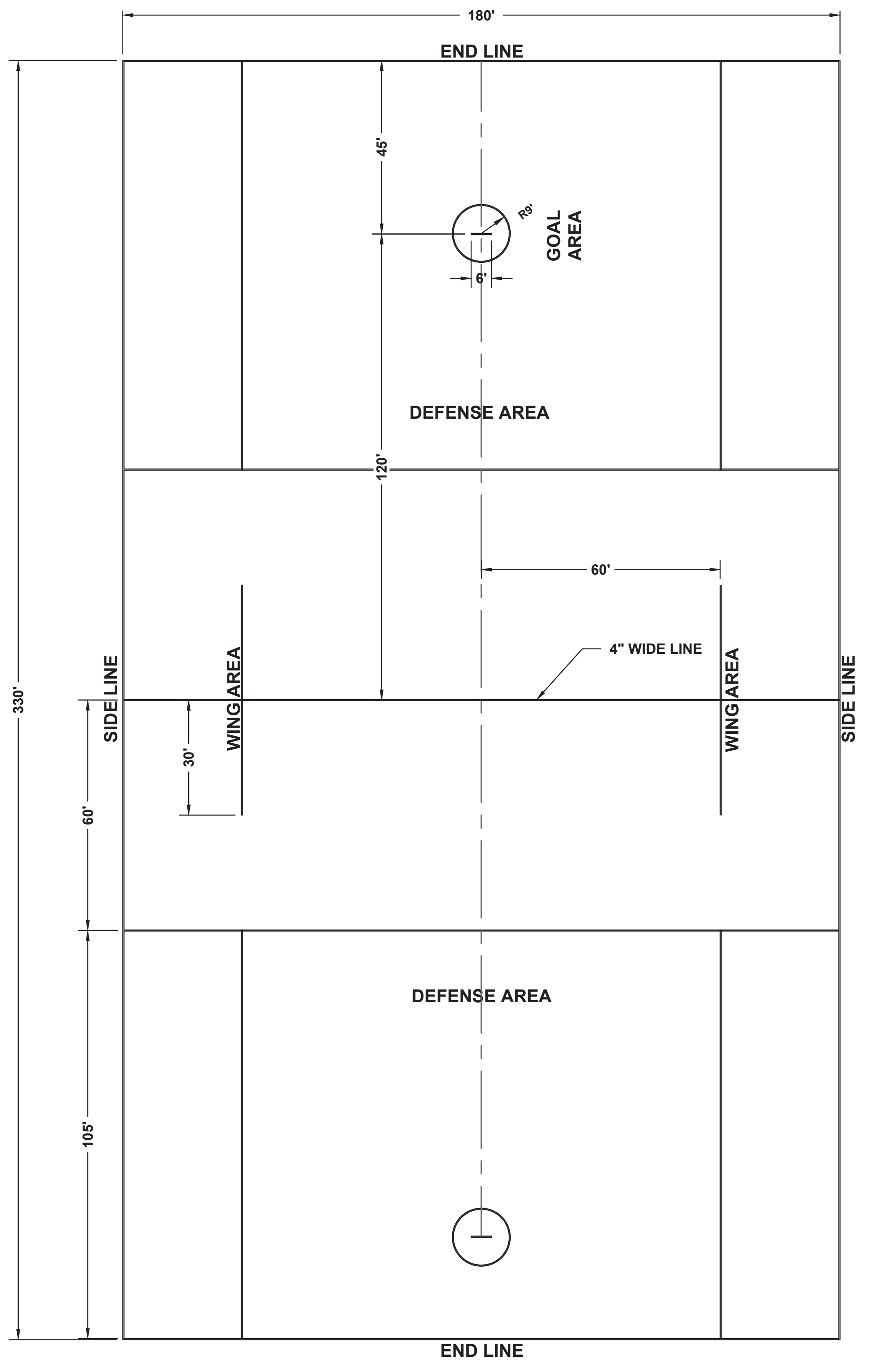


GOAL AREA ENLARGEMENT

NOTES:
1. FOR MARKING PURPOSES, THE MEASUREMENT OF ANY LINE INTERFACING WITH ANY OTHER LINE MUST BE TAKEN FROM THE OUTSIDE OF THE LINE TO THE OUTSIDE OF THE OTHER LINE. ALL LINES SHALL BE 4" WIDE WITH THE EXCEPTION OF THE GOAL LINE, WHICH SHALL BE 2" WIDE.
2. ALL STRIPING AND LAYOUT MUST MEET NYSPHSAA AND NFHS STANDARDS.
3. INLAID LINES TO BE COLOR RED.

WOMEN'S LACROSSE FIELD LAYOUT (BY OTHERS)

N.T.S.



MEN'S LACROSSE FIELD LAYOUT (BY OTHERS)

N.T.S.

CO-OPERATIVE PURCHASING NOTE:

1. CONTRACTOR TO BE ADVISED CERTAIN SITE WORK ITEMS ARE TO BE PURCHASED DIRECTLY BY THE TOWN AND SUPPLIED/INSTALLED BY OTHERS AS PART OF THIS PROJECT. ITEMS TO BE PURCHASED AND INSTALLED BY OTHERS INCLUDE ALL SYNTHETIC TURF SURFACING AND ASSOCIATED BASE AND DRAINAGE SYSTEMS, ALL FIELD APPURTENANCES FOR THE MULTI-PURPOSE AND CHALLENGER FIELDS INCLUDING TEAM BENCHES, GOALS, BLEACHERS AND BLEACHER PADS, DUGOUTS, SPORTS NETTING, FOUL POLES AND GOALPOSTS, ELECTRONIC SCOREBOARDS AND SPORTS LIGHTING AND BUILDING 4 (MAINTENANCE BUILDING).
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING SUBGRADE BELOW STONE BASE FOR SYNTHETIC TURF FIELDS AND RUNNING UTILITIES AS NEEDED TO THE VARIOUS ITEMS "BY OTHERS".

NOTES:
1. FOR MARKING PURPOSES, THE MEASUREMENT OF ANY LINE INTERFACING WITH ANY OTHER LINE MUST BE TAKEN FROM THE OUTSIDE OF THE LINE TO THE OUTSIDE OF THE OTHER LINE. ALL LINES SHALL BE 4" WIDE WITH THE EXCEPTION OF THE GOAL LINE, WHICH SHALL BE 2" WIDE.
2. ALL STRIPING AND LAYOUT MUST MEET NYSPHSAA AND NFHS STANDARDS.
3. INLAID LINES TO BE COLOR RED.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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CHECKED BY: RCG 03/19/2021

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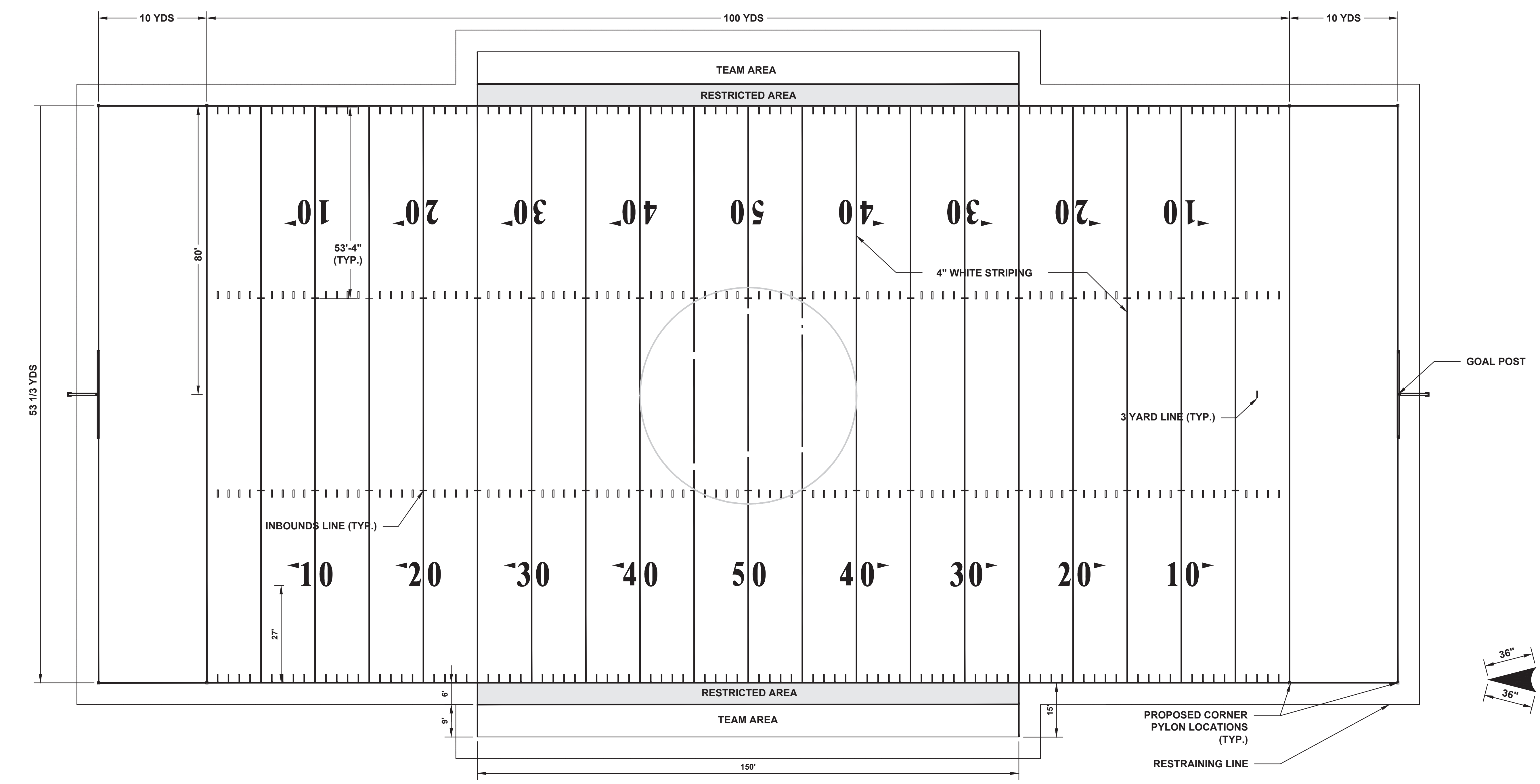
HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

MULTI-PURPOSE FIELD DETAILS I

PROJECT NUMBER:
SCE-9755.021
SCALE:
N.T.S.
SHEET 42 OF 47
REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 42 Multi-Purpose Field Details I.dwg Tue, Mar 16, 2021 - 4:46pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.



FOOTBALL STRIPING LAYOUT (BY OTHERS)

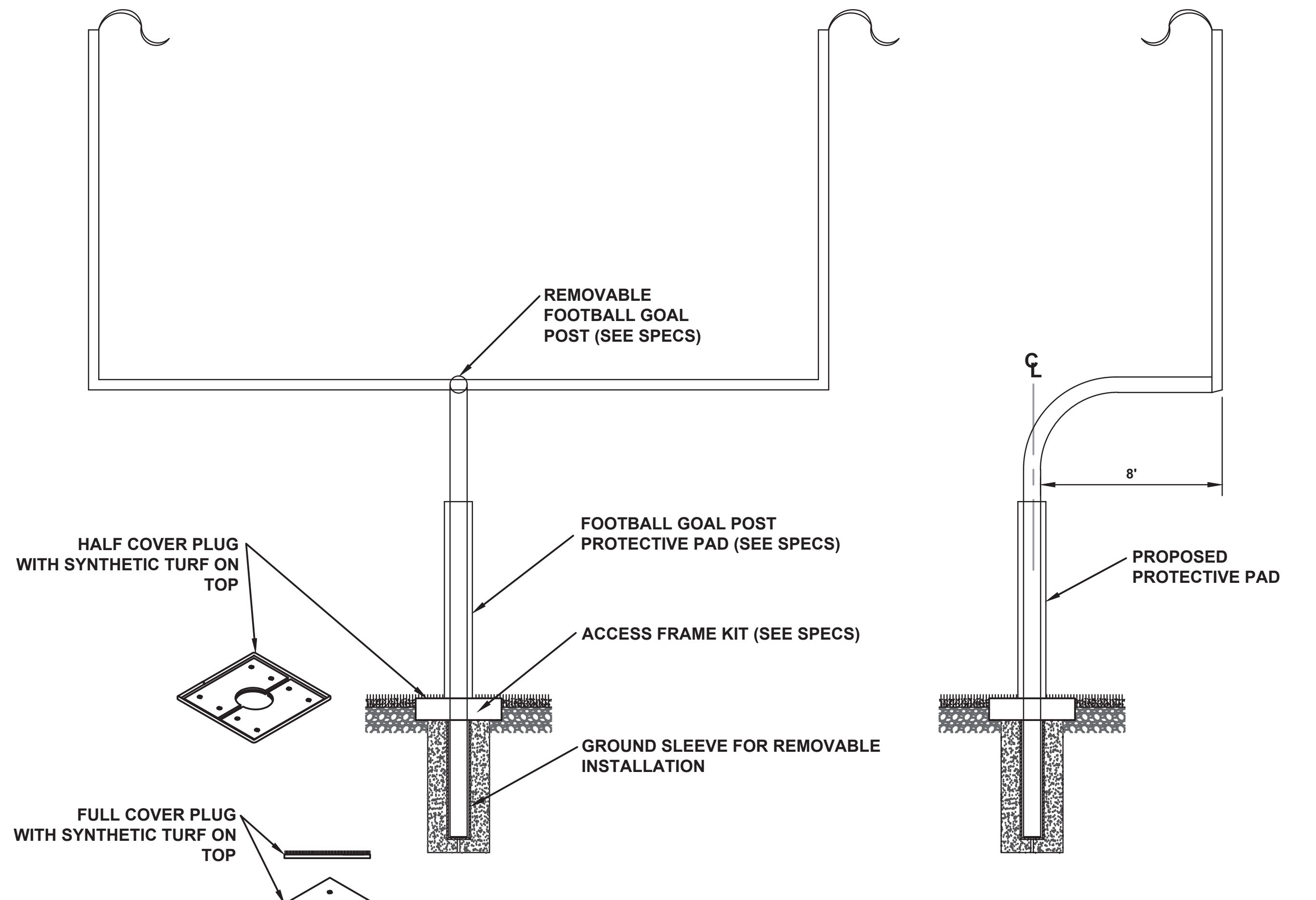
N.T.S.

NOTES:

1. CONTRACTOR SHALL VERIFY AND PROVIDE DETAILED FIELD LAYOUT AND STRIPING PLAN FOR ENGINEER'S APPROVAL PRIOR TO PURCHASING AND INSTALLING SYNTHETIC TURF. NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATION STANDARDS SHALL GOVERN FOR ANY CONFLICTING DIMENSIONS AND/OR DETAILS PROVIDED.
2. CONTRACTOR SHALL PROVIDE DETAILED LAYOUT AND SHOP DRAWINGS FOR ALL LOGO AND/OR TEXT AREAS.
3. IN AREAS WHERE FOOTBALL, LACROSSE, FIELD HOCKEY AND SOCCER STRIPING OVERLAP OR INTERSECT, FOOTBALL STRIPING SHALL COVER SOCCER STRIPING FOLLOWED BY WOMEN'S LACROSSE AND FIELD HOCKEY.
4. INLAID LINES TO BE COLOR WHITE.

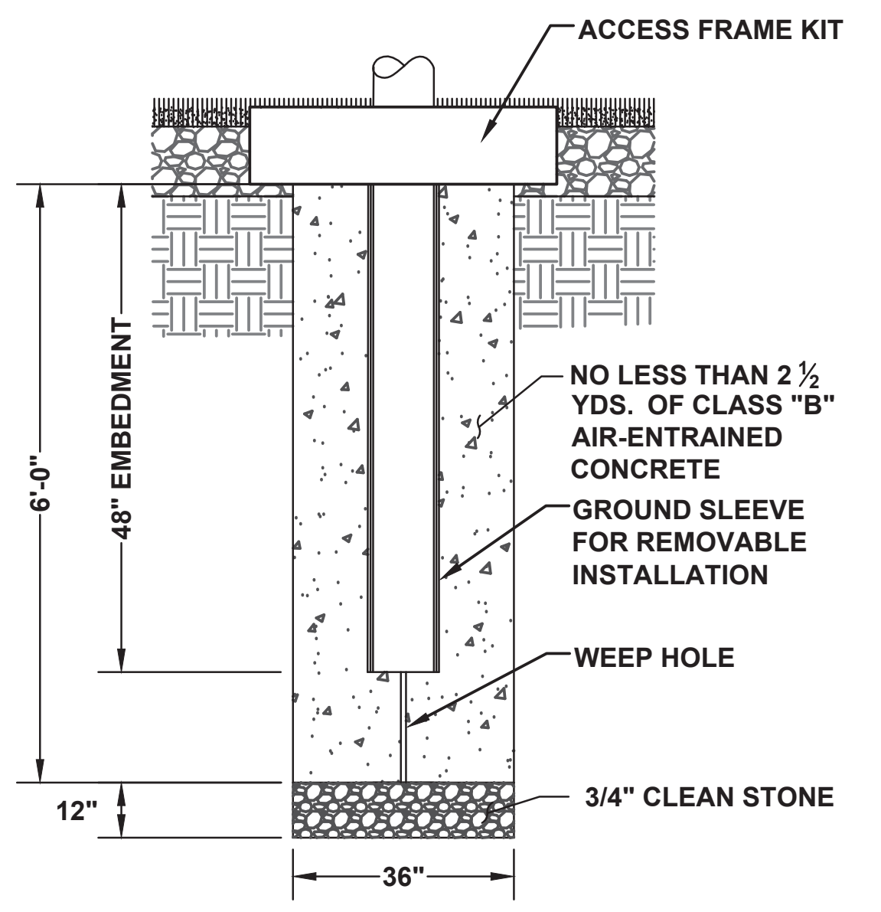
CO-OPERATIVE PURCHASING NOTE:

1. CONTRACTOR TO BE ADVISED CERTAIN SITE WORK ITEMS ARE TO BE PURCHASED DIRECTLY BY THE TOWN AND SUPPLIED/INSTALLED BY OTHERS AS PART OF THIS PROJECT. ITEMS TO BE PURCHASED AND INSTALLED BY OTHERS INCLUDE ALL SYNTHETIC TURF SURFACING AND ASSOCIATED BASE AND DRAINAGE SYSTEMS, ALL FIELD APPURTENANCES FOR THE MULTI-PURPOSE AND CHALLENGER FIELDS INCLUDING TEAM BENCHES, GOALS, BLEACHERS AND BLEACHER PADS, DUGOUTS, SPORTS NETTING, FOUL POLES AND GOALPOSTS, ELECTRONIC SCOREBOARDS AND SPORTS LIGHTING AND BUILDING 4 (MAINTENANCE BUILDING).
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING SUBGRADE BELOW STONE BASE FOR SYNTHETIC TURF FIELDS AND RUNNING UTILITIES AS NEEDED TO THE VARIOUS ITEMS "BY OTHERS".


REMOVABLE FOOTBALL GOAL POST (SEE SPECS)
FOOTBALL GOAL POST PROTECTIVE PAD (SEE SPECS)
HALF COVER PLUG WITH SYNTHETIC TURF ON TOP
ACCESS FRAME KIT (SEE SPECS)
GROUND SLEEVE FOR REMOVABLE INSTALLATION
FULL COVER PLUG WITH SYNTHETIC TURF ON TOP
CL
8'
PROPOSED PROTECTIVE PAD

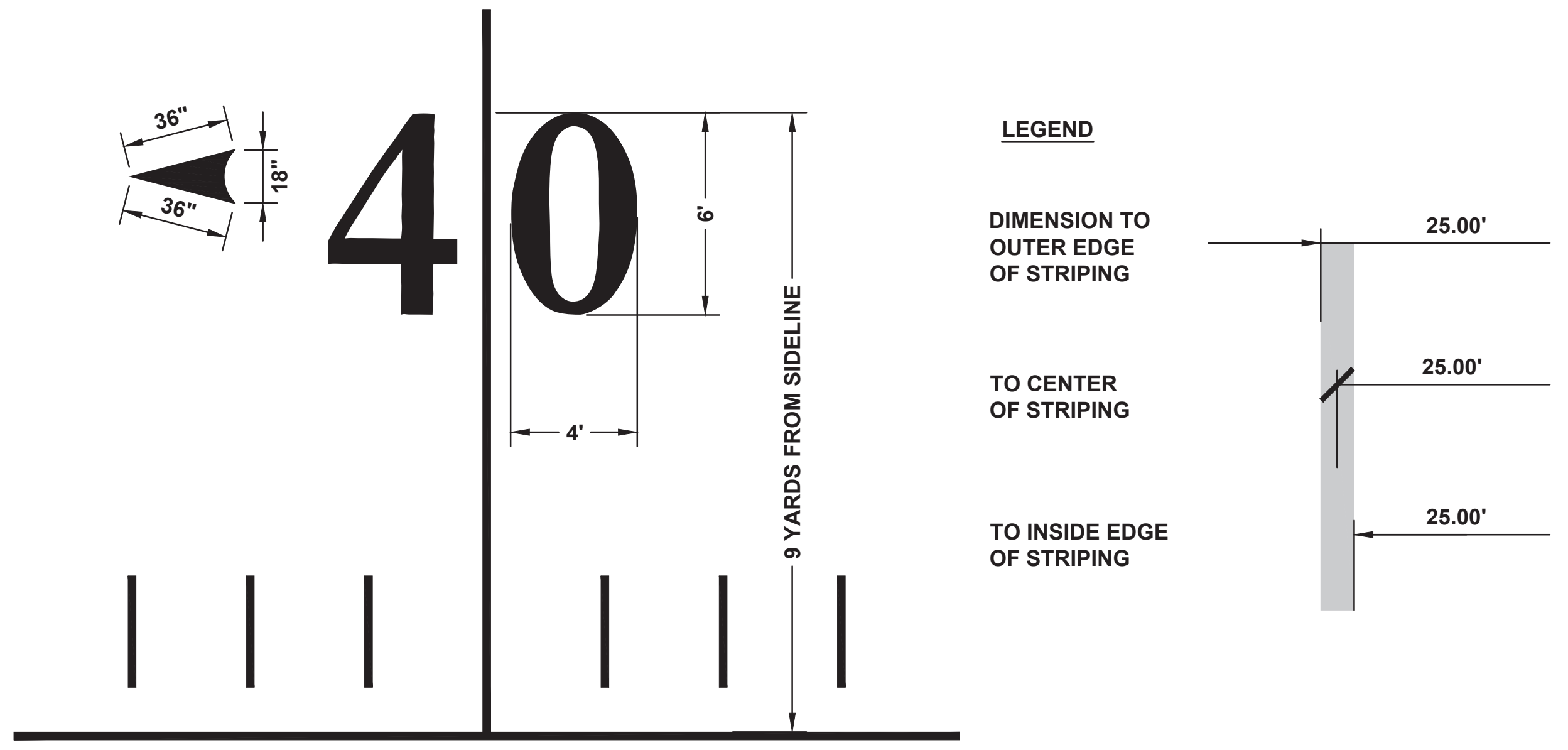
REMOVABLE FOOTBALL GOAL POST DETAIL (BY OTHERS)

N.T.S.


ACCESS FRAME KIT
6'-0"
48" EMBEDMENT
NO LESS THAN 2 ½ YDS. OF CLASS "B" AIR-ENTRAINED CONCRETE
GROUND SLEEVE FOR REMOVABLE INSTALLATION
WEEP HOLE
12"
3/4" CLEAN STONE
36"

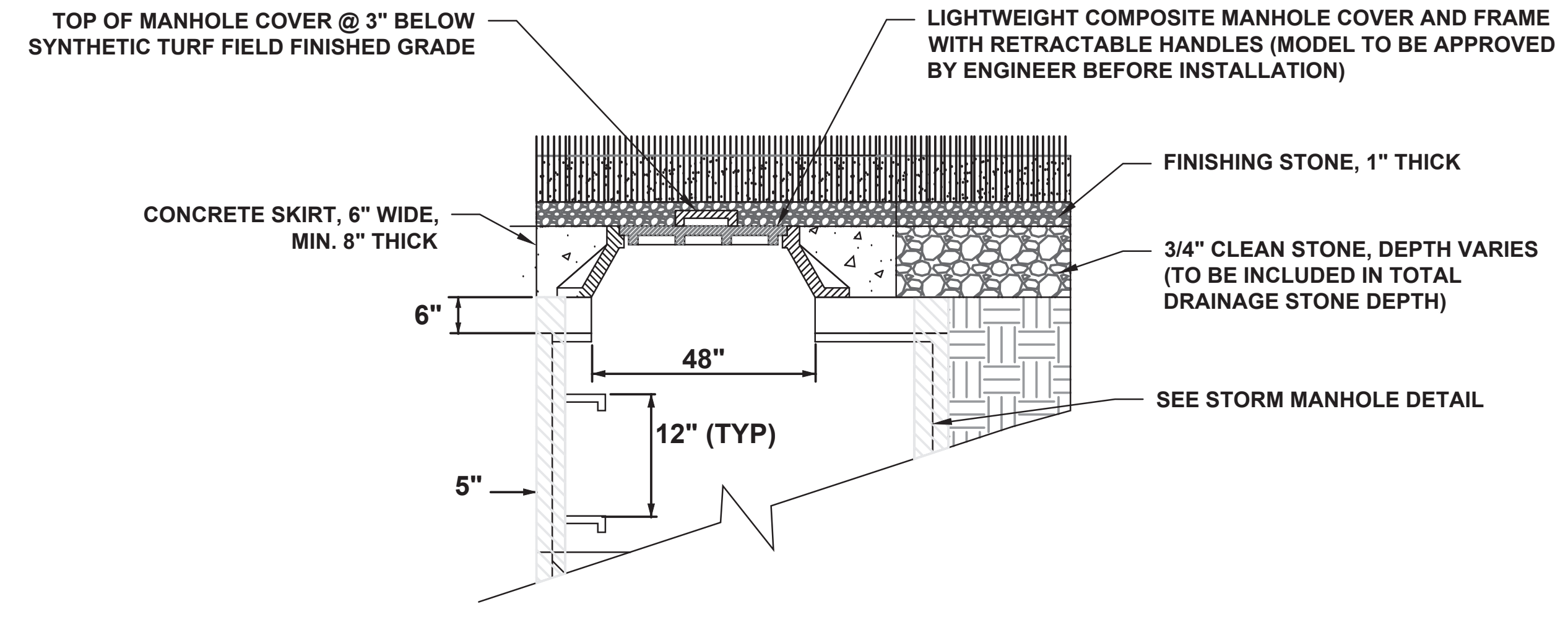
GOAL POST FOOTING (BY OTHERS)

N.T.S.



