

# ASHLAND PUBLIC SAFETY BUILDING

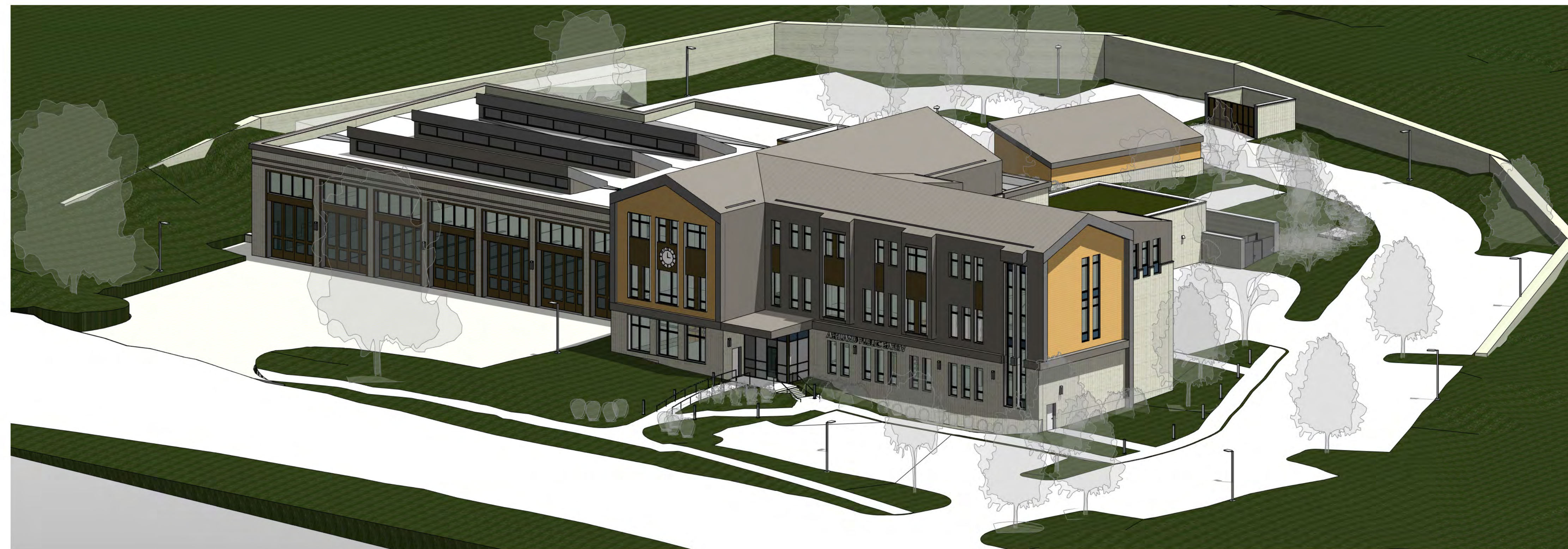
## TOWN OF ASHLAND

12 UNION STREET; ASHLAND, MA

AUGUST 18, 2020  
PLANNING BOARD  
SUBMISSION

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#### SPECIFICATIONS CONSULTANT

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# PROJECT OVERVIEW

**PROPOSAL:**

CONSTRUCTION OF A NEW PUBLIC SAFETY FACILITY TO HOUSE BOTH THE POLICE AND FIRE DEPARTMENTS OF THE TOWN OF ASHLAND IN ORDER TO CONSOLIDATE ALL OFFICES, OPERATIONS AND VEHICLES THAT ARE CURRENTLY SPREAD OVER SEVERAL BUILDINGS AND SITES THROUGHOUT TOWN.

**ZONING DISTRICT:**

WMUSD-B, WILDWOOD MIXED USE DISTRICT

**LOT SIZE:**

166,410 SF (3.82 ACRES)

**BUILDING GROSS SQUARE FOOTAGE:**