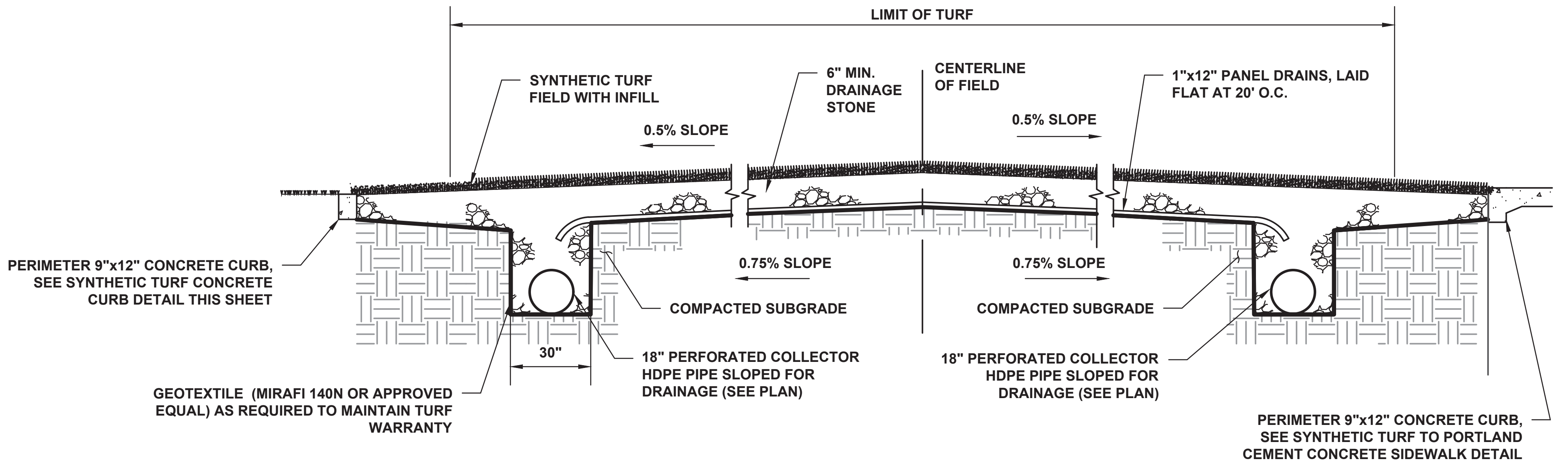
FOOTBALL YARD LINE TEXT LAYOUT (WHITE STRIPING) (BY OTHERS)

N.T.S.


TOP OF MANHOLE COVER @ 3" BELOW SYNTHETIC TURF FIELD FINISHED GRADE
LIGHTWEIGHT COMPOSITE MANHOLE COVER AND FRAME WITH RETRACTABLE HANDLES (MODEL TO BE APPROVED BY ENGINEER BEFORE INSTALLATION)
FINISHING STONE, 1" THICK
CONCRETE SKIRT, 6" WIDE, MIN. 8" THICK
3/4" CLEAN STONE, DEPTH VARIES (TO BE INCLUDED IN TOTAL DRAINAGE STONE DEPTH)
6"
48"
12" (TYP)
SEE STORM MANHOLE DETAIL
5"

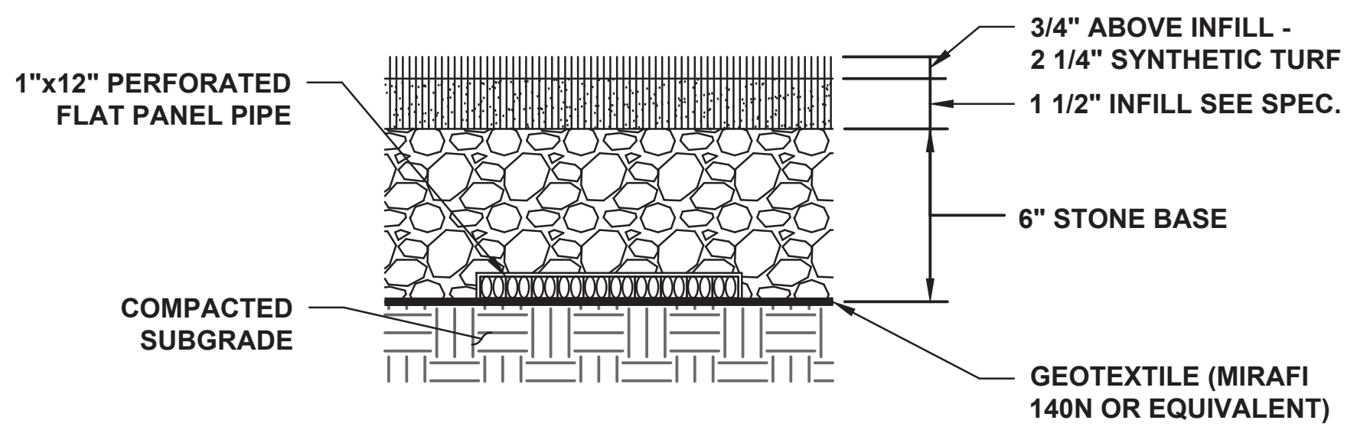
MANHOLE WITHIN TURF AREA DETAIL (BY OTHERS)

N.T.S.


LIMIT OF TURF
SYNTHETIC TURF FIELD WITH INFILL
6" MIN. DRAINAGE STONE
CENTERLINE OF FIELD
1"x12" PANEL DRAINS, LAID FLAT AT 20' O.C.
0.5% SLOPE
0.5% SLOPE
PERIMETER 9"x12" CONCRETE CURB, SEE SYNTHETIC TURF CONCRETE CURB DETAIL THIS SHEET
0.75% SLOPE
0.75% SLOPE
COMPACTED SUBGRADE
COMPACTED SUBGRADE
30"
18" PERFORATED COLLECTOR HDPE PIPE SLOPED FOR DRAINAGE (SEE PLAN)
18" PERFORATED COLLECTOR HDPE PIPE SLOPED FOR DRAINAGE (SEE PLAN)
GEOTEXTILE (MIRAFI 140N OR APPROVED EQUAL) AS REQUIRED TO MAINTAIN TURF WARRANTY
PERIMETER 9"x12" CONCRETE CURB, SEE SYNTHETIC TURF TO PORTLAND CEMENT CONCRETE SIDEWALK DETAIL THIS SHEET

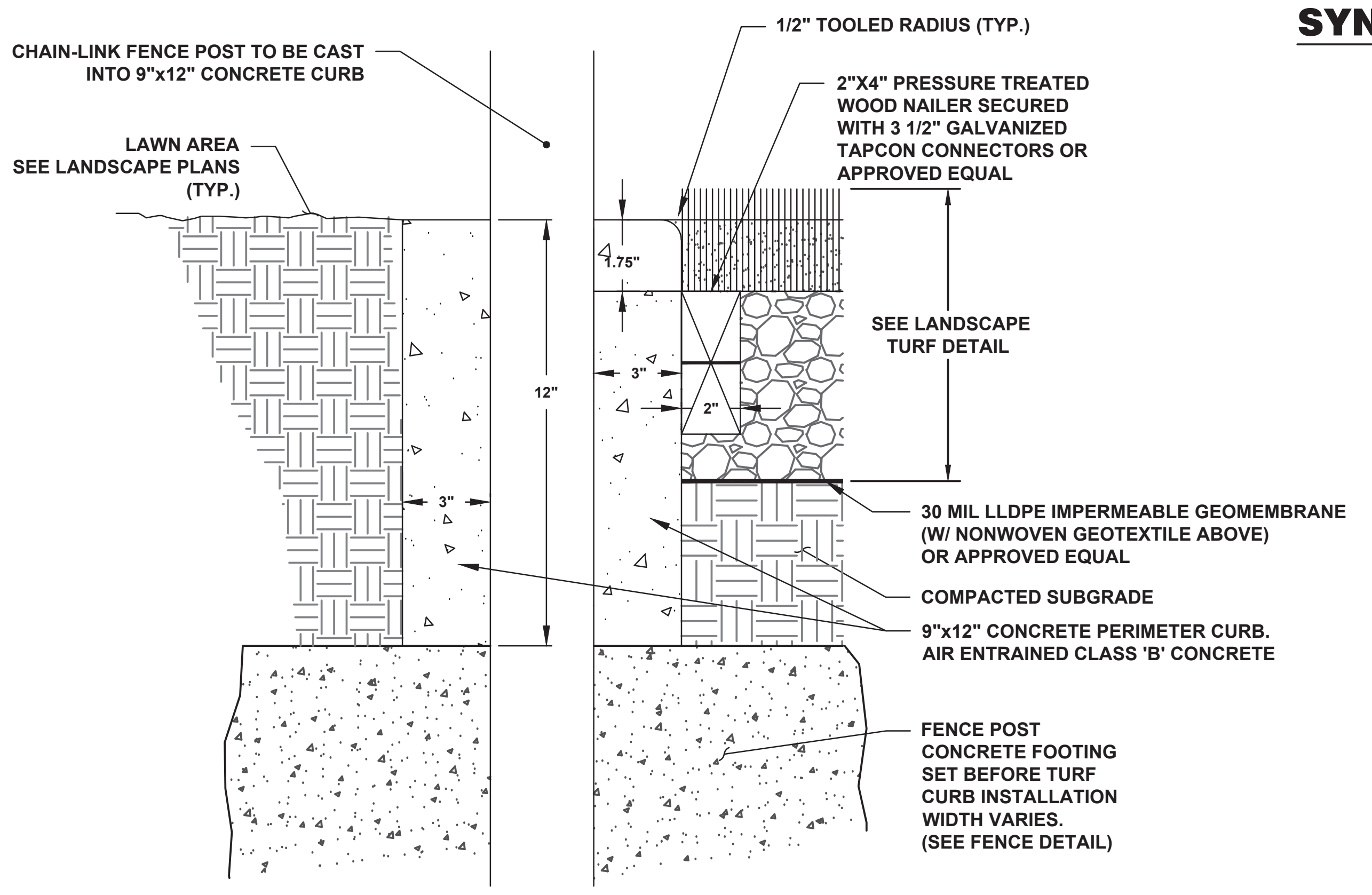
SECTION THROUGH FIELD (BY OTHERS)

N.T.S.


1"x12" PERFORATED FLAT PANEL PIPE
3/4" ABOVE INFILL - 2 1/4" SYNTHETIC TURF
1 1/2" INFILL SEE SPEC.
6" STONE BASE
COMPACTED SUBGRADE
GEOTEXTILE (MIRAFI 140N OR EQUIVALENT)

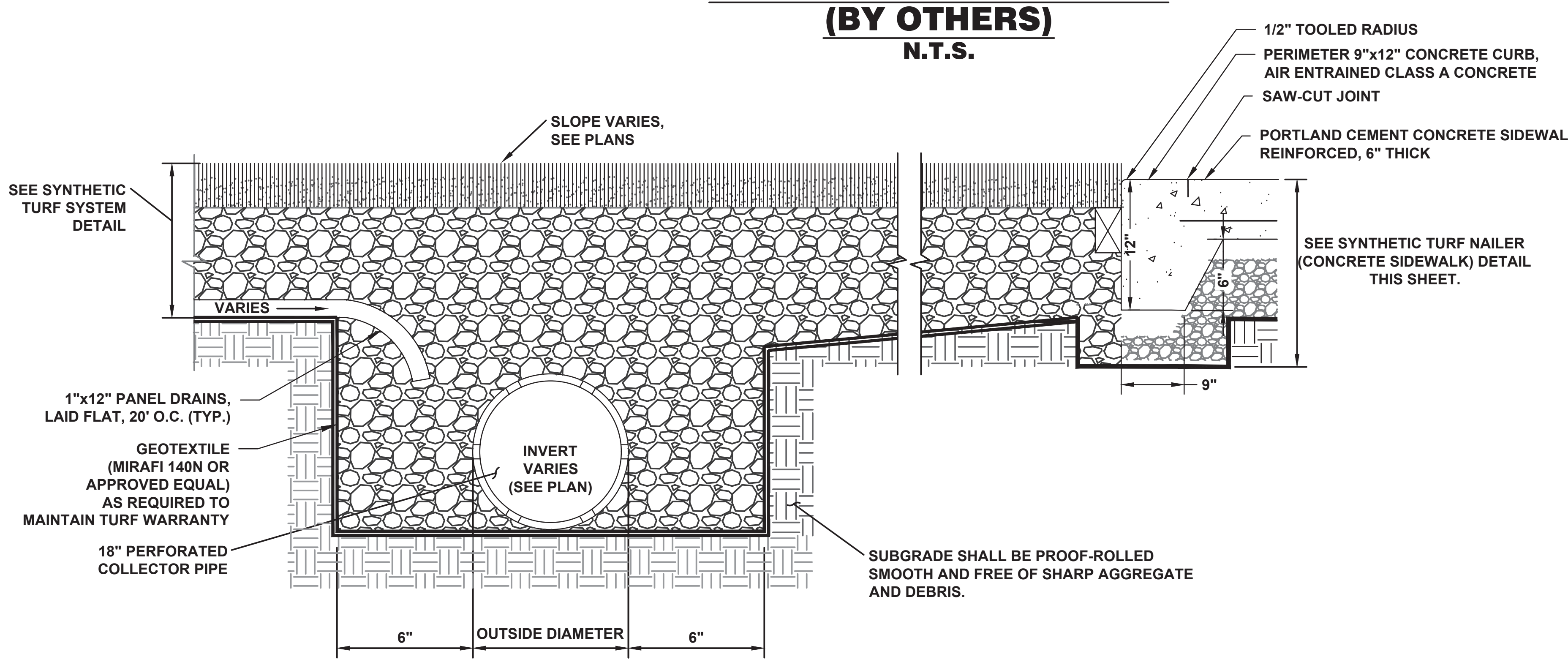
SYNTHETIC TURF SYSTEM DETAIL (BY OTHERS)

N.T.S.


CHAIN-LINK FENCE POST TO BE CAST INTO 9"x12" CONCRETE CURB
1/2" TOOLED RADIUS (TYP.)
2"X4" PRESSURE TREATED WOOD NAILER SECURED WITH 3 1/2" GALVANIZED TAPCON CONNECTORS OR APPROVED EQUAL
LAWN AREA SEE LANDSCAPE PLANS (TYP.)
1.75"
12"
3"
2"
3"
SEE LANDSCAPE TURF DETAIL
30 MIL LLDPE IMPERMEABLE GEOMEMBRANE (W/ NONWOVEN GEOTEXTILE ABOVE) OR APPROVED EQUAL
COMPACTED SUBGRADE
9"x12" CONCRETE PERIMETER CURB. AIR ENTRAINED CLASS 'B' CONCRETE
FENCE POST CONCRETE FOOTING SET BEFORE TURF CURB INSTALLATION WIDTH VARIES. (SEE FENCE DETAIL)

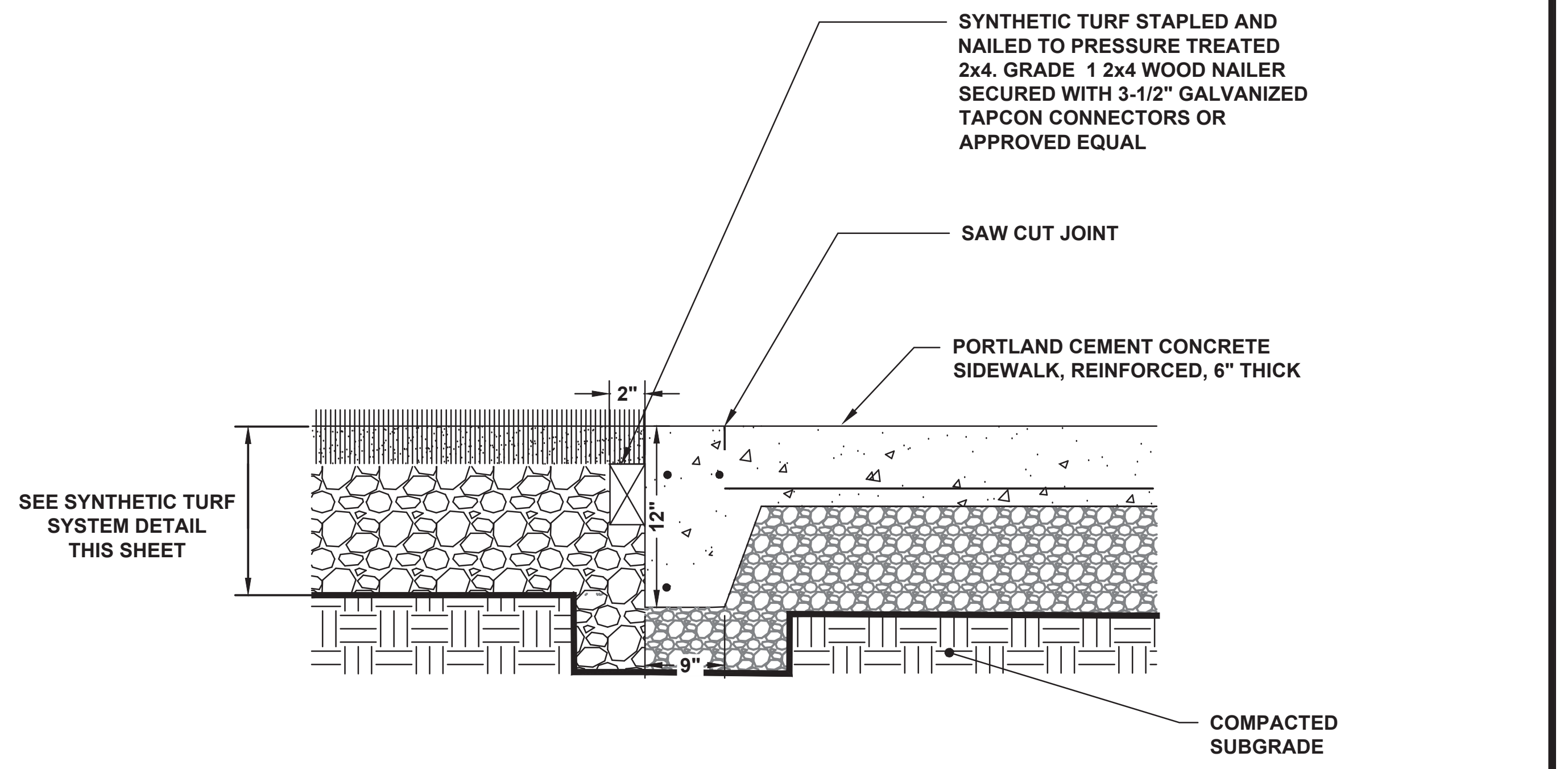
SYNTHETIC TURF CONCRETE CURB DETAIL (BY OTHERS)

N.T.S.


1/2" TOOLED RADIUS
PERIMETER 9"x12" CONCRETE CURB, AIR ENTRAINED CLASS A CONCRETE
SAW-CUT JOINT
PORTLAND CEMENT CONCRETE SIDEWALK, REINFORCED, 6" THICK
SLOPE VARIES, SEE PLANS
SEE SYNTHETIC TURF SYSTEM DETAIL
12"
6"
SEE SYNTHETIC TURF NAILER (CONCRETE SIDEWALK) DETAIL THIS SHEET.
VARIES
9"
1"x12" PANEL DRAINS, LAID FLAT, 20' O.C. (TYP.)
GEOTEXTILE (MIRAFI 140N OR APPROVED EQUAL) AS REQUIRED TO MAINTAIN TURF WARRANTY
INVERT VARIES (SEE PLAN)
18" PERFORATED COLLECTOR PIPE
SUBGRADE SHALL BE PROOF-ROLLED SMOOTH AND FREE OF SHARP AGGREGATE AND DEBRIS.
6"
OUTSIDE DIAMETER
6"

SYNTHETIC TURF TO PORTLAND CEMENT CONCRETE SIDEWALK, 6" THICK (BY OTHERS)

N.T.S.


SYNTHETIC TURF STAPLED AND NAILED TO PRESSURE TREATED 2x4. GRADE 1 2x4 WOOD NAILER SECURED WITH 3-1/2" GALVANIZED TAPCON CONNECTORS OR APPROVED EQUAL
SAW CUT JOINT
PORTLAND CEMENT CONCRETE SIDEWALK, REINFORCED, 6" THICK
2"
SEE SYNTHETIC TURF SYSTEM DETAIL THIS SHEET
12"
9"
COMPACTED SUBGRADE

SYNTHETIC TURF NAILER (CONCRETE SIDEWALK) (BY OTHERS)

N.T.S.

CONSULTANT:

ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

MULTI -PURPOSE FIELD DETAILS II

PROJECT NUMBER:
SCE-9755.021

SCALE:
N.T.S.

SHEET 43 OF 47

REVISION -

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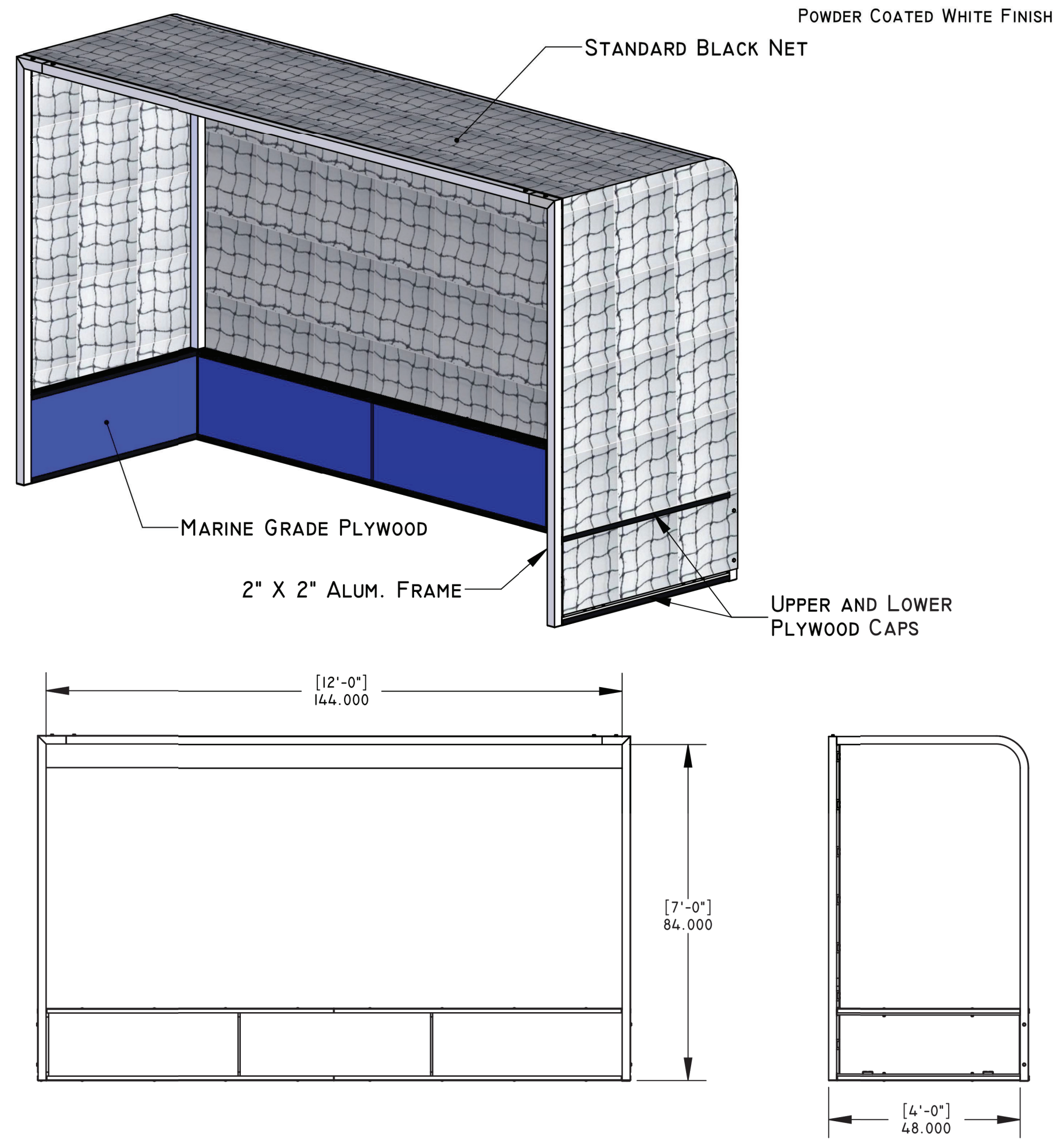
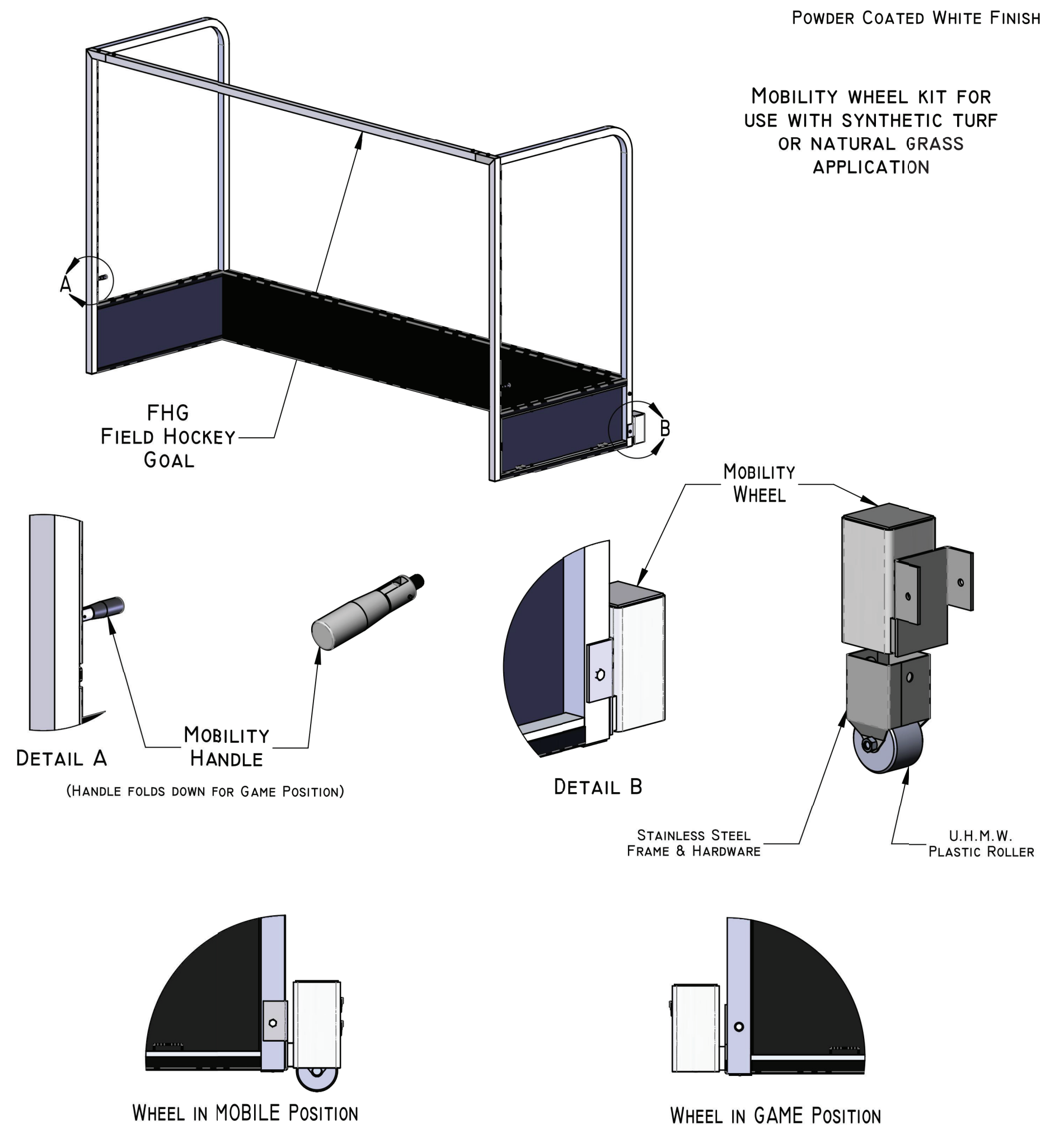


NOTE:
1. CONTRACTOR SHALL FURNISH AND INSTALL MODEL #FHG AS MANUFACTURED BY SPORTSFIELD SPECIALTIES, (888)-975-3343, OR APPROVED EQUAL.

FIELD HOCKEY GOAL DETAIL (BY OTHERS)

N.T.S.


Powder Coated White Finish
Mobility wheel kit for use with synthetic turf or natural grass application
A
B
FHG Field Hockey Goal
Detail A
Mobility Handle
(Handle folds down for Game Position)
Detail B
Mobility Wheel
Stainless Steel Frame & Hardware
U.H.M.W. Plastic Roller
Wheel in MOBILE Position
Wheel in GAME Position

NOTE:
1. CONTRACTOR SHALL FURNISH AND INSTALL MODEL #FHG-WK AS MANUFACTURED BY SPORTSFIELD SPECIALTIES, (888)-975-3343, OR APPROVED EQUAL.

FIELD HOCKEY GOAL MOBILITY WHEEL KIT DETAIL (BY OTHERS)

N.T.S.

CO-OPERATIVE PURCHASING NOTE:

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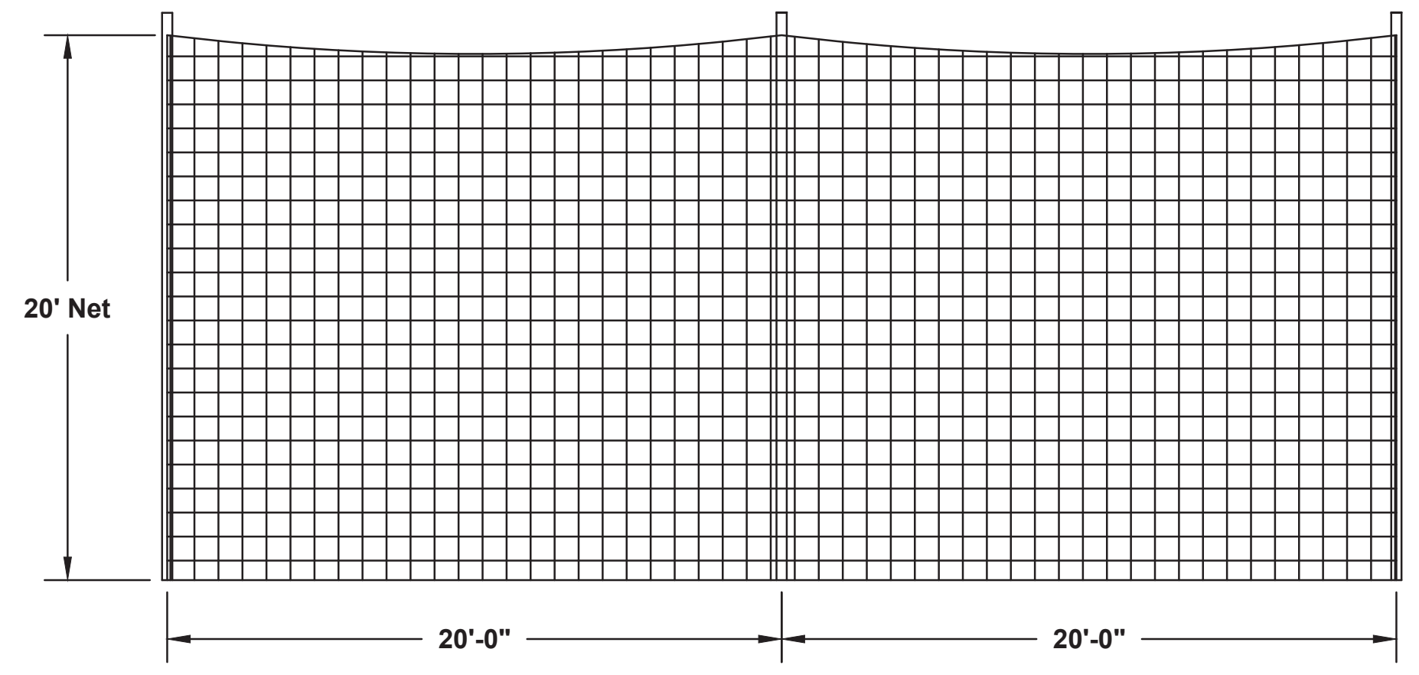
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING SUBGRADE BELOW STONE BASE FOR SYNTHETIC TURF FIELDS AND RUNNING UTILITIES AS NEEDED TO THE VARIOUS ITEMS "BY OTHERS".



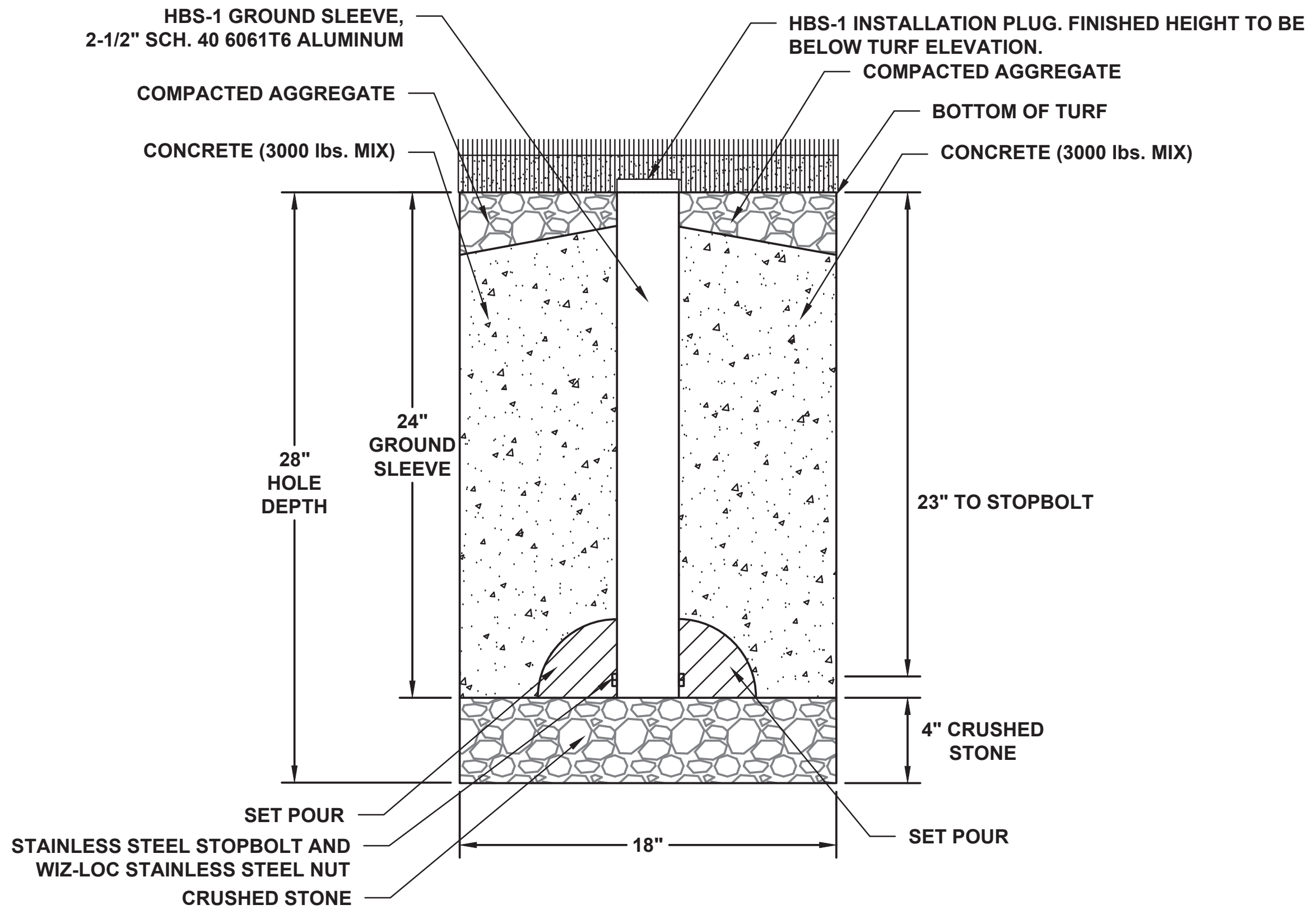
NOTES:
1. BSS420 4" 20' STRAIGHT POLE BALL SAFETY NETTING SYSTEM AND ACCESSORIES INNER AND END POLE UPRIGHT POSTS:
   - A. 4" SCHEDULE 40 ALUMINUM PIPE (INNER POLES) AND 4" SCHEDULE 80 ALUMINUM PIPE (END POLES)
   - B. POWDER COATED FINISH ON ALUMINUM POLES

2. GROUND SLEEVES WITH WELDED BASE PLATES:
   - A. 24" DEEP GROUND SLEEVE AND STEEL TUBE

3. BALL SAFETY SYSTEM NET:
   - A. OVERALL DIMENSIONS SHOWN IN PLANS
   - B. STANDARD 1-3/4" SQUARE MESH
   - C. #36 BLACK NYLON OR ULTRA CROSS KNOTLESS DYNEEMA NETTING OR EQUIVALENT

4. INCLUDED ACCESSORIES:
   - A. STAINLESS STEEL AND/OR GALVANIZED STEEL ASSEMBLY HARDWARE
   - B. SECURE SNAP CLIPS FOR NET ATTACHMENT
   - C. NET GUIDE RINGS TO BE PROVIDED
   - D. BLACK VINYL COATED WIRE ROPE
   - E. ALUMINUM GROUND SLEEVE CAPS
   - F. MODEL SPECIFIC HARDWARE KIT AND INSTALLATION INSTRUCTIONS

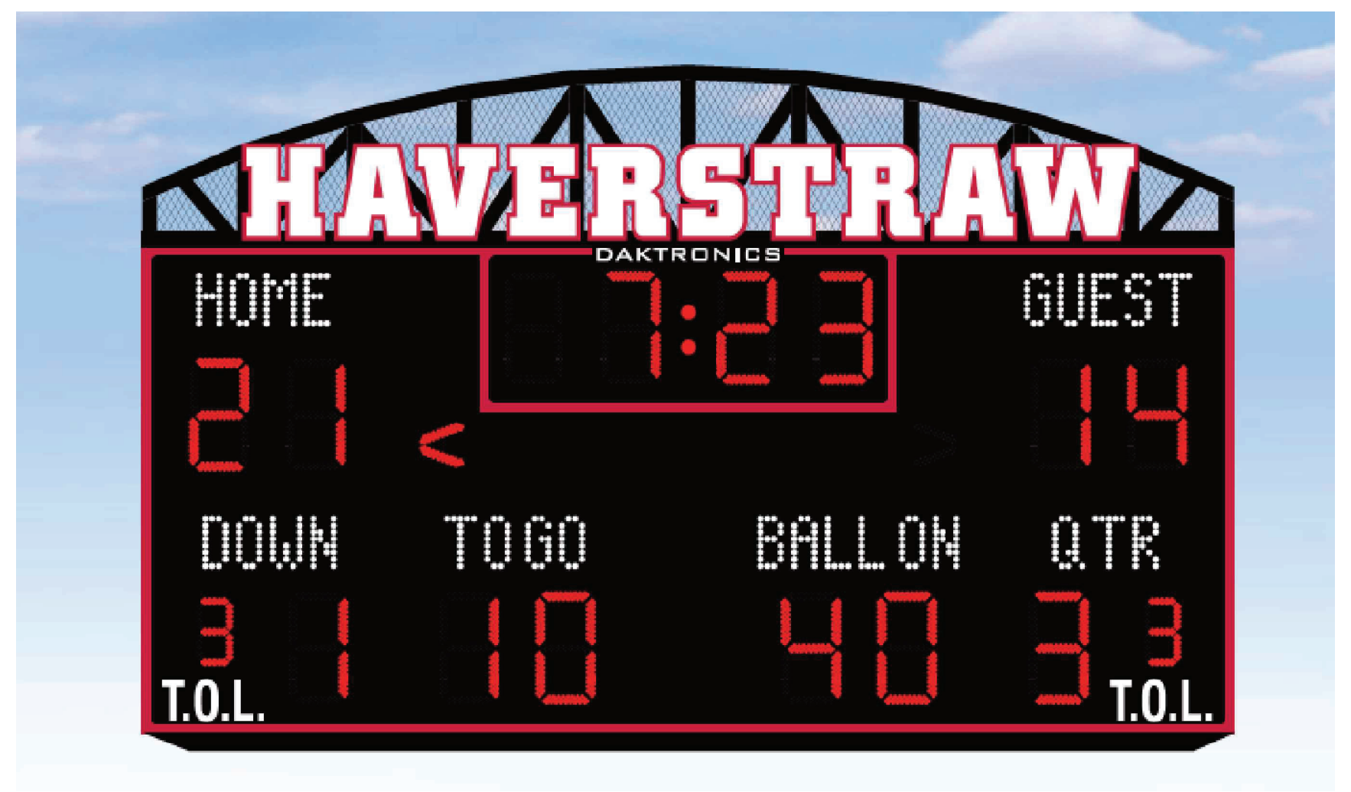
IMPORTANT NOTE: MAXIMUM DISTANCE BETWEEN POLES SHALL NOT EXCEED 20 FEET.

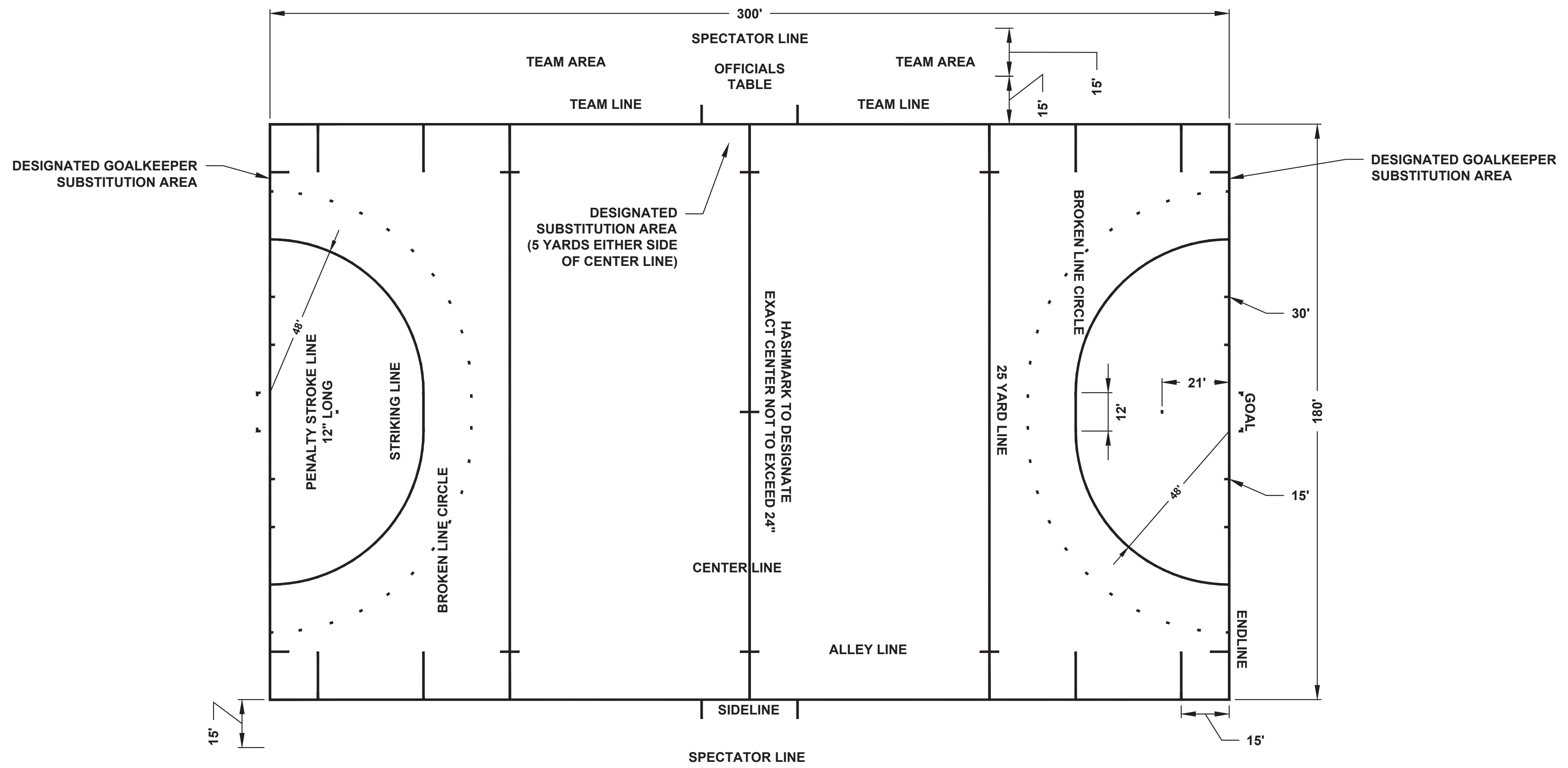


NOTES:
1. CONTRACTOR TO PROVIDE THE LACROSSE SAFETY NETTING AND IS RESPONSIBLE FOR INSTALLING ALL FOOTINGS AND HARDWARE NECESSARY TO FURNISH A COMPLETE FOOTING LAYOUT.
2. CONTRACTOR TO BE ADVISED THAT SPACING BETWEEN EACH FOOTING MAY NOT EXCEED 20'-0".

SPORTS NETTING SYSTEM WITH GROUND SLEEVES WITHIN TURF AREA (BY OTHERS)

N.T.S.

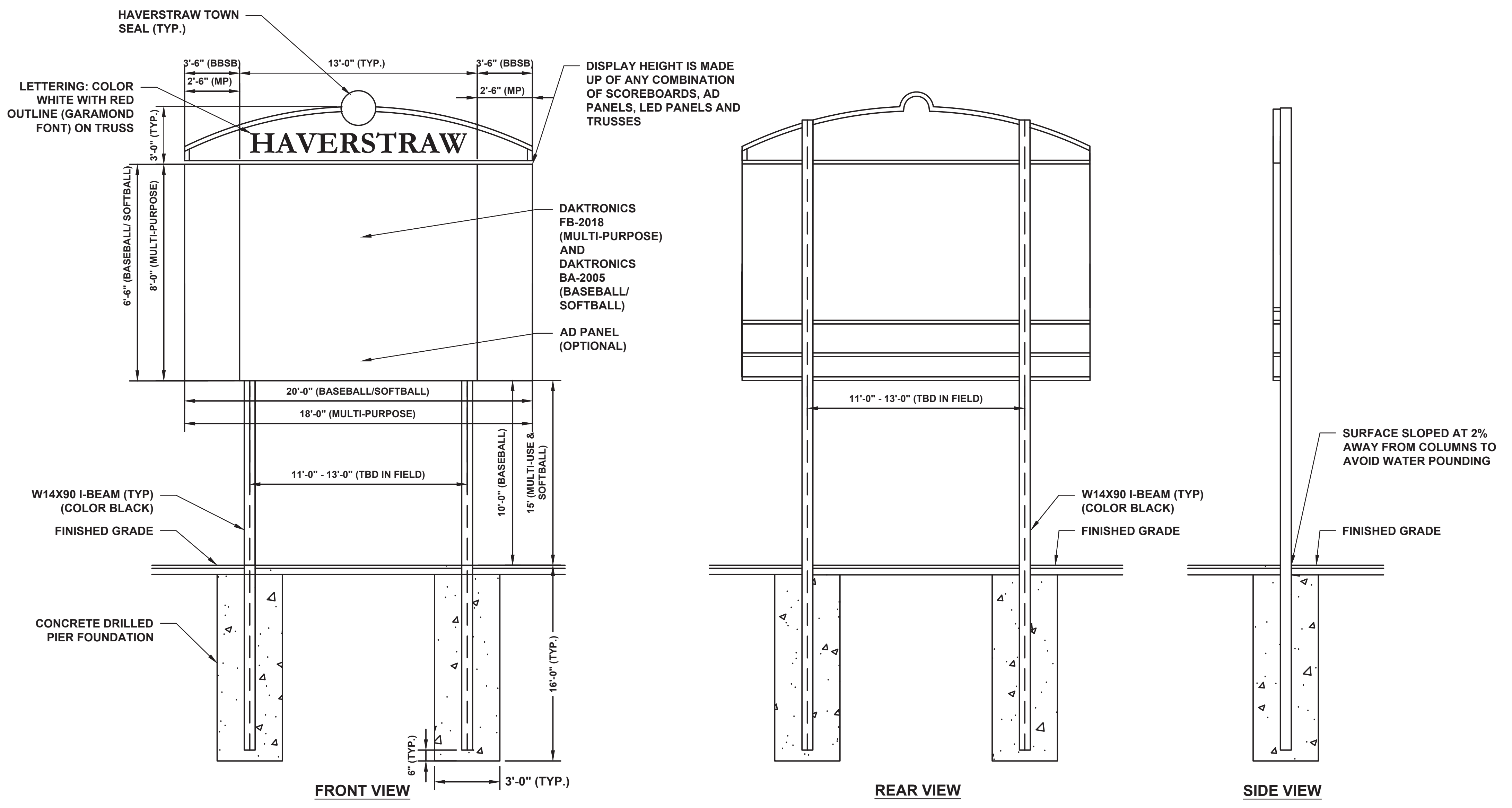


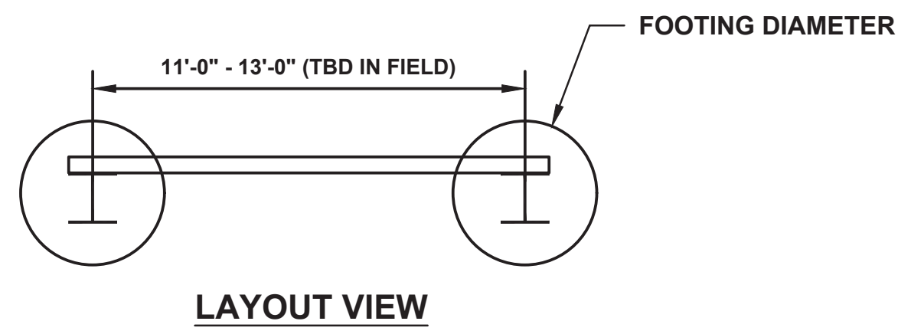

300'
SPECTATOR LINE
TEAM AREA
OFFICIALS TABLE
TEAM AREA
TEAM LINE
TEAM LINE
15'
15'
DESIGNATED GOALKEEPER SUBSTITUTION AREA
DESIGNATED GOALKEEPER SUBSTITUTION AREA
DESIGNATED SUBSTITUTION AREA (5 YARDS EITHER SIDE OF CENTER LINE)
48'
PENALTY STROKE LINE 12" LONG
STRIKING LINE
BROKEN LINE CIRCLE
HASHMARK TO DESIGNATE EXACT CENTER NOT TO EXCEED 24"
CENTER LINE
ALLEY LINE
25 YARD LINE
BROKEN LINE CIRCLE
12'
21'
GOAL
48'
30'
15'
180'
ENDLINE
15'
SIDELINE
15'
SPECTATOR LINE

NOTES:
1. FOR MARKING PURPOSES, THE MEASUREMENT OF ANY LINE INTERFACING WITH ANY OTHER LINE MUST BE TAKEN FROM THE OUTSIDE OF THE LINE TO THE OUTSIDE OF THE OTHER LINE. ALL LINES SHALL BE 4" WIDE WITH THE EXCEPTION OF THE GOAL LINE, WHICH SHALL BE 2" WIDE.
2. ALL STRIPING AND LAYOUT MUST MEET NFHS STANDARDS.
3. LINE COLOR SHALL BE BLUE AND CONFIRMED BY OWNER DURING SHOP DRAWING SUBMISSION

FIELD HOCKEY LAYOUT (BY OTHERS)

N.T.S.

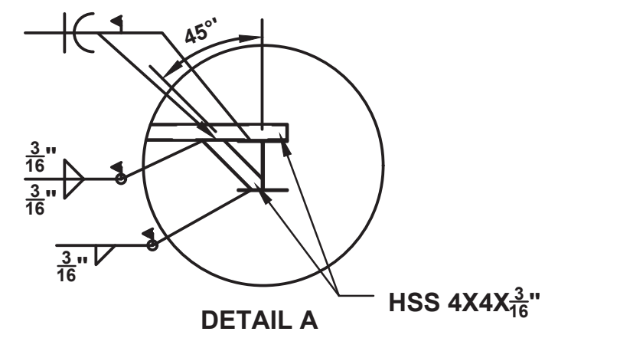

HAVERSTRAW TOWN SEAL (TYP.)
LETTERING: COLOR WHITE WITH RED OUTLINE (GARAMOND FONT) ON TRUSS
3'-6" (BBSB)
2'-6" (MP)
13'-0" (TYP.)
3'-6" (BBSB)
2'-6" (MP)
DISPLAY HEIGHT IS MADE UP OF ANY COMBINATION OF SCOREBOARDS, AD PANELS, LED PANELS AND TRUSSES
HAVERSTRAW
3'-0" (TYP.)
6'-6" (BASEBALL/ SOFTBALL)
8'-0" (MULTI-PURPOSE)
DAKTRONICS FB-2018 (MULTI-PURPOSE) AND DAKTRONICS BA-2005 (BASEBALL/ SOFTBALL)
AD PANEL (OPTIONAL)
20'-0" (BASEBALL/SOFTBALL)
18'-0" (MULTI-PURPOSE)
11'-0" - 13'-0" (TBD IN FIELD)
10'-0" (BASEBALL)
15' (MULTI-USE & SOFTBALL)
W14X90 I-BEAM (TYP) (COLOR BLACK)
FINISHED GRADE
CONCRETE DRILLED PIER FOUNDATION
16'-0" (TYP.)
6" (TYP.)
3'-0" (TYP.)
FRONT VIEW
11'-0" - 13'-0" (TBD IN FIELD)
W14X90 I-BEAM (TYP) (COLOR BLACK)
FINISHED GRADE
REAR VIEW
SURFACE SLOPED AT 2% AWAY FROM COLUMNS TO AVOID WATER POUNDING
FINISHED GRADE
SIDE VIEW



LAYOUT VIEW

COLUMNS AND FOOTING ONLY

TABLE A - MOUNTING



DETAIL A

EXPOSURE C

HEIGHT ABOVE GRADE = 25'		
DISPLAY HEIGHT (FT)		DESIGN WIND VELOCITY 140 MPH
15	COLUMN FOOTING	W14X90 3.0'X16.0' MIN.

FOOTING DIMENSIONS = DIAMETER X DEPTH
* DENOTES BUCKLING BRACE REQUIRED

NOTES:
1. STRUCTURAL STEEL IS GRADE A992 (50 ksi) STEEL. CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2500 PSI.
2. EXPOSURE C IS DEFINED AS OPEN TERRAIN WITH SCATTERED OBSTRUCTIONS HAVING HEIGHTS GENERALLY LESS THAN 30 FT. THIS CATEGORY INCLUDES FLAT OPEN COUNTRY, GRASSLANDS AND ALL WATER SURFACES IN HURRICANE PRONE REGIONS.
3. SCOREBOARD FOUNDATION SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NEW YORK IF AN ALTERNATE TO DESIGN IS SUBMITTED. IF AN ALTERNATE IS SUBMITTED, SHOP DRAWINGS OF THE FOUNDATION DESIGN SHALL BE SIGNED AND SEALED BY THE CONTRACTOR'S ENGINEER AND PROVIDED TO THE OWNER OR THEIR REPRESENTATIVE FOR REVIEW PRIOR TO CONSTRUCTION.
4. ALL COLORS, FINISHES, FONTS AND LOGOS TO BE DETERMINED, SELECTED AND APPROVED BY OWNER PRIOR TO PURCHASE AND INSTALLATION.

SCOREBOARD DETAIL - MULTI-PURPOSE AND BASEBALL/ SOFTBALL (BY OTHERS)

N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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03/19/2021
CHECKED BY:
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03/19/2021
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03/19/2021

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EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

MULTI-PURPOSE FIELD DETAILS III

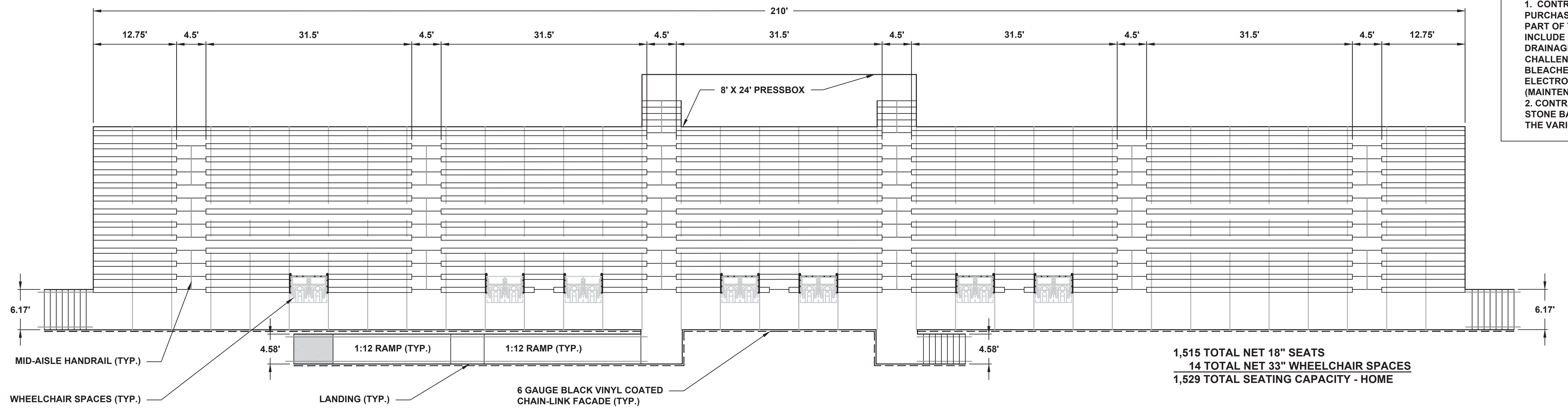
PROJECT NUMBER:
SCE-9755.021

SCALE:
N.T.S.

SHEET 44 OF 47

REVISION -

E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 44 Multi-Purpose Field Details III.dwg Tue, Mar 16, 2021 - 4:51pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.

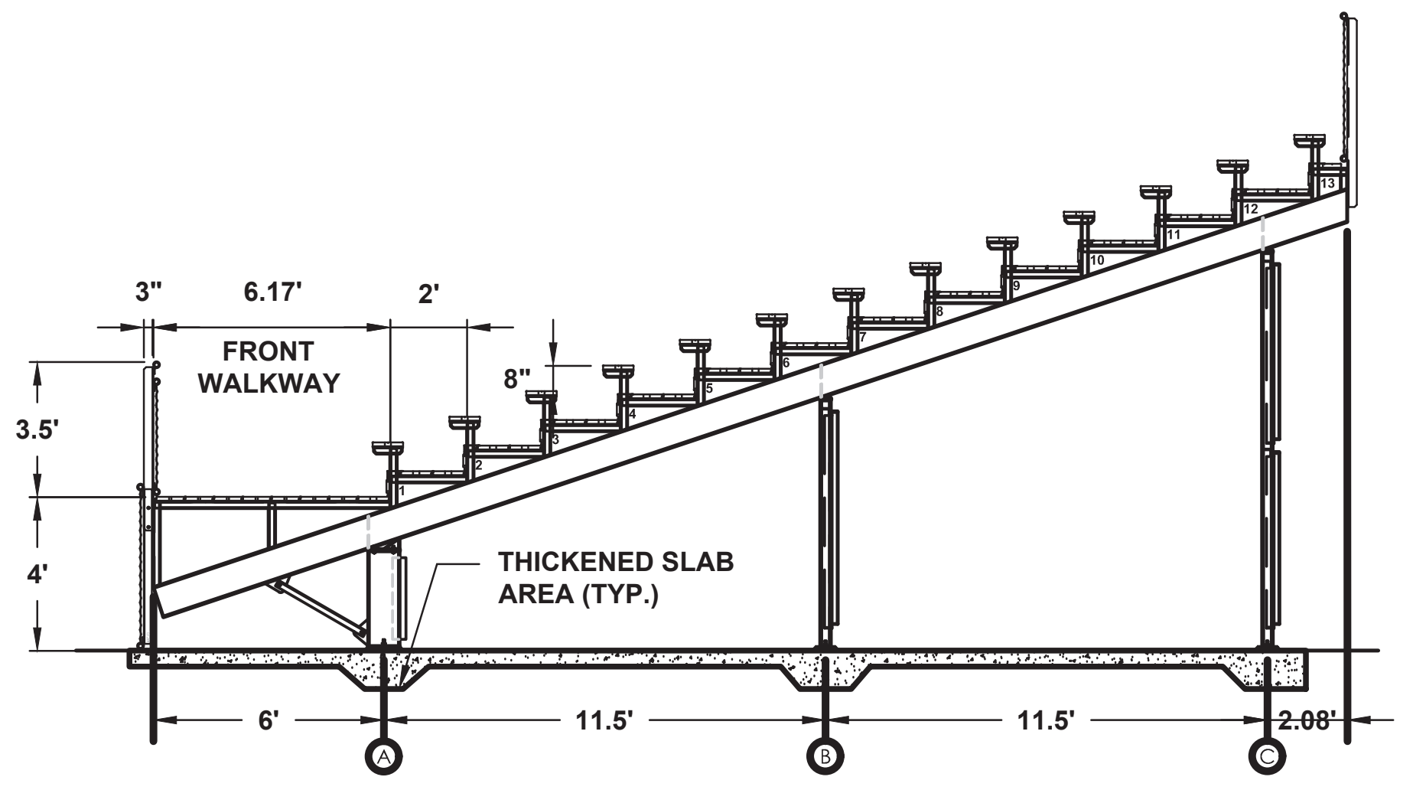


1,515 TOTAL NET 18" SEATS
14 TOTAL NET 33" WHEELCHAIR SPACES
1,529 TOTAL SEATING CAPACITY - HOME

HOME BLEACHER SEATING LAYOUT (BY OTHERS)
N.T.S.

CO-OPERATIVE PURCHASING NOTE:

1. CONTRACTOR TO BE ADVISED CERTAIN SITE WORK ITEMS ARE TO BE PURCHASED DIRECTLY BY THE TOWN AND SUPPLIED/INSTALLED BY OTHERS AS PART OF THIS PROJECT. ITEMS TO BE PURCHASED AND INSTALLED BY OTHERS INCLUDE ALL SYNTHETIC TURF SURFACING AND ASSOCIATED BASE AND DRAINAGE SYSTEMS, ALL FIELD APPURTENANCES FOR THE MULTI-PURPOSE AND CHALLENGER FIELDS INCLUDING TEAM BENCHES, GOALS, BLEACHERS AND BLEACHER PADS, DUGOUTS, SPORTS NETTING, FOUL POLES AND GOALPOSTS, ELECTRONIC SCOREBOARDS AND SPORTS LIGHTING AND BUILDING 4 (MAINTENANCE BUILDING).
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING SUBGRADE BELOW STONE BASE FOR SYNTHETIC TURF FIELDS AND RUNNING UTILITIES AS NEEDED TO THE VARIOUS ITEMS "BY OTHERS".



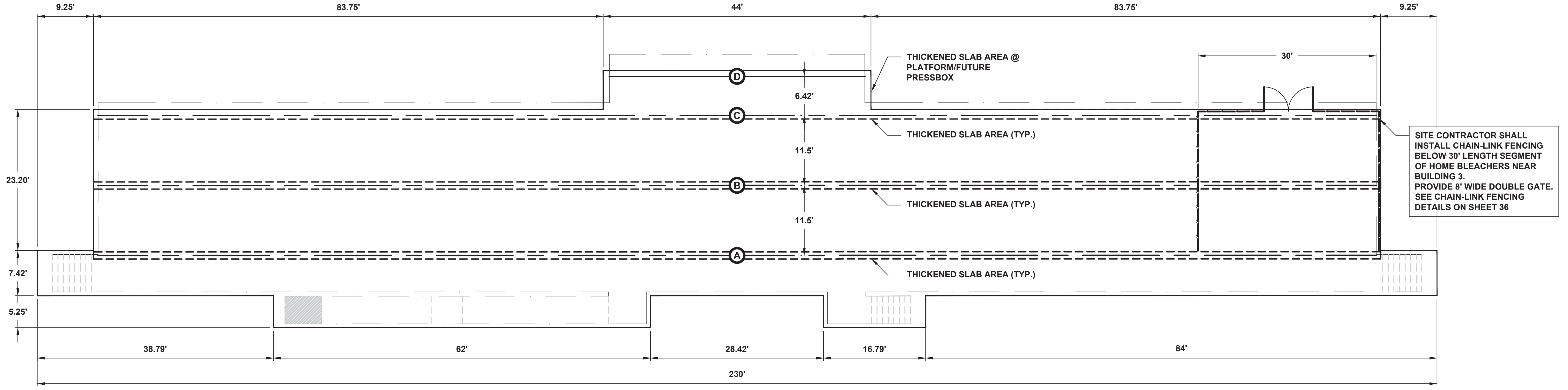
HOME BLEACHER TYPICAL SECTION (BY OTHERS)
N.T.S.

DESIGN LOADING

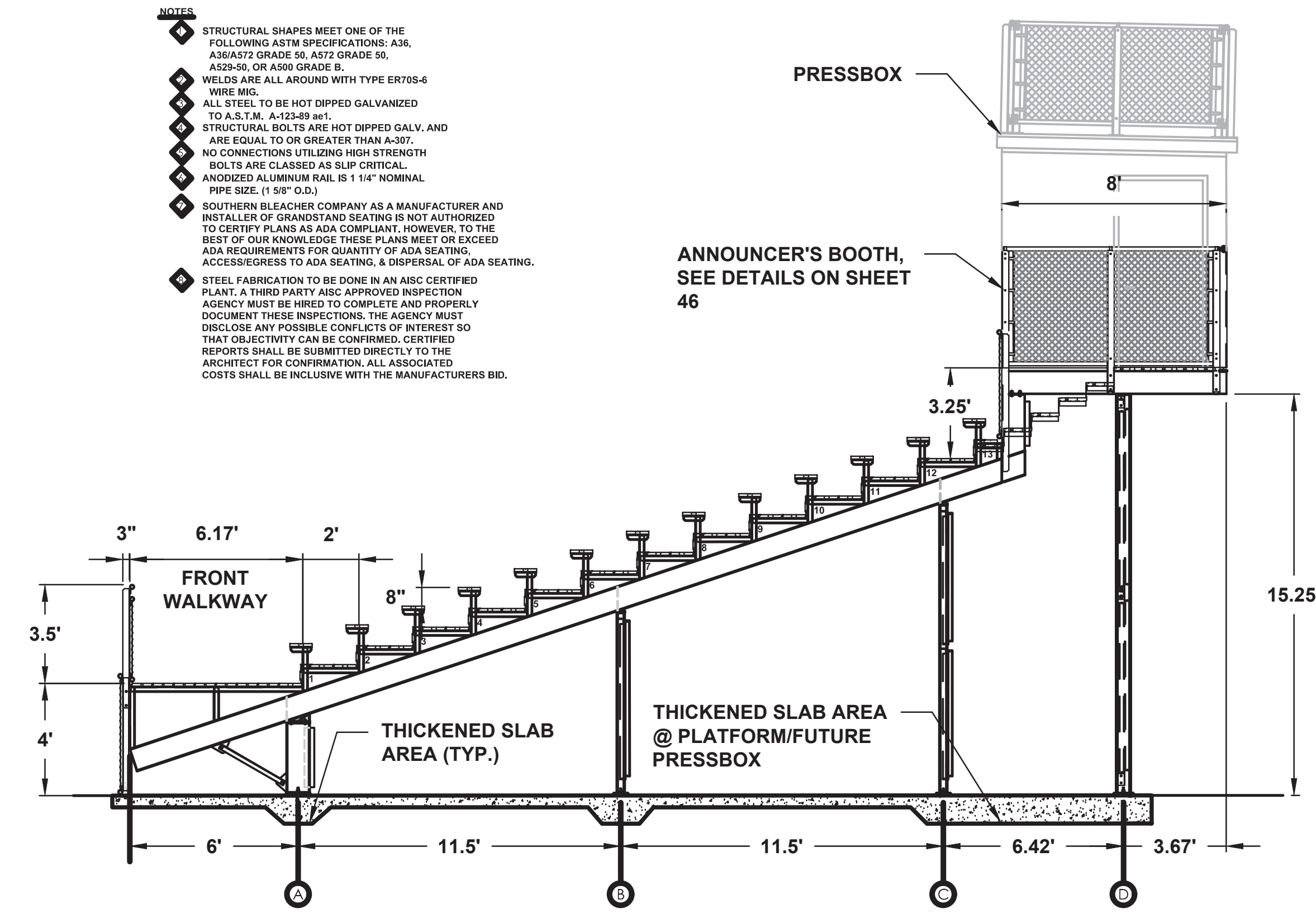
CODE OF REFERENCE - IBC 2012
OCCUPANCY GROUP - A5
CONSTRUCTION TYPE - VB
TREAD & SEAT AREA 100psf UNIFORM LIVE LOAD.
SEAT (VERTICAL) 120 lbs/lf.
SEAT (HORIZONTAL SWAY) 24lbs/lf PARALLEL AND 10lbs/lf PERPENDICULAR TO SEAT.
HANDRAIL & GUARDRAIL 50 lbs/lf IN ANY DIRECTION.
HANDRAIL & GUARDRAIL 200 lbs CONCENTRATED IN ANY DIRECTION.
SNOW LOADS AS PER STATE ADOPTED CODE
WIND LOADS AS PER STATE ADOPTED CODE
SEISMIC LOADS AS PER STATE ADOPTED CODE
STAIR TREADS & AISLE TREADS RESIST MINIMUM CONCENTRATED LOAD OF 300 POUNDS ON AN AREA OF 4 SQUARE INCHES

NOTES

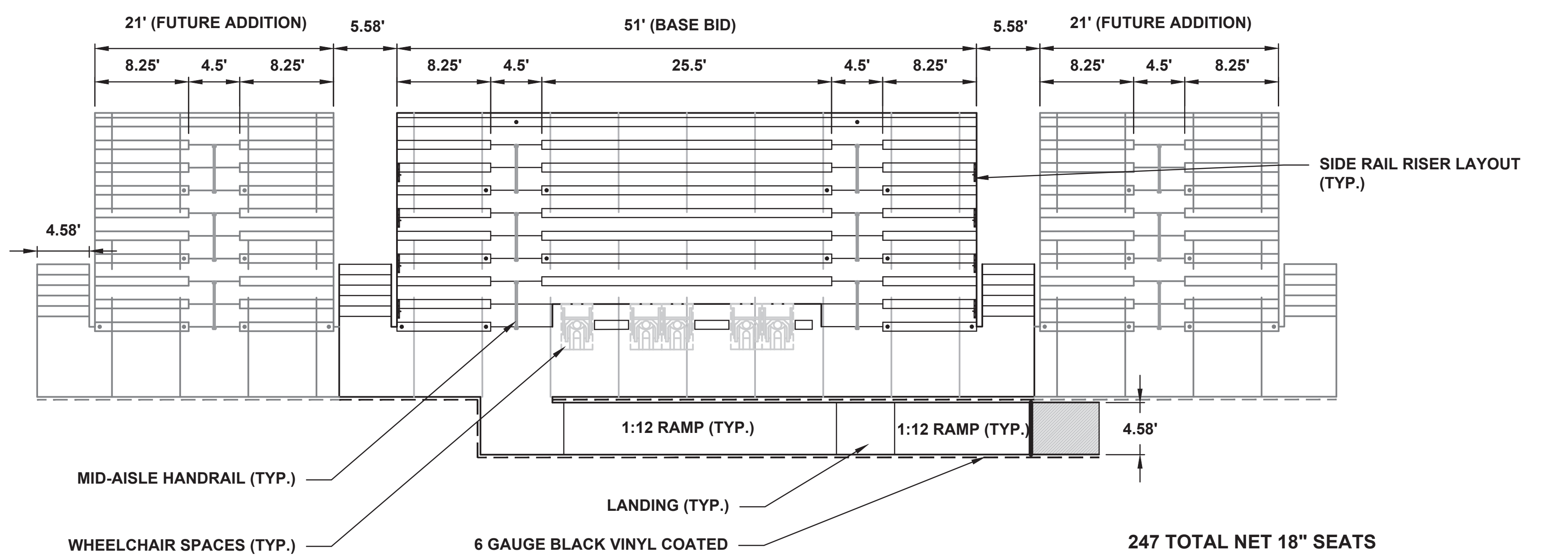
1. STRUCTURAL SHAPES MEET ONE OF THE FOLLOWING ASTM SPECIFICATIONS: A36, A36/A572 GRADE 50, A572 GRADE 50, A529-50, OR A500 GRADE B.
2. WELDS ARE ALL AROUND WITH TYPE ER70S-6 WIRE MIG.
3. ALL STEEL TO BE HOT DIPPED GALVANIZED TO A.S.T.M. A-123-89 ae1.
4. STRUCTURAL BOLTS ARE HOT DIPPED GALV. AND ARE EQUAL TO OR GREATER THAN A-307.
5. NO CONNECTIONS UTILIZING HIGH STRENGTH BOLTS ARE CLASSED AS SLIP CRITICAL.
6. ANODIZED ALUMINUM RAIL IS 1 1/4" NOMINAL PIPE SIZE. (1 5/8" O.D.)
7. SOUTHERN BLEACHER COMPANY AS A MANUFACTURER AND INSTALLER OF GRANDSTAND SEATING IS NOT AUTHORIZED TO CERTIFY PLANS AS ADA COMPLIANT. HOWEVER, TO THE BEST OF OUR KNOWLEDGE THESE PLANS MEET OR EXCEED ADA REQUIREMENTS FOR QUANTITY OF ADA SEATING, ACCESS/EGRESS TO ADA SEATING, & DISPERSAL OF ADA SEATING.
8. STEEL FABRICATION TO BE DONE IN AN AISC CERTIFIED PLANT. A THIRD PARTY AISC APPROVED INSPECTION AGENCY MUST BE HIRED TO COMPLETE AND PROPERLY DOCUMENT THESE INSPECTIONS. THE AGENCY MUST DISCLOSE ANY POSSIBLE CONFLICTS OF INTEREST SO THAT OBJECTIVITY CAN BE CONFIRMED. CERTIFIED REPORTS SHALL BE SUBMITTED DIRECTLY TO THE ARCHITECT FOR CONFIRMATION. ALL ASSOCIATED COSTS SHALL BE INCLUSIVE WITH THE MANUFACTURERS BID.


9.25'
83.75'
44'
83.75'
9.25'
30'
THICKENED SLAB AREA @ PLATFORM/FUTURE PRESSBOX
D
C
B
A
6.42'
11.5'
11.5'
23.20'
7.42'
5.25'
THICKENED SLAB AREA (TYP.)
SITE CONTRACTOR SHALL INSTALL CHAIN-LINK FENCING BELOW 30' LENGTH SEGMENT OF HOME BLEACHERS NEAR BUILDING 3. PROVIDE 8' WIDE DOUBLE GATE. SEE CHAIN-LINK FENCING DETAILS ON SHEET 36
38.79'
62'
28.42'
16.79'
84'
230'

HOME BLEACHER CONCRETE SLAB LAYOUT (BY OTHERS)
N.T.S.


PRESSBOX
8'
ANNOUNCER'S BOOTH, SEE DETAILS ON SHEET 46
3.25'
3"
6.17'
2'
FRONT WALKWAY
8"
3.5'
4'
15.25'
THICKENED SLAB AREA (TYP.)
THICKENED SLAB AREA @ PLATFORM/FUTURE PRESSBOX
6'
11.5'
11.5'
6.42'
3.67'

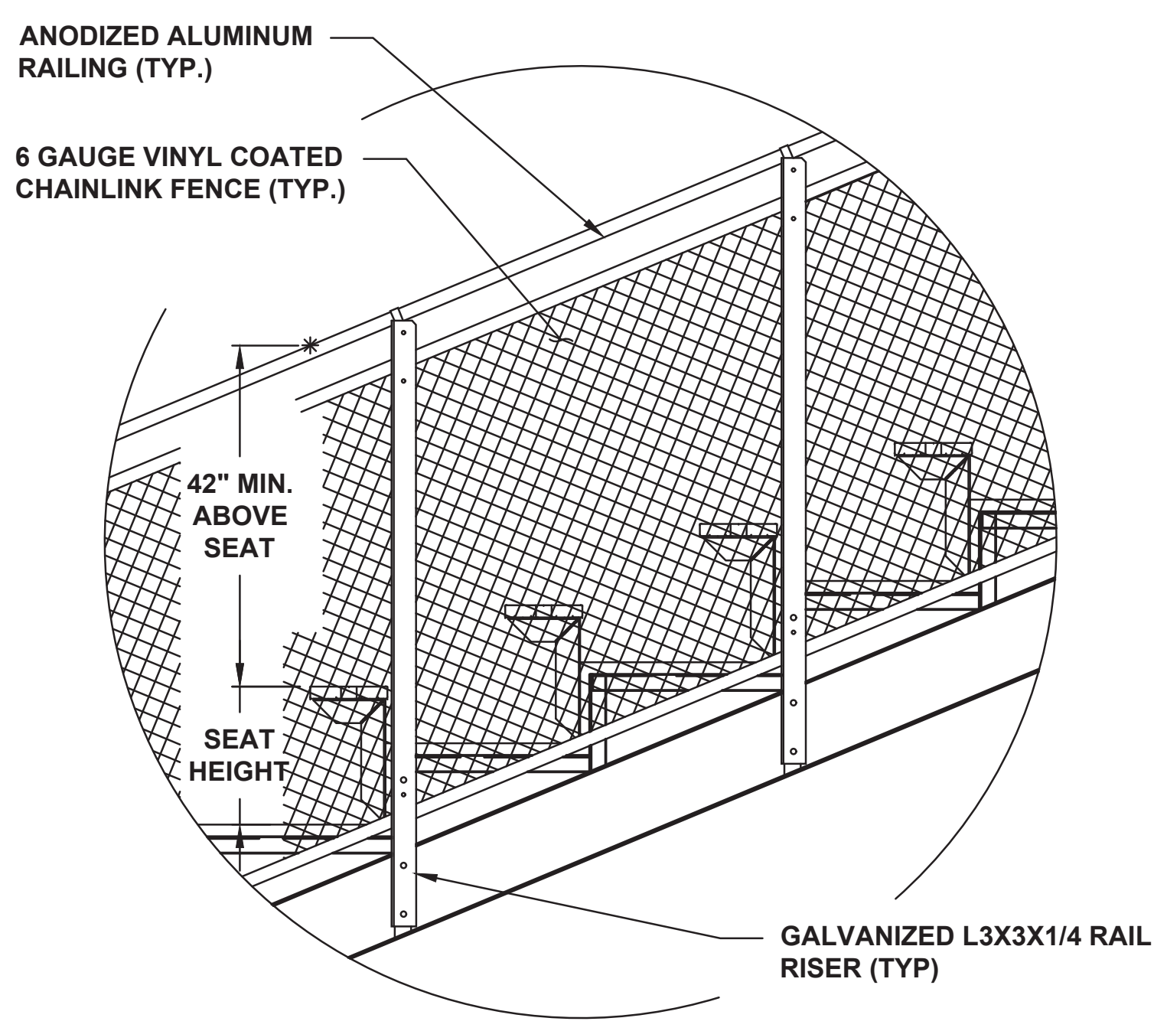
HOME BLEACHER SECTION AT PRESSBOX (BY OTHERS)
N.T.S.



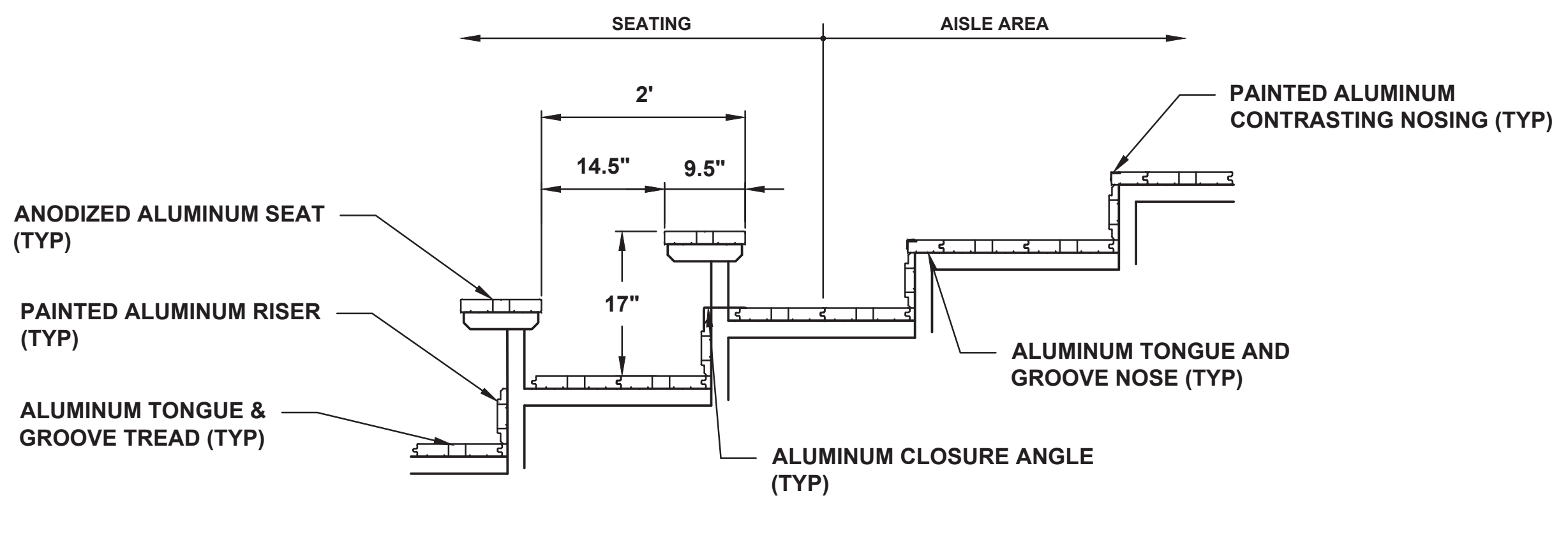
247 TOTAL NET 18" SEATS
5 TOTAL NET 33" WHEELCHAIR SPACES
252 TOTAL SEATING CAPACITY - VISITOR (BASE)
206 TOTAL NET 18" SEATS - FUTURE ADDITION
458 TOTAL SEATING CAPACITY - VISITOR (TOTAL)

NOTE: ANGLE FRAME UNITES MUST BE ANCHORED TO RESIST WIND LOADS, AS PRESCRIBED BY BUILDING CODE.

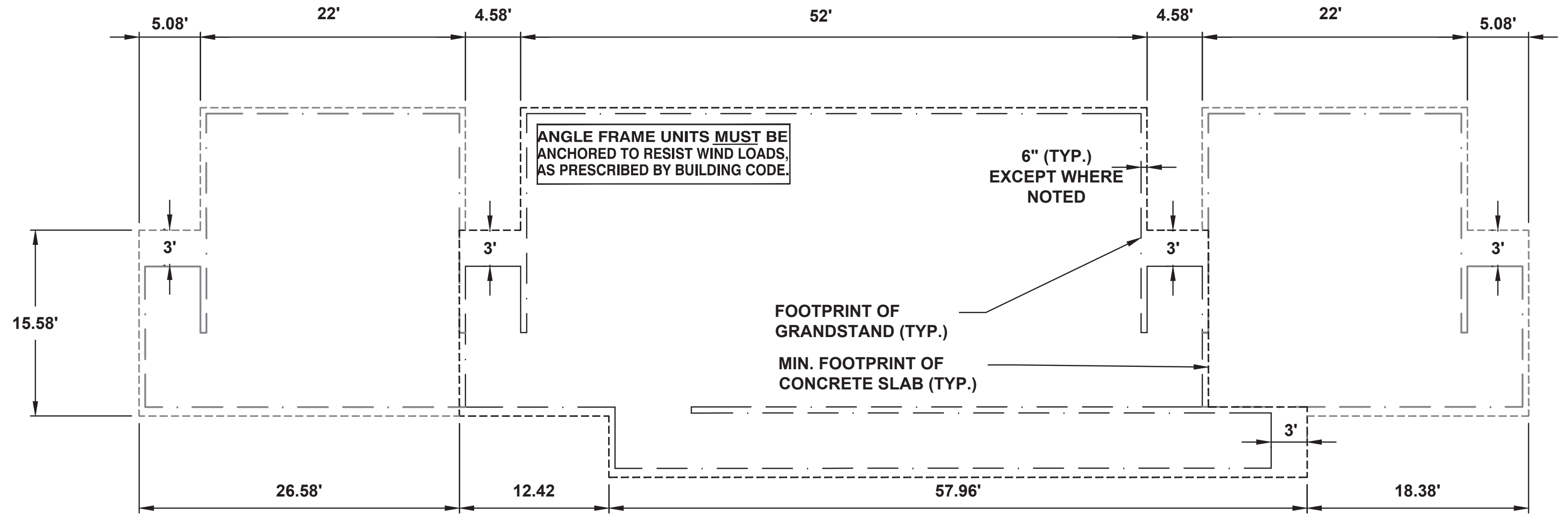
VISITOR BLEACHER SEATING LAYOUT (BY OTHERS)
N.T.S.


ANODIZED ALUMINUM RAILING (TYP.)
6 GAUGE VINYL COATED CHAINLINK FENCE (TYP.)
42" MIN. ABOVE SEAT
SEAT HEIGHT
GALVANIZED L3X3X1/4 RAIL RISER (TYP)

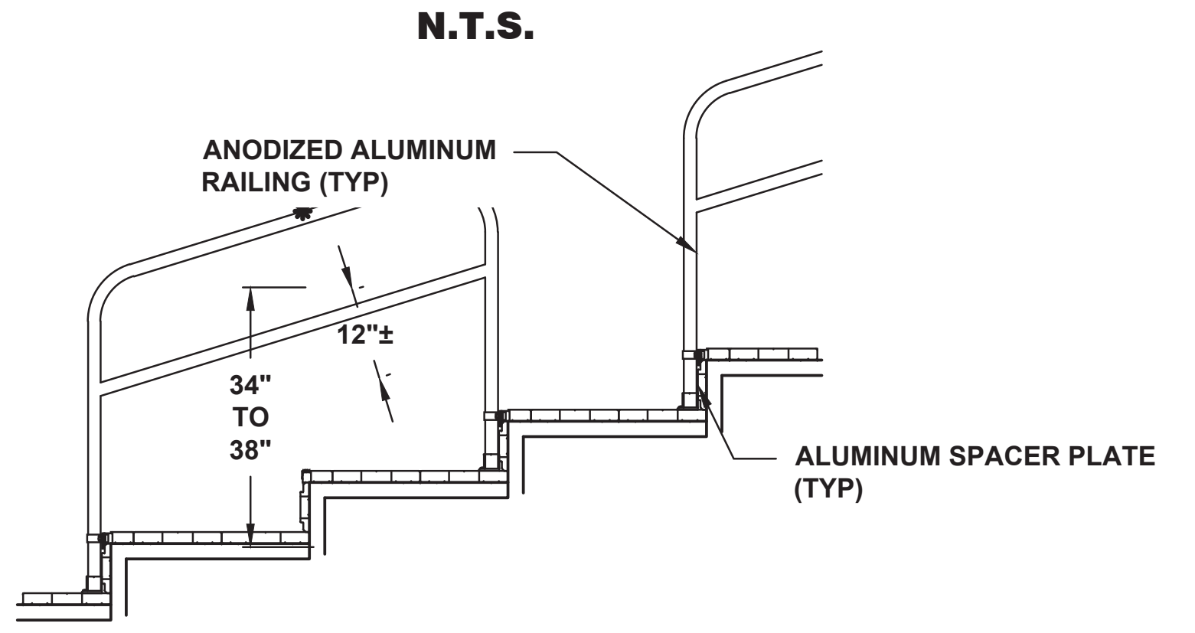
TYPICAL SIDE RAILING DETAIL (BY OTHERS)
N.T.S.


SEATING
AISLE AREA
2'
14.5"
9.5"
17"
ANODIZED ALUMINUM SEAT (TYP)
PAINTED ALUMINUM RISER (TYP)
ALUMINUM TONGUE & GROOVE TREAD (TYP)
PAINTED ALUMINUM CONTRASTING NOSING (TYP)
ALUMINUM TONGUE AND GROOVE NOSE (TYP)
ALUMINUM CLOSURE ANGLE (TYP)

TYPICAL PLANK ARRANGEMENT DETAIL (BY OTHERS)
N.T.S.


5.08'
22'
4.58'
52'
4.58'
22'
5.08'
ANGLE FRAME UNITS MUST BE ANCHORED TO RESIST WIND LOADS, AS PRESCRIBED BY BUILDING CODE.
6" (TYP.) EXCEPT WHERE NOTED
3'
15.58'
FOOTPRINT OF GRANDSTAND (TYP.)
MIN. FOOTPRINT OF CONCRETE SLAB (TYP.)
26.58'
12.42
57.96'
18.38'

VISITOR BLEACHER CONCRETE SLAB LAYOUT (BY OTHERS)
N.T.S.



TYPICAL MID-AISLE RAIL INSTALLATION DETAIL (BY OTHERS)
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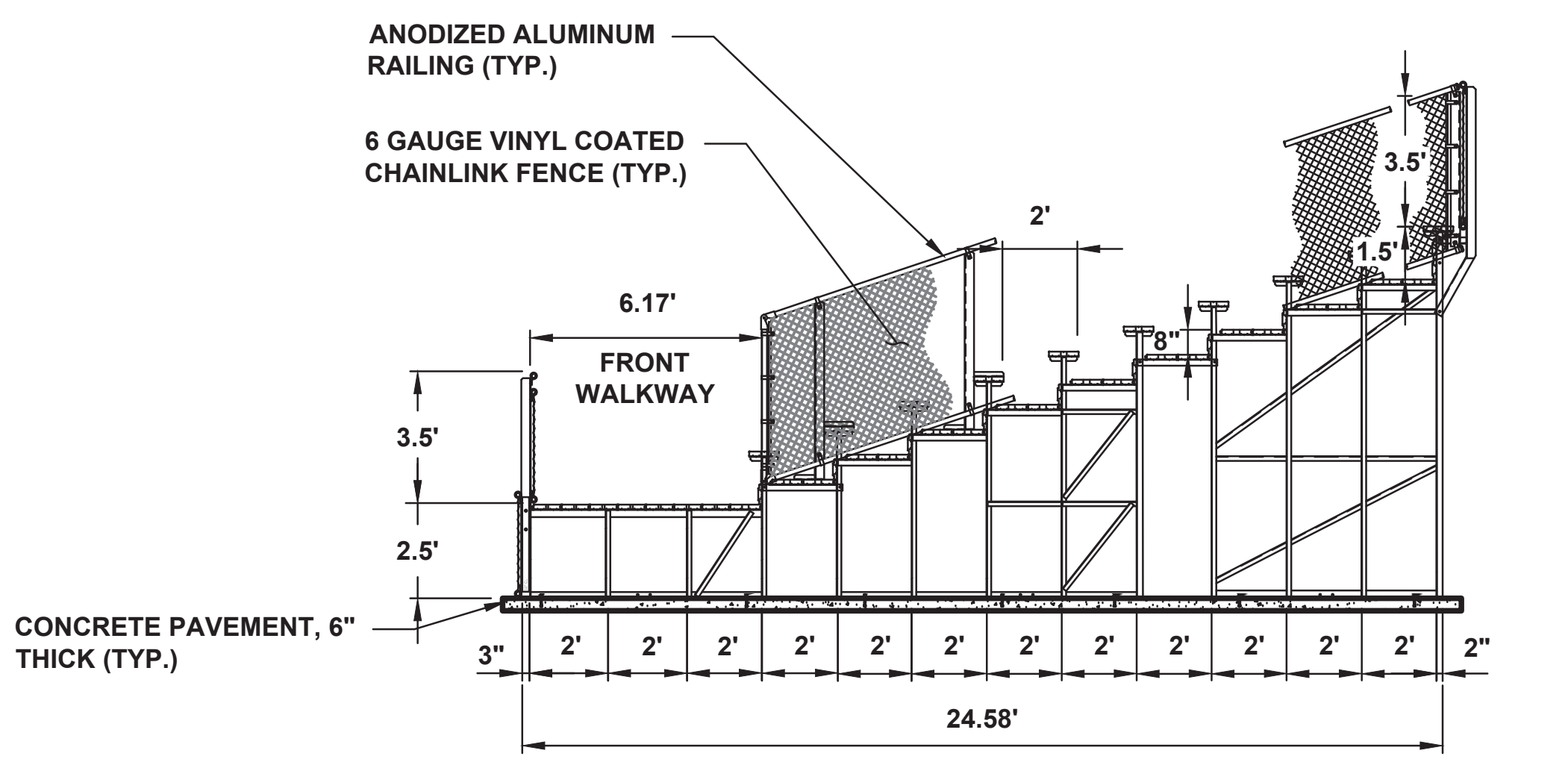
ANODIZED ALUMINUM RAILING (TYP.)
6 GAUGE VINYL COATED CHAINLINK FENCE (TYP.)
3.5'
1.5'
2'
6.17'
FRONT WALKWAY
8"
3.5'
2.5'
CONCRETE PAVEMENT, 6" THICK (TYP.)
3"
2'
2"
24.58'

VISITOR BLEACHER TYPICAL SECTION (BY OTHERS)
N.T.S.

CONSULTANT:
ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
095020-1
DATE: 03/19/2021

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HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

MULTI-PURPOSE FIELD BLEACHER DETAILS

PROJECT NUMBER:
SCE-9755.021

SCALE:
N.T.S.

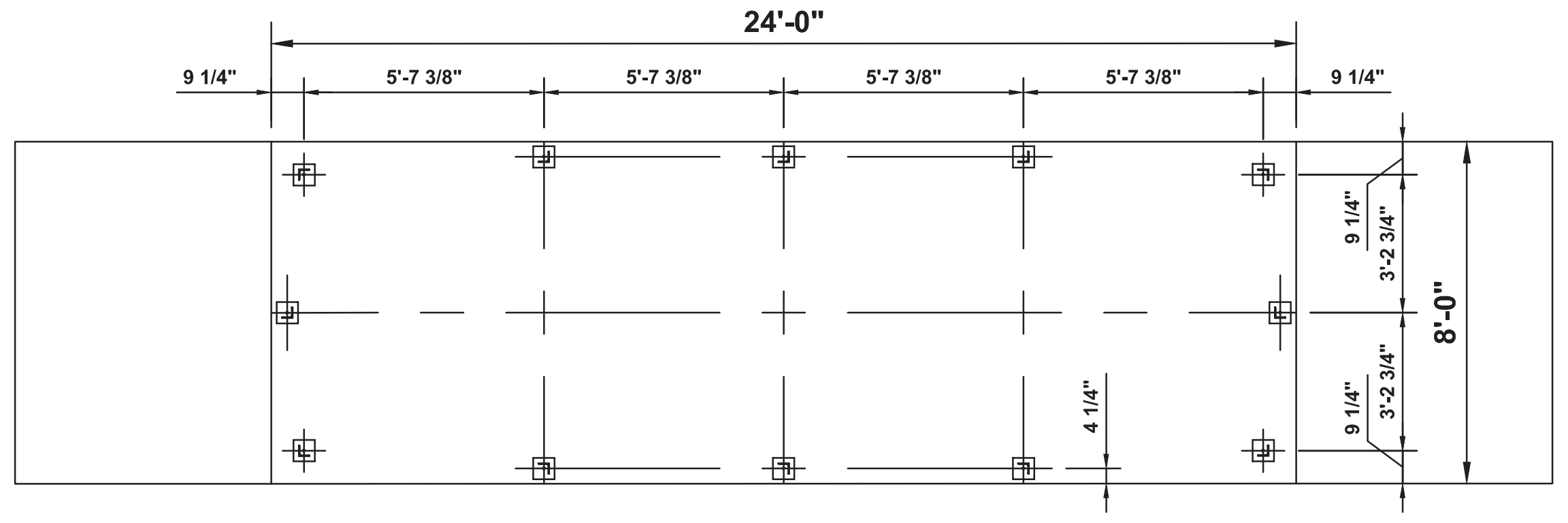
SHEET 45 OF 47

REVISION -

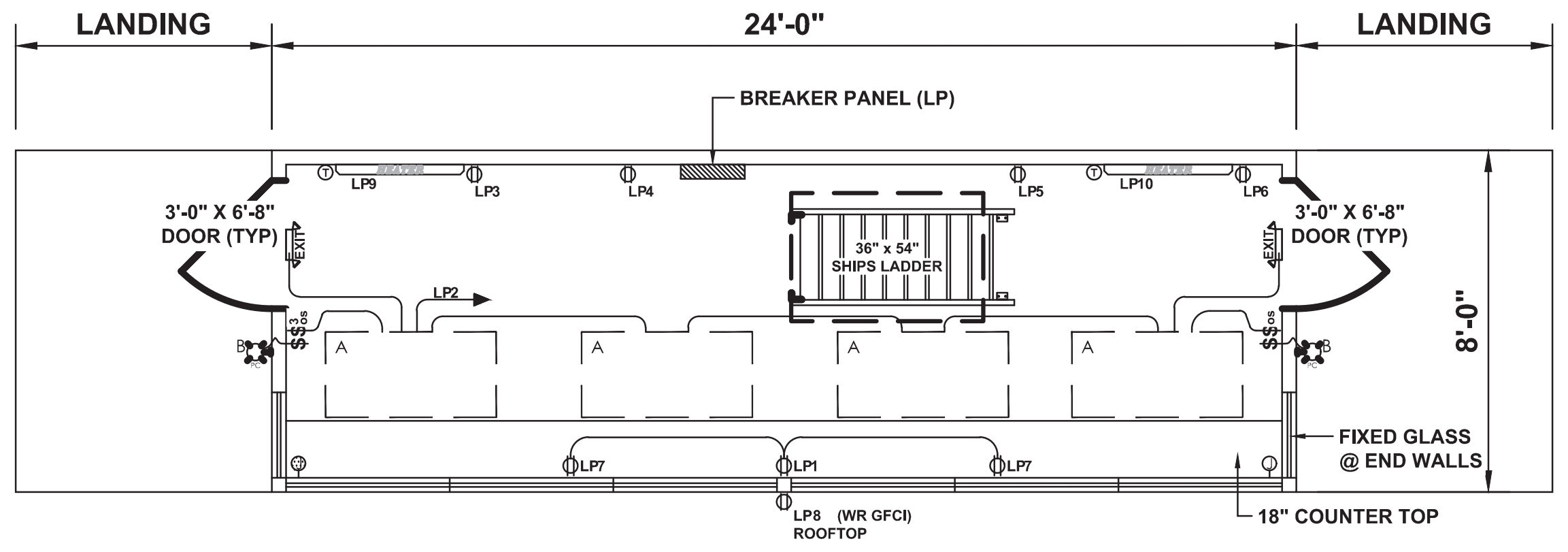
E:\SCE\Haverstraw\9755.021 Haverstraw\Sheets\9755.021 45-46 Multipurpose Field Bleacher Details.dwg Tue, Mar 16, 2021 - 4:53pm kkemper SUBURBAN CONSULTING ENGINEERS, INC.

CO-OPERATIVE PURCHASING NOTE:

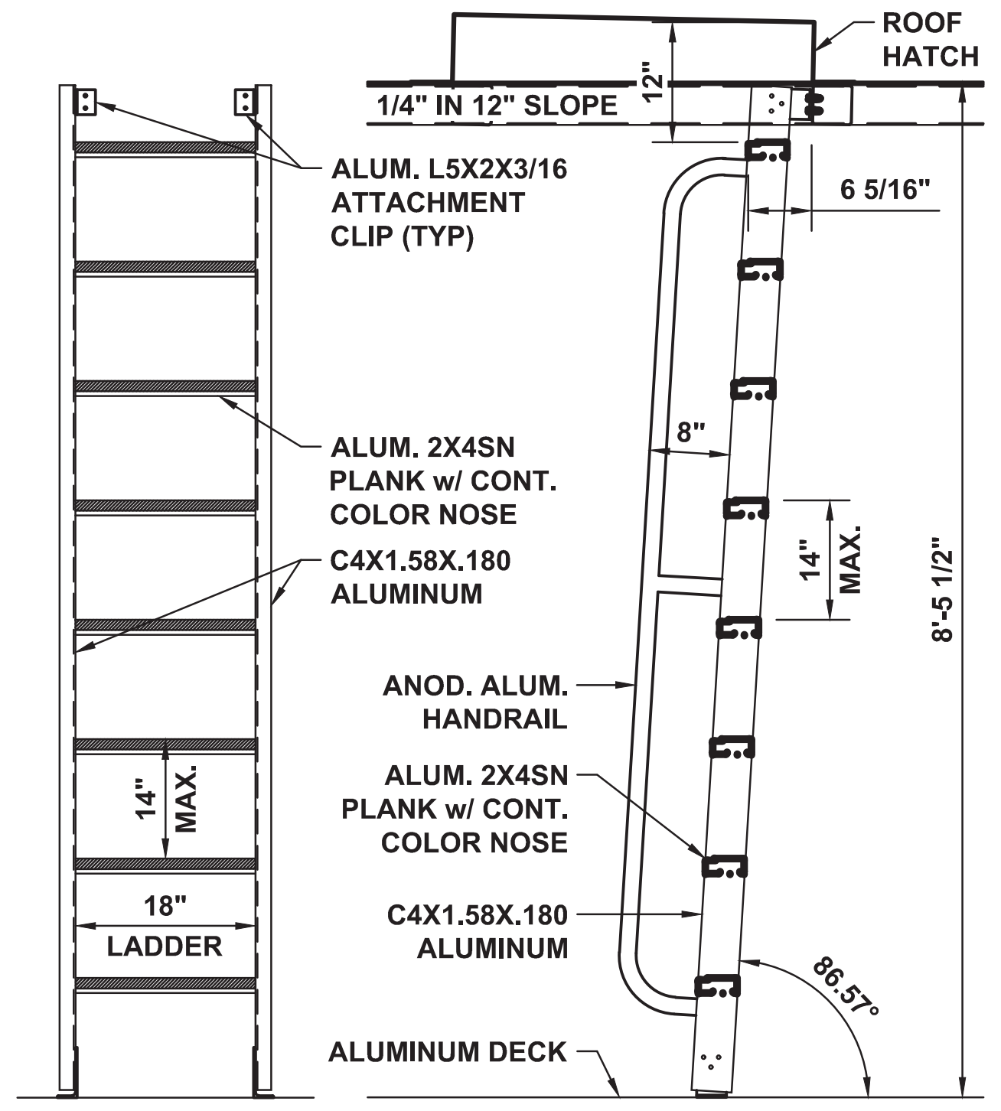
1. ALL WORK RELATED TO ANNOUNCER'S BOOTH ON HOME BLEACHERS IS BY OTHERS. SITE WORK CONTRACTOR SHALL BE RESPONSIBLE FOR RUNNING ELECTRICAL UTILITIES TO ANNOUNCER'S BOOTH WITH FINAL CONNECTION BY OTHERS.



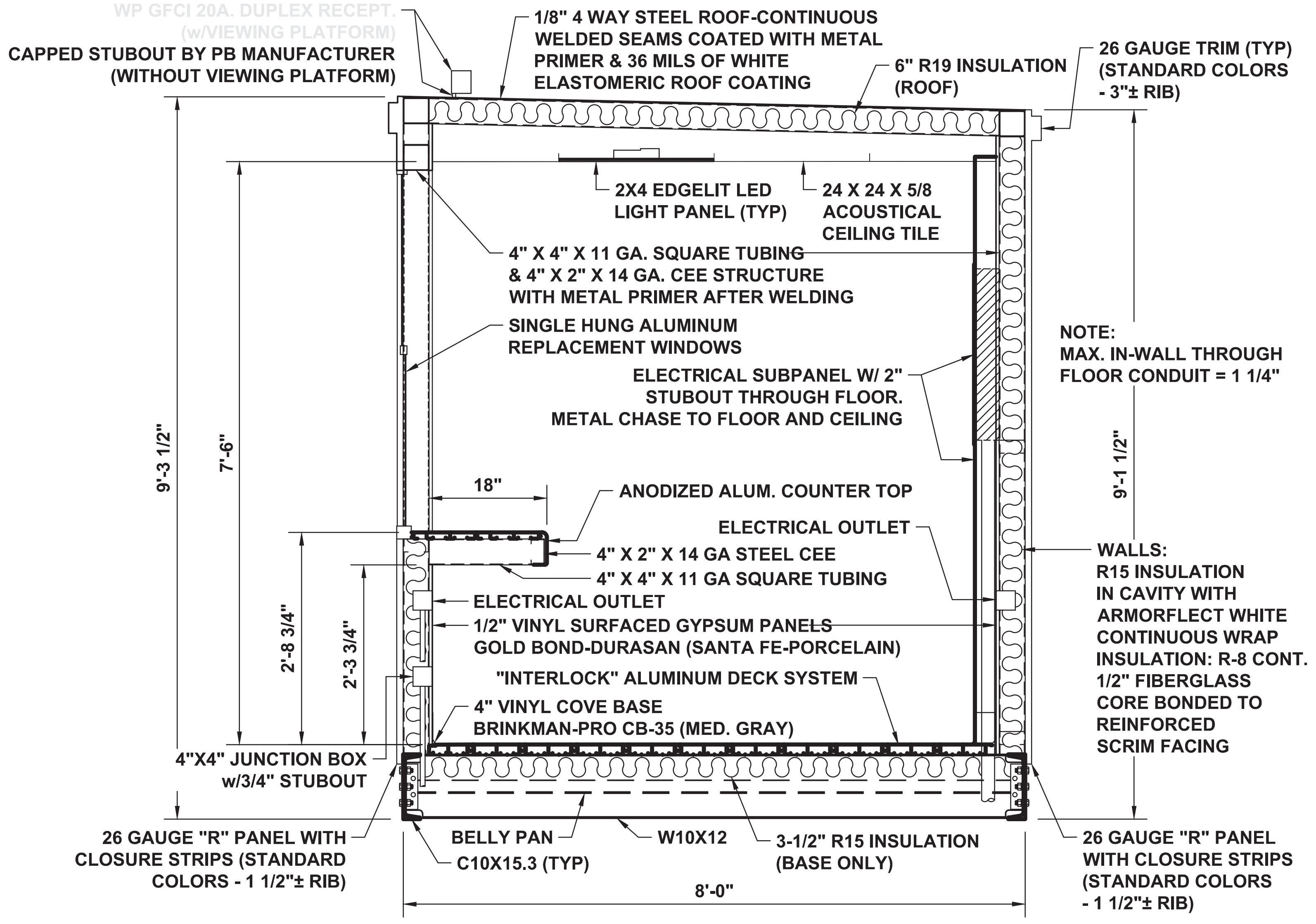
ROOF RAIL LAYOUT



PLAN VIEW



LADDER DETAIL


WP GFCI 20A. DUPLEX RECEPT. (w/VIEWING PLATFORM)
CAPPED STUBOUT BY PB MANUFACTURER (WITHOUT VIEWING PLATFORM)
1/8" 4 WAY STEEL ROOF-CONTINUOUS WELDED SEAMS COATED WITH METAL PRIMER & 36 MILS OF WHITE ELASTOMERIC ROOF COATING
6" R19 INSULATION (ROOF)
26 GAUGE TRIM (TYP) (STANDARD COLORS - 3"± RIB)
2X4 EDGELIT LED LIGHT PANEL (TYP)
24 X 24 X 5/8 ACOUSTICAL CEILING TILE
4" X 4" X 11 GA. SQUARE TUBING & 4" X 2" X 14 GA. CEE STRUCTURE WITH METAL PRIMER AFTER WELDING
SINGLE HUNG ALUMINUM REPLACEMENT WINDOWS
ELECTRICAL SUBPANEL W/ 2" STUBOUT THROUGH FLOOR. METAL CHASE TO FLOOR AND CEILING
NOTE: MAX. IN-WALL THROUGH FLOOR CONDUIT = 1 1/4"
9'-3 1/2"
7'-6"
9'-1 1/2"
18"
ANODIZED ALUM. COUNTER TOP
ELECTRICAL OUTLET
4" X 2" X 14 GA STEEL CEE
4" X 4" X 11 GA SQUARE TUBING
ELECTRICAL OUTLET
1/2" VINYL SURFACED GYPSUM PANELS GOLD BOND-DURASAN (SANTA FE-PORCELAIN)
"INTERLOCK" ALUMINUM DECK SYSTEM
4" VINYL COVE BASE BRINKMAN-PRO CB-35 (MED. GRAY)
2'-8 3/4"
2'-3 3/4"
WALLS: R15 INSULATION IN CAVITY WITH ARMORFLECT WHITE CONTINUOUS WRAP INSULATION: R-8 CONT. 1/2" FIBERGLASS CORE BONDED TO REINFORCED SCRIM FACING
4"X4" JUNCTION BOX w/3/4" STUBOUT
26 GAUGE "R" PANEL WITH CLOSURE STRIPS (STANDARD COLORS - 1 1/2"± RIB)
BELLY PAN
C10X15.3 (TYP)
W10X12
3-1/2" R15 INSULATION (BASE ONLY)
26 GAUGE "R" PANEL WITH CLOSURE STRIPS (STANDARD COLORS - 1 1/2"± RIB)
8'-0"

SECTION VIEW

U.L. LISTED (PANELBOARDS NO. 67)									COPPER BUSBAR

LOAD CENTER SCHEDULE
GENERAL ELECTRIC #TLM1620

PANEL LP 200 AMP RATED - 32 CIRCUIT W/ EQUIPMENT GROUND — 208-240/120 VOLTS 1 PH. 3-WIRE

MOUNTING: ☐FLUSH ☒ SURFACE — 10kAIC — 100 AMP MAIN BREAKER

	BREAKER SIZE	BREAKER POLE	CIRC. #	BUS A	BUS B	CIRC. #	BREAKER SIZE	BREAKER POLE	
DUPLEX RECEPTACLE FRONT WALL	20	1	1			2	20	1	LIGHTS
DUPLEX RECEPTACLE BACK WALL	20	1	3			4	20	1	DUPLEX RECEPTACLE BACK WALL
DUPLEX RECEPTACLE BACK WALL	20	1	5			6	20	1	DUPLEX RECEPTACLE BACK WALL
(2) DUPLEX RECEPTACLE FRONT WALL	20	1	7			8	20	1	GFCI DUPLEX RECEPTACLE ROOFTOP
BASEBOARD HEATER	20	1	9			10	20	1	BASEBOARD HEATER
SPARE	20	1	11			12	20	1	SPARE
SPACE			13			14			SPACE
SPACE			15			16			SPACE
SPACE			17			18			SPACE
SPACE			19			20			SPACE
SPACE									SPACE
SPACE									SPACE
SPACE									SPACE
SPACE									SPACE
SPACE									SPACE
SPACE									SPACE

CONDUIT WILL BE 1/2" EMT, 1/2" STEELFLEX, OR SURFACE RACEWAY UNLESS OTHERWISE NOTED

WIRING ON 20A BREAKERS WILL BE #12 = THWN - THHN

EQUIPMENT GROUND RUN IN ALL CONDUITS OR NON-METALLIC SURFACE RACEWAYS

PANEL FEEDER, NEUTRAL, BONDING, AND GROUNDING TO BE ACCORDING TO APPLICABLE CODES ADOPTED BY THE LOCAL AHJ ON SITE BY ELECTRICAL CONTRACTOR.

PANEL BONDED TO METAL BUILDING FRAME BY PRESS BOX MANUF.

⏀	20A. 125V. DUPLEX RECPT. (GFCI WHERE NOTED)
S	15A. 125V. SINGLE POLE DECORATOR STYLE SWITCH
S3 OS	15A. 125V. 3-WAY DECORATOR STYLE SWITCH WITH MANUAL ON/OFF OCCUPANCY SENSOR
S OS	15A. 125V. SINGLE POLE DECORATOR STYLE SWITCH WITH MANUAL ON/OFF OCCUPANCY SENSOR
J	4X4X2 1/8" JUNCTION BOX W/ 3/4" C STUBOUT UNDER FLOOR FOR USE BY OTHERS
B PC	12W. LED EXTERIOR LIGHT W/PHOTOCELL
EXIT	EM./EXIT LIGHT AT EXTERIOR DOORS BATTERY BACK UP EMERGENCY/EXIT LIGHT CONNECT TO LIGHT CIRCUIT AHEAD OF SWITCH. NEC 700.12 (F)
A	4'X2' EDGELIT LED PANEL LIGHT RAB LIGHTING EZPAN2X4-40N/D10 0.26A @ 120V INPUT WATTS: 29.6W
T HEATER ⏀	BASEBOARD HEATER 36"= 750W.-120V.- 6.3 A. BERCO BKOC2513W OR EQUAL
T HEATER ⏀	BASEBOARD HEATER 48"= 1000W.-120V.- 8.3 A. BERCO BKOC2514W OR EQUAL

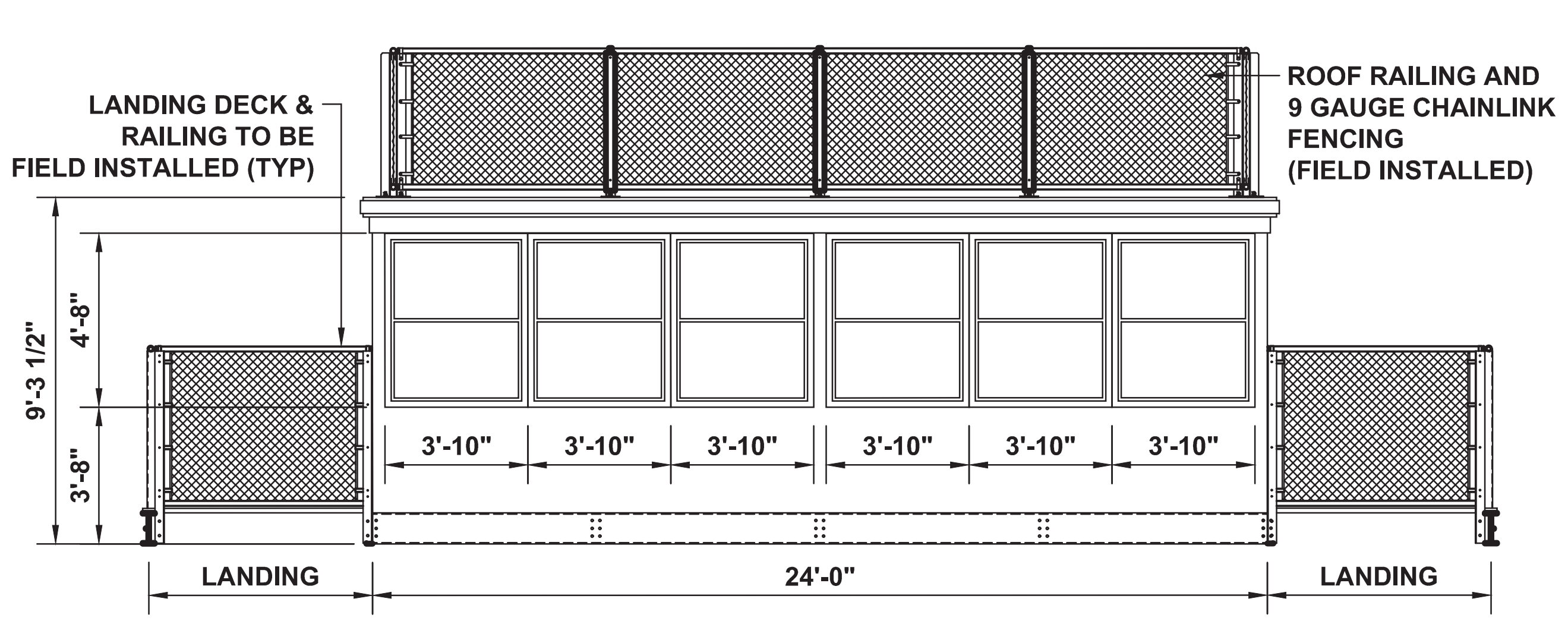
NOTE:
120V. DUPLEX RECPT. ARE LOCATED IN ONE END OF BASEBOARD HEATERS USING ACCESSORY COVER BKORA1. THERMOSTAT IN THE OTHER END - COVER BKOTA1A W/THERMOSTAT TA2A.
WALL RECPT. ARE NOT ABOVE BB HEATERS.

NOTE:

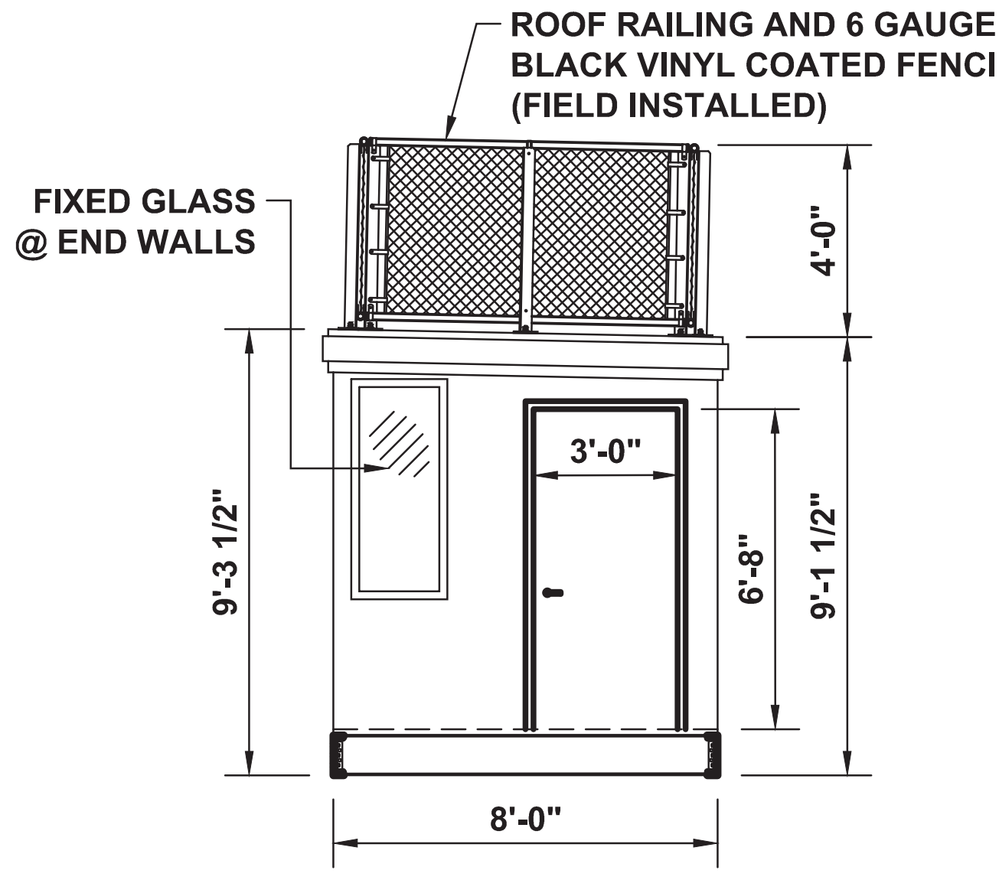
ROOF PLATE STEEL IS WELDED ON BOTH SIDES OF RAFTERS WITH 1-1/2" LONG 1/8" FILLET WELDS ON 12" CENTERS.

WALL PANELS ARE ATTACHED WITH #12 TEK SCREWS - 6" O.C. AT THE TOP AND BOTTOM OF THE PANELS AND 12" O.C. AT ANY INTERMEDIATE BRACE. LAP SCREWS ARE PLACED AT EACH END OF THE PANELS, AT THE INTERMEDIATE SUPPORTS, AND AT THE MID POINT BETWEEN SUPPORTS. (TEK #14)

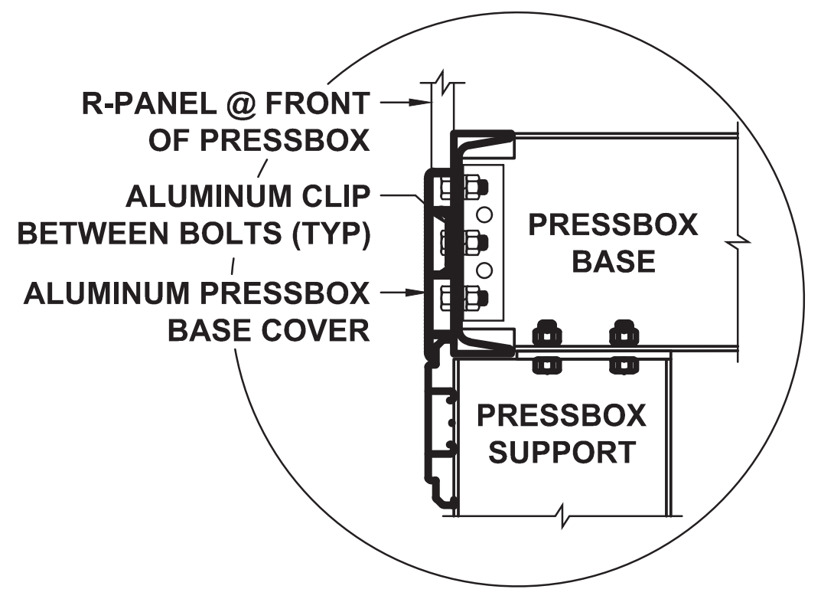
FLOOR PLANK ATTACHED WITH (2)-MILL ALUM. HOLD DOWN CLIP w/5/16"X1" CARRIAGE SCREW AND 5/16" FLANGE NUT AT EACH W10X12. FRONT (END) FLOOR PLANK ATTACHED TO W10X12 WITH (2)-COUNTERSUNK 2" TEK SCREWS PER END OF PLANK AND AT INTERMEDIATE SUPPORTS.


LANDING DECK & RAILING TO BE FIELD INSTALLED (TYP)
ROOF RAILING AND 9 GAUGE CHAINLINK FENCING (FIELD INSTALLED)
9'-3 1/2"
4'-8"
3'-8"
3'-10"
3'-10"
3'-10"
3'-10"
3'-10"
3'-10"
LANDING
24'-0"
LANDING

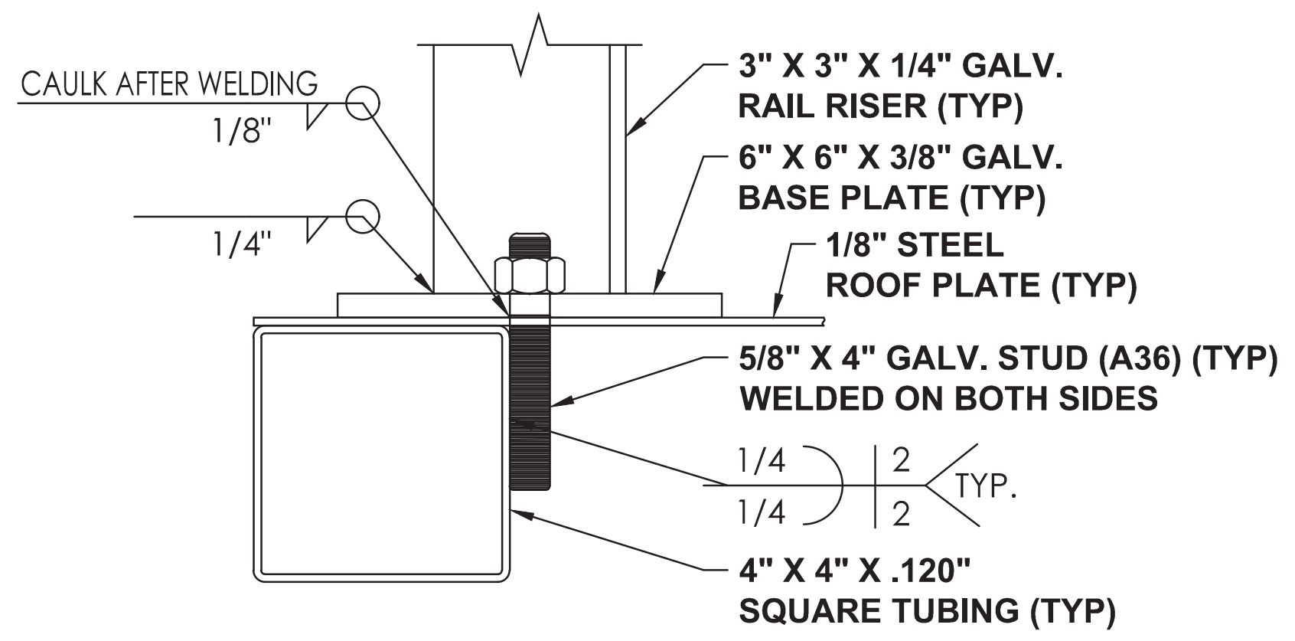
FRONT ELEVATION VIEW


ROOF RAILING AND 6 GAUGE BLACK VINYL COATED FENCING (FIELD INSTALLED)
FIXED GLASS @ END WALLS
4'-0"
3'-0"
9'-3 1/2"
6'-8"
9'-1 1/2"
8'-0"

SIDE VIEW


R-PANEL @ FRONT OF PRESSBOX
ALUMINUM CLIP BETWEEN BOLTS (TYP)
ALUMINUM PRESSBOX BASE COVER
PRESSBOX BASE
PRESSBOX SUPPORT

BOOTH BASE TRIM DETAIL


CAULK AFTER WELDING
1/8"
1/4"
3" X 3" X 1/4" GALV. RAIL RISER (TYP)
6" X 6" X 3/8" GALV. BASE PLATE (TYP)
1/8" STEEL ROOF PLATE (TYP)
5/8" X 4" GALV. STUD (A36) (TYP) WELDED ON BOTH SIDES
1/4
1/4
2
2
TYP.
4" X 4" X .120" SQUARE TUBING (TYP)

ROOF RAIL ATTACHMENT

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ANDREW S. HOLT, PE
NY PROFESSIONAL ENGINEER: 095021-1
DATE: 03/19/2021

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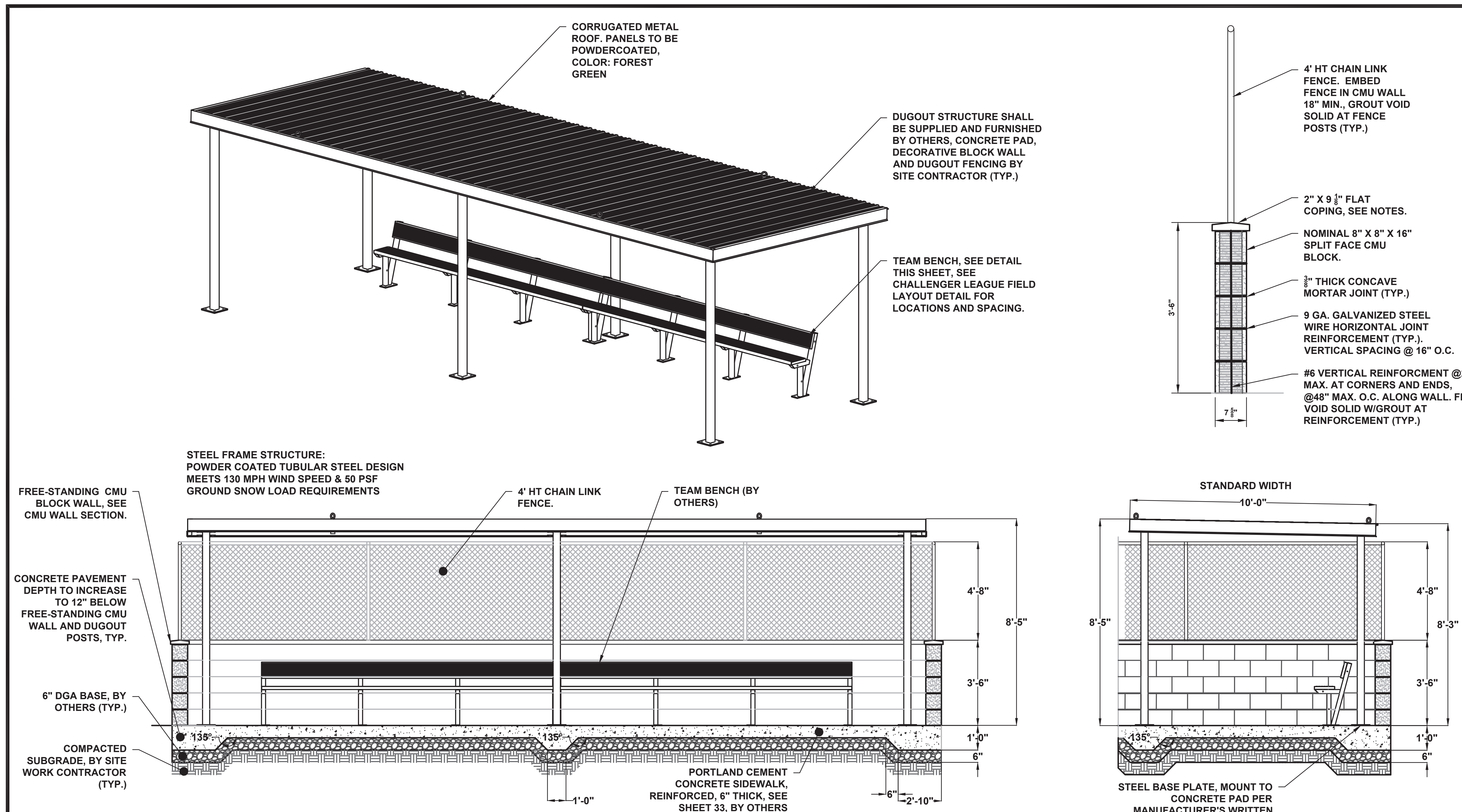
7 Cokesbury Califon Road, Lebanon, N.J. 08833 - 973.398.1776
EXCELLENCE ♦ ECONOMY ♦ ENVIRONMENT

HAVERSTRAW RECREATION COMPLEX - PHASE 1
LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

MULTI-PURPOSE FIELD
ANNOUNCER'S BOOTH DETAILS

PROJECT NUMBER: SCE-9755.021
SCALE: N.T.S.
SHEET 46 OF 47
REVISION -

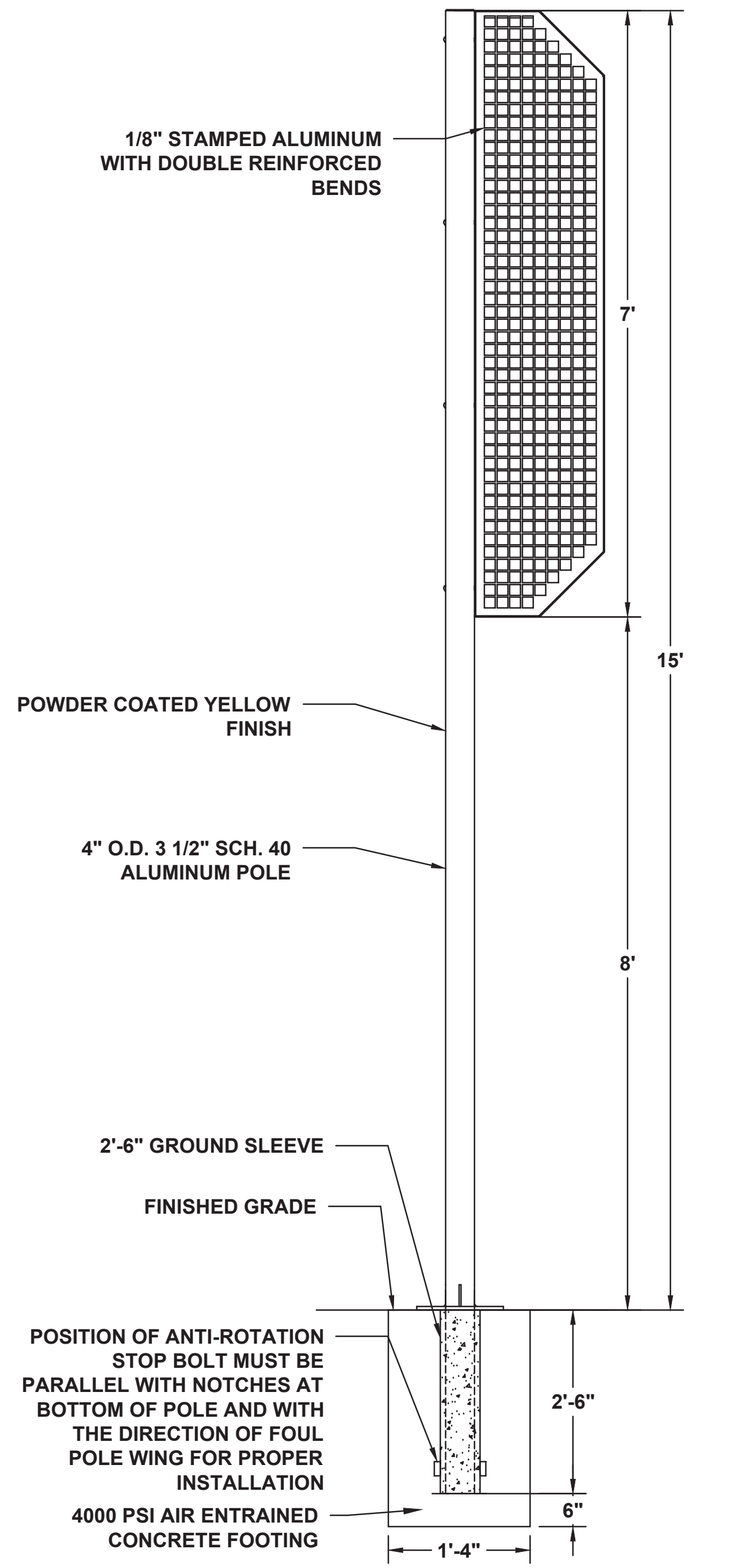

CORRUGATED METAL ROOF. PANELS TO BE POWDERCOATED, COLOR: FOREST GREEN
DUGOUT STRUCTURE SHALL BE SUPPLIED AND FURNISHED BY OTHERS, CONCRETE PAD, DECORATIVE BLOCK WALL AND DUGOUT FENCING BY SITE CONTRACTOR (TYP.)
TEAM BENCH, SEE DETAIL THIS SHEET, SEE CHALLENGER LEAGUE FIELD LAYOUT DETAIL FOR LOCATIONS AND SPACING.
STEEL FRAME STRUCTURE: POWDER COATED TUBULAR STEEL DESIGN MEETS 130 MPH WIND SPEED & 50 PSF GROUND SNOW LOAD REQUIREMENTS
FREE-STANDING CMU BLOCK WALL, SEE CMU WALL SECTION.
4' HT CHAIN LINK FENCE.
TEAM BENCH (BY OTHERS)
CONCRETE PAVEMENT DEPTH TO INCREASE TO 12" BELOW FREE-STANDING CMU WALL AND DUGOUT POSTS, TYP.
6" DGA BASE, BY OTHERS (TYP.)
COMPACTED SUBGRADE, BY SITE WORK CONTRACTOR (TYP.)
135°
135°
4'-8"
3'-6"
8'-5"
1'-0"
6"
1'-0"
6"
2'-10"
PORTLAND CEMENT CONCRETE SIDEWALK, REINFORCED, 6" THICK, SEE SHEET 33, BY OTHERS
4' HT CHAIN LINK FENCE. EMBED FENCE IN CMU WALL 18" MIN., GROUT VOID SOLID AT FENCE POSTS (TYP.)
2" X 9 1/8" FLAT COPING, SEE NOTES.
NOMINAL 8" X 8" X 16" SPLIT FACE CMU BLOCK.
3/8" THICK CONCAVE MORTAR JOINT (TYP.)
9 GA. GALVANIZED STEEL WIRE HORIZONTAL JOINT REINFORCEMENT (TYP.). VERTICAL SPACING @ 16" O.C.
#6 VERTICAL REINFORCMENT @24" MAX. AT CORNERS AND ENDS, @48" MAX. O.C. ALONG WALL. FILL VOID SOLID W/GROUT AT REINFORCEMENT (TYP.)
3'-6"
7 5/8"
STANDARD WIDTH
10'-0"
8'-5"
4'-8"
8'-3"
3'-6"
135°
1'-0"
6"
STEEL BASE PLATE, MOUNT TO CONCRETE PAD PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS

NOTE:

1. DUGOUT TO BE 10' X 40' GAME SHADE DUGOUT MANUFACTURED BY SPORTSFIELD SPECIALTIES, INC., 607-746-8911, OR APPROVED EQUAL.
2. SPLIT FACE BLOCKS SHALL BE STANDARD CMU BLOCKS WITH SPLIT FACE FINISH, COLOR SF-29, AS MANUFACTURED BY WESTBROOKBLOCK, OR APPROVED EQUAL.
3. TYPE N MORTAR SHALL BE TYPE N, COLOR 8083, AS MANUFACTURED BY WESTBROOK BLOCK, OR APPROVED EQUAL.
4. SPLIT FACE BLOCK AND MORTAR SHALL COME FROM THE SAME MANUFACTURER, COLOR AND FINISHES TO BE CONFIRMED/APPROVED BY OWNER.
5. PRECAST WALL COPING SHALL BE 9" FLAT COPING, COLOR RED CLAY, AS MANUFACTURED BY MODERN PRECAST INC., OR APPROVED EQUAL

DUGOUT DETAIL (BY OTHERS)

N.T.S.

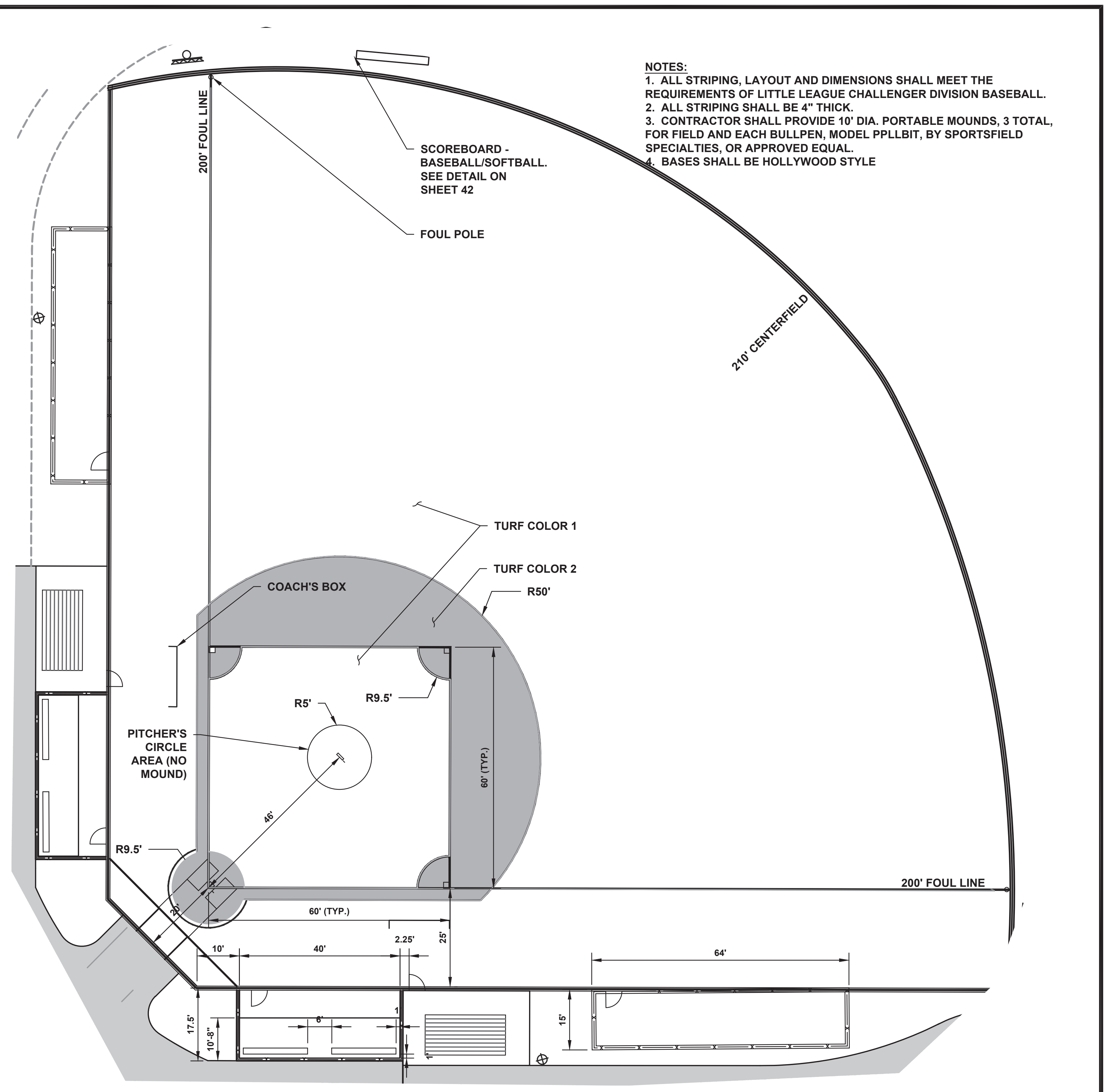

1/8" STAMPED ALUMINUM WITH DOUBLE REINFORCED BENDS
7'
15'
POWDER COATED YELLOW FINISH
4" O.D. 3 1/2" SCH. 40 ALUMINUM POLE
8'
2'-6" GROUND SLEEVE
FINISHED GRADE
POSITION OF ANTI-ROTATION STOP BOLT MUST BE PARALLEL WITH NOTCHES AT BOTTOM OF POLE AND WITH THE DIRECTION OF FOUL POLE WING FOR PROPER INSTALLATION
2'-6"
4000 PSI AIR ENTRAINED CONCRETE FOOTING
6"
1'-4"

NOTE:

1. FOUL POLE SHALL BE MODEL #FPW415 AS MANUFACTURED BY SPORTSFIELD SPECIALTIES, (888)-975-3343, OR APPROVED EQUAL.

FOUL POLE (BY OTHERS)

N.T.S.



NOTES:

1. ALL STRIPING, LAYOUT AND DIMENSIONS SHALL MEET THE REQUIREMENTS OF LITTLE LEAGUE CHALLENGER DIVISION BASEBALL.
2. ALL STRIPING SHALL BE 4" THICK.
3. CONTRACTOR SHALL PROVIDE 10' DIA. PORTABLE MOUNDS, 3 TOTAL, FOR FIELD AND EACH BULLPEN, MODEL PPLLBIT, BY SPORTSFIELD SPECIALTIES, OR APPROVED EQUAL.
4. BASES SHALL BE HOLLYWOOD STYLE

CHALLENGER LEAGUE FIELD LAYOUT (BY OTHERS)

N.T.S.

SURFACE MOUNT TO CONCRETE WITH TAMPERPROOF FASTENERS PER MANUFACTURER'S WRITTEN INSTRUCTIONS AND RECOMMENDATIONS

NOTE:

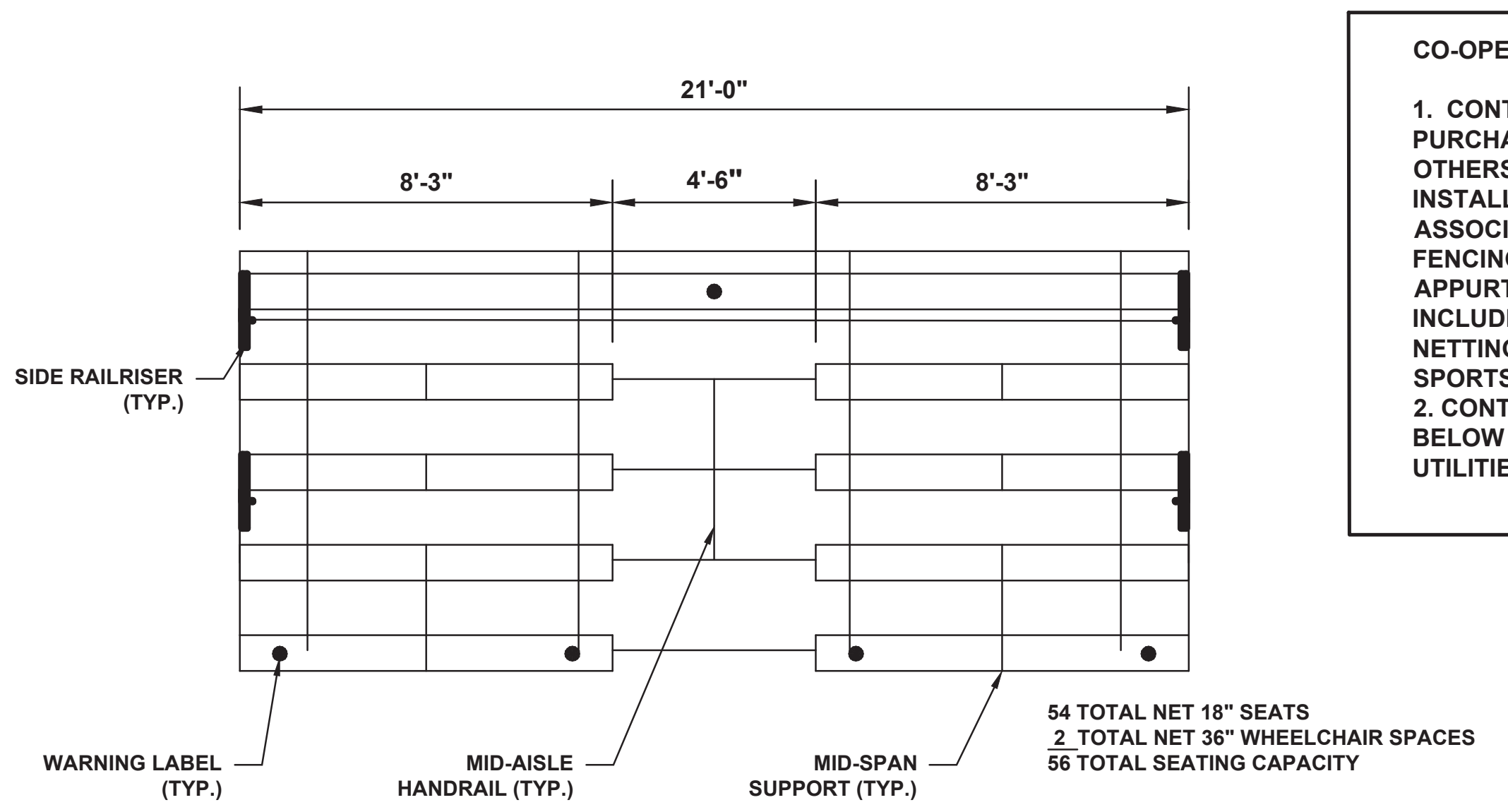
1. FURNISH AND INSTALL TITAN SERIES TEAM BENCH WITH BACKREST, 15'-0" LENGTH, GALVANIZED STEEL FRAME, SURFACE MOUNT, MODEL #TB-TIG15 AS MANUFACTURED BY GT GRANDSTANDS, (866)-550-5511, OR APPROVED EQUAL.

TEAM BENCH DETAIL (BY OTHERS)

N.T.S.

CO-OPERATIVE PURCHASING NOTE:

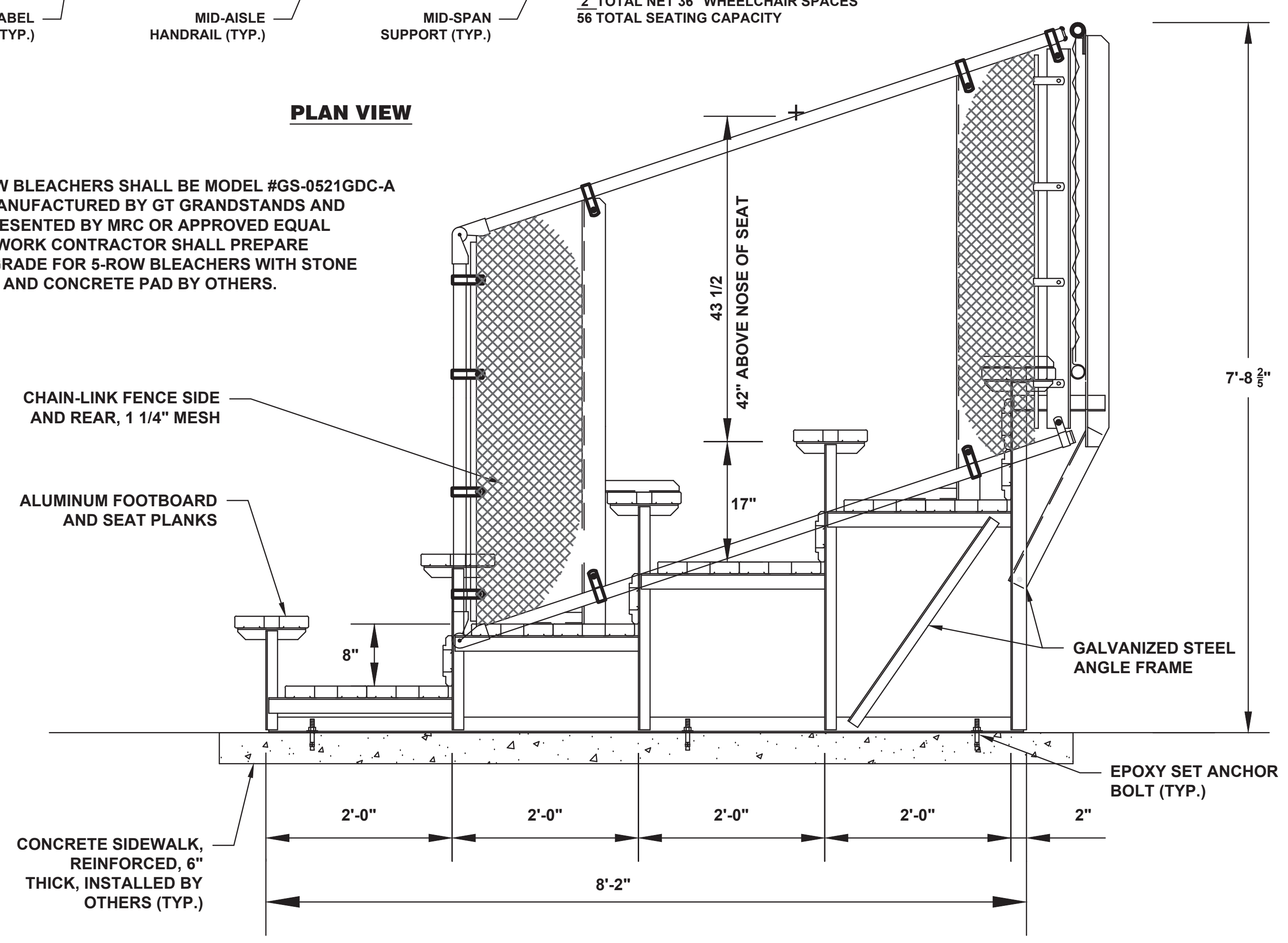
1. CONTRACTOR TO BE ADVISED CERTAIN SITE WORK ITEMS ARE TO BE PURCHASED DIRECTLY BY THE TOWN AND SUPPLIED/INSTALLED BY OTHERS AS PART OF THIS PROJECT. ITEMS TO BE PURCHASED AND INSTALLED BY OTHERS INCLUDE ALL SYNTHETIC TURF SURFACING AND ASSOCIATED BASE AND DRAINAGE SYSTEMS, ALL FIELD PERIMETER FENCING, INCLUDING BULLPENS AND BACKSTOPS, ALL FIELD APPURTENANCES FOR THE MULTI-PURPOSE AND CHALLENGER FIELDS INCLUDING TEAM BENCHES, GOALS, BLEACHERS, DUGOUTS, SPORTS NETTING, FOUL POLES AND GOALPOSTS, ELECTRONIC SCOREBOARDS , SPORTS LIGHTING AND BUILDING 4 (MAINTENANCE BUILDING).
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING SUBGRADE BELOW STONE BASE FOR SYNTHETIC TURF FIELDS AND RUNNING UTILITIES AS NEEDED TO THE VARIOUS ITEMS "BY OTHERS".



PLAN VIEW

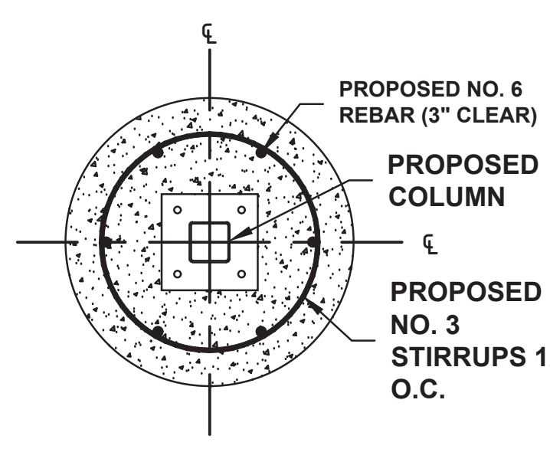
NOTE:

1. 5-ROW BLEACHERS SHALL BE MODEL #GS-0521GDC-A AS MANUFACTURED BY GT GRANDSTANDS AND REPRESENTED BY MRC OR APPROVED EQUAL
2. SITE WORK CONTRACTOR SHALL PREPARE SUBGRADE FOR 5-ROW BLEACHERS WITH STONE BASE AND CONCRETE PAD BY OTHERS.

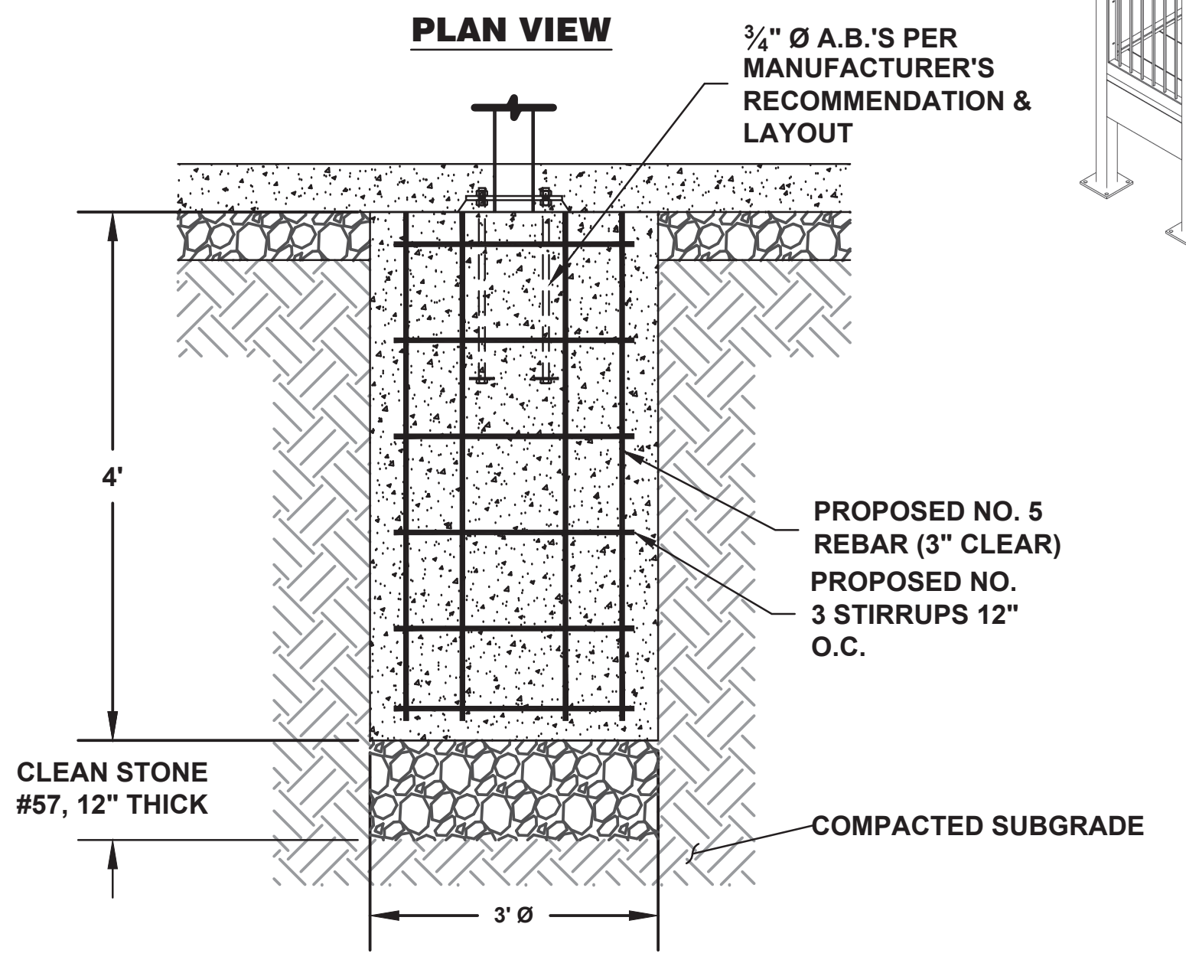

CHAIN-LINK FENCE SIDE AND REAR, 1 1/4" MESH
ALUMINUM FOOTBOARD AND SEAT PLANKS
43 1/2
42" ABOVE NOSE OF SEAT
17"
8"
7'-8 2/5"
GALVANIZED STEEL ANGLE FRAME
EPOXY SET ANCHOR BOLT (TYP.)
CONCRETE SIDEWALK, REINFORCED, 6" THICK, INSTALLED BY OTHERS (TYP.)
2'-0"
2'-0"
2'-0"
2'-0"
2"
8'-2"

5-ROW BLEACHER, 21' LONG (BY OTHERS)

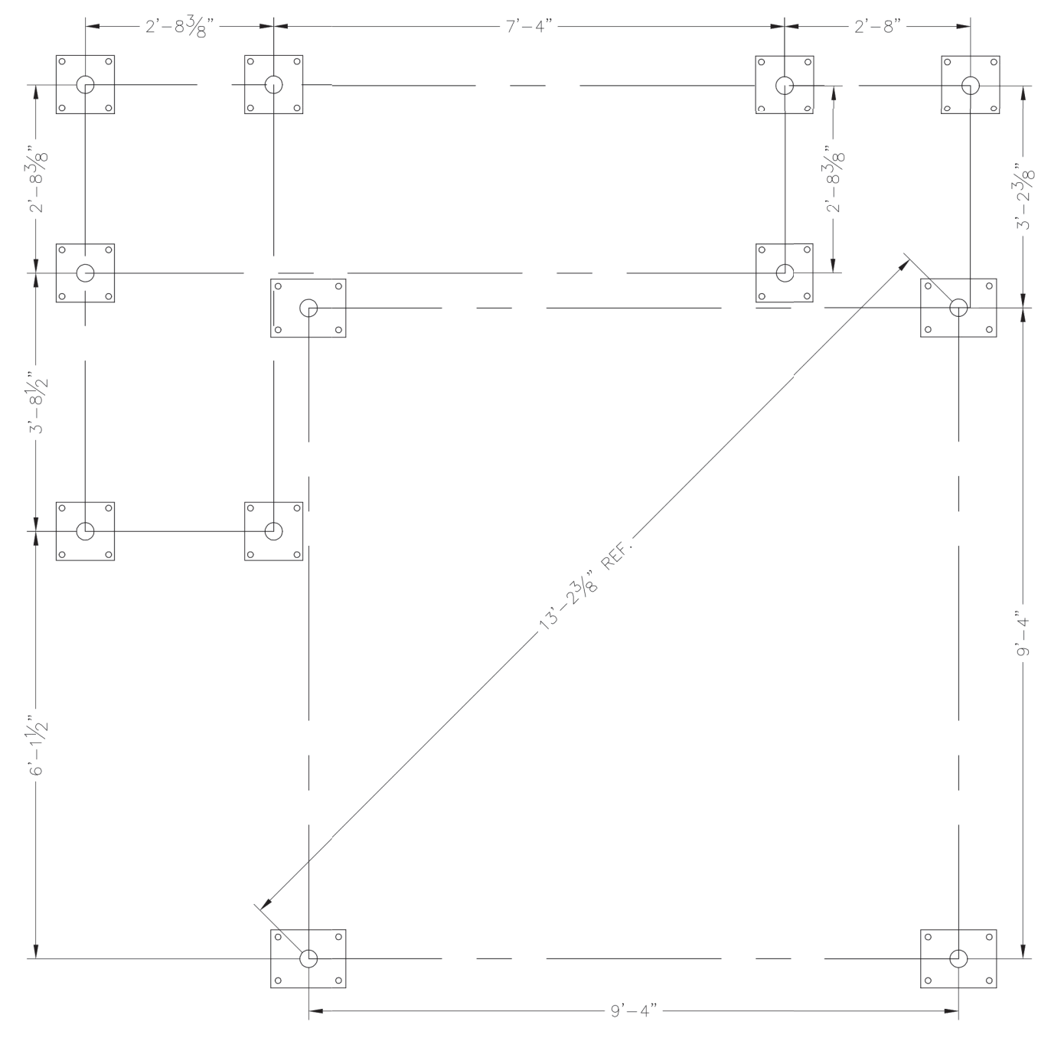
N.T.S.

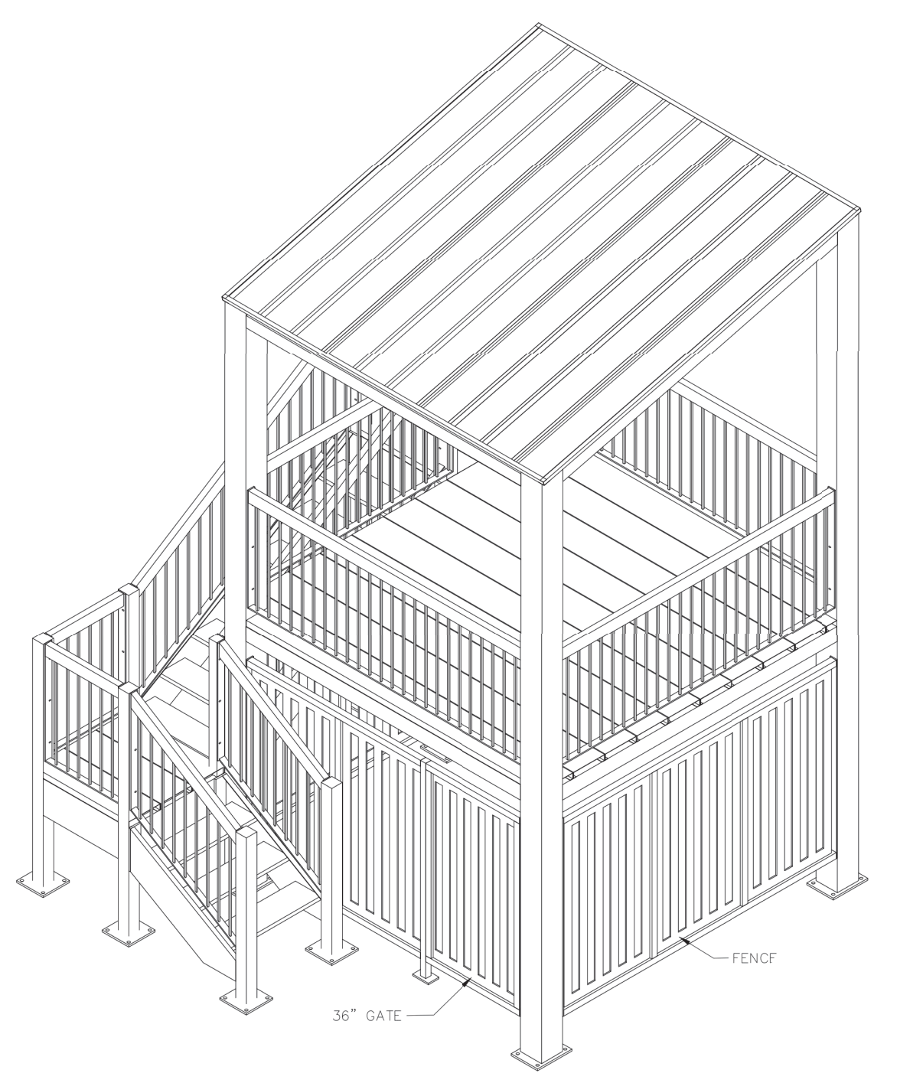

℄
PROPOSED NO. 6 REBAR (3" CLEAR)
PROPOSED COLUMN
℄
PROPOSED NO. 3 STIRRUPS 12" O.C.

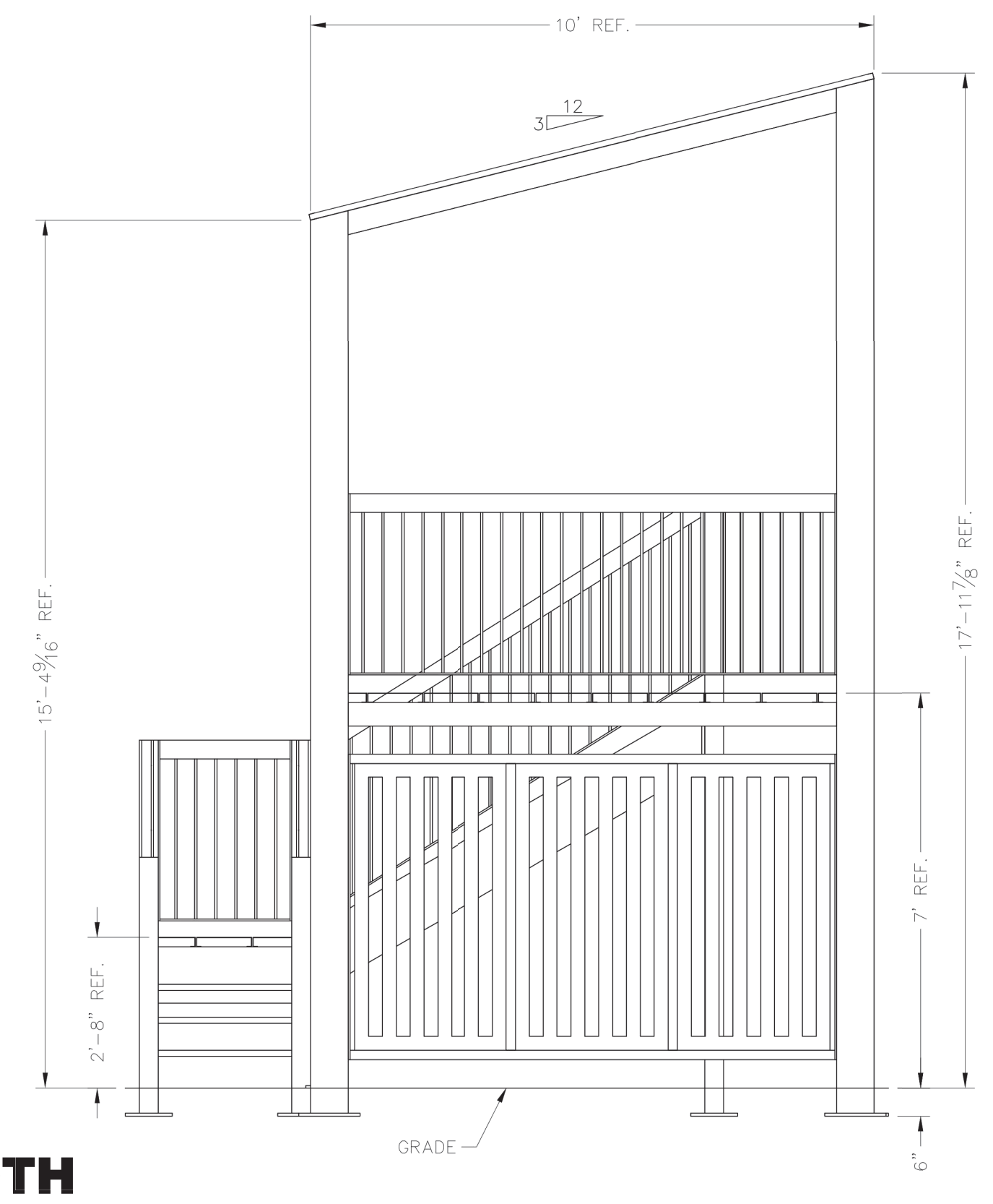
PLAN VIEW


3/4" Ø A.B.'S PER MANUFACTURER'S RECOMMENDATION & LAYOUT
4'
PROPOSED NO. 5 REBAR (3" CLEAR)
PROPOSED NO. 3 STIRRUPS 12" O.C.
CLEAN STONE #57, 12" THICK
COMPACTED SUBGRADE
3' Ø

COLUMN DETAIL





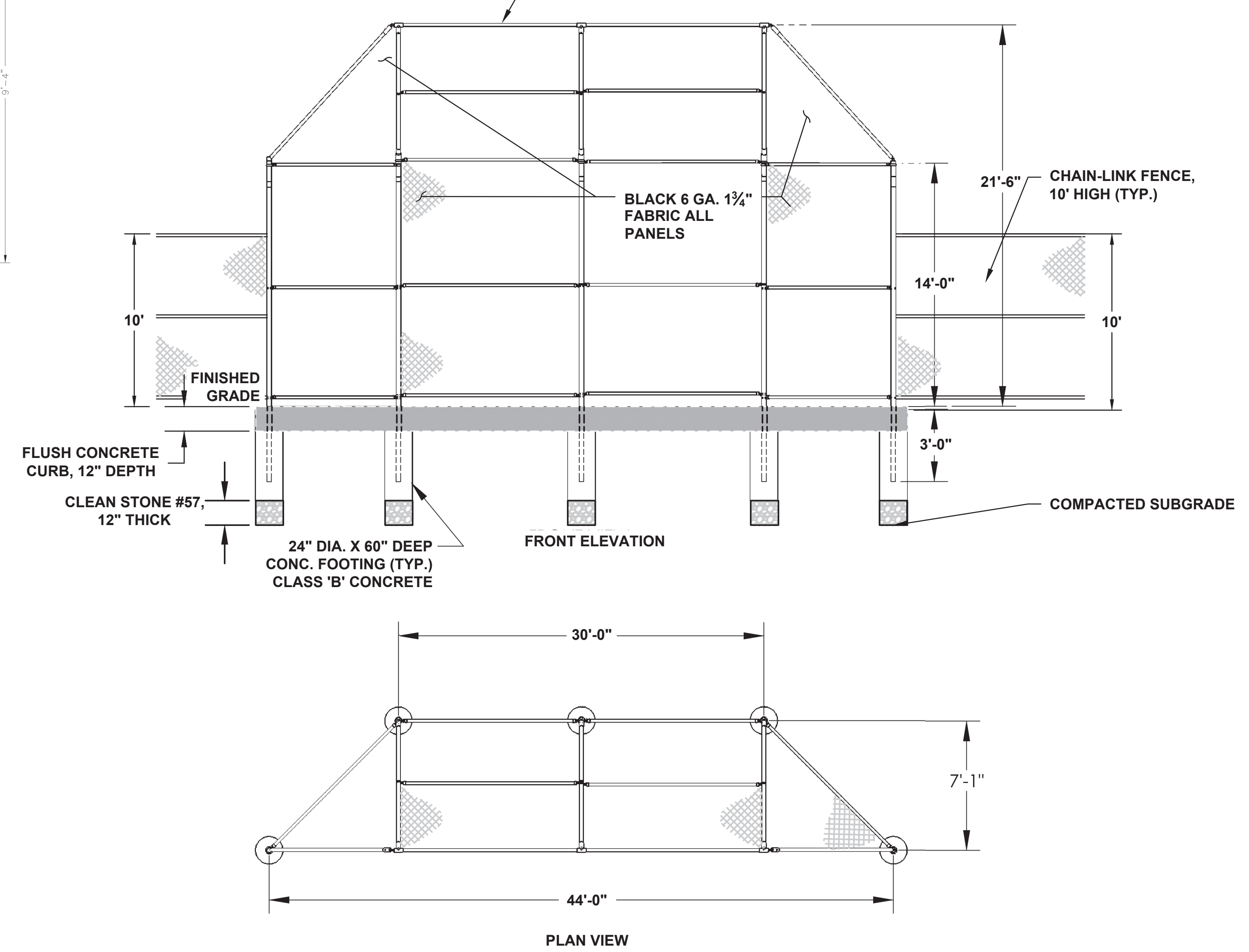


NOTE:

1. ANNOUNCER'S BOOTH SHALL BE CUSTOM RECTANGULAR MONOSLOPE STEEL DESIGN, MODEL NO. CUS10X-15M-P, AS MANUFACTURED BY ICON SHELTERS, OR APPROVED EQUAL.
2. COLORS TO BE DETERMINED BY OWNER FROM MANUFACTURER'S STANDARD POWDERCOAT OPTIONS.
3. CONTRACTOR SHALL SUBMIT A FULL SET OF SHOP DRAWINGS FOR APPROVAL.
4. BASE OF STRUCTURE SHALL HAVE FENCE ENCLOSURE WITH SWING GATE FOR STORAGE PURPOSES.

ANNOUNCER'S BOOTH

N.T.S.


PERMANENT LITTLE LEAGUE BACKSTOP LA STEELCRAFT MODEL LA-1444T OR APPROVED EQUAL (SEE SPECIFICATIONS)
BLACK 6 GA. 1 3/4" FABRIC ALL PANELS
21'-6"
CHAIN-LINK FENCE, 10' HIGH (TYP.)
14'-0"
10'
10'
FINISHED GRADE
3'-0"
FLUSH CONCRETE CURB, 12" DEPTH
CLEAN STONE #57, 12" THICK
24" DIA. X 60" DEEP CONC. FOOTING (TYP.) CLASS 'B' CONCRETE
FRONT ELEVATION
COMPACTED SUBGRADE
30'-0"
7'-1"
44'-0"
PLAN VIEW

CHAIN-LINK BACKSTOP, 21'-6" HIGH (BY OTHERS)

N.T.S.

CONSULTANT:

ANDREW S. HOLT, PE

NY PROFESSIONAL ENGINEER: 095021-1

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LOT 1.1, BLOCK 4
TOWN OF HAVERSTRAW,
ROCKLAND COUNTY, NEW YORK

CHALLENGER LEAGUE FIELD DETAILS

PROJECT NUMBER: SCE-9755.021

SCALE: N.T.S.

SHEET 47 OF 47

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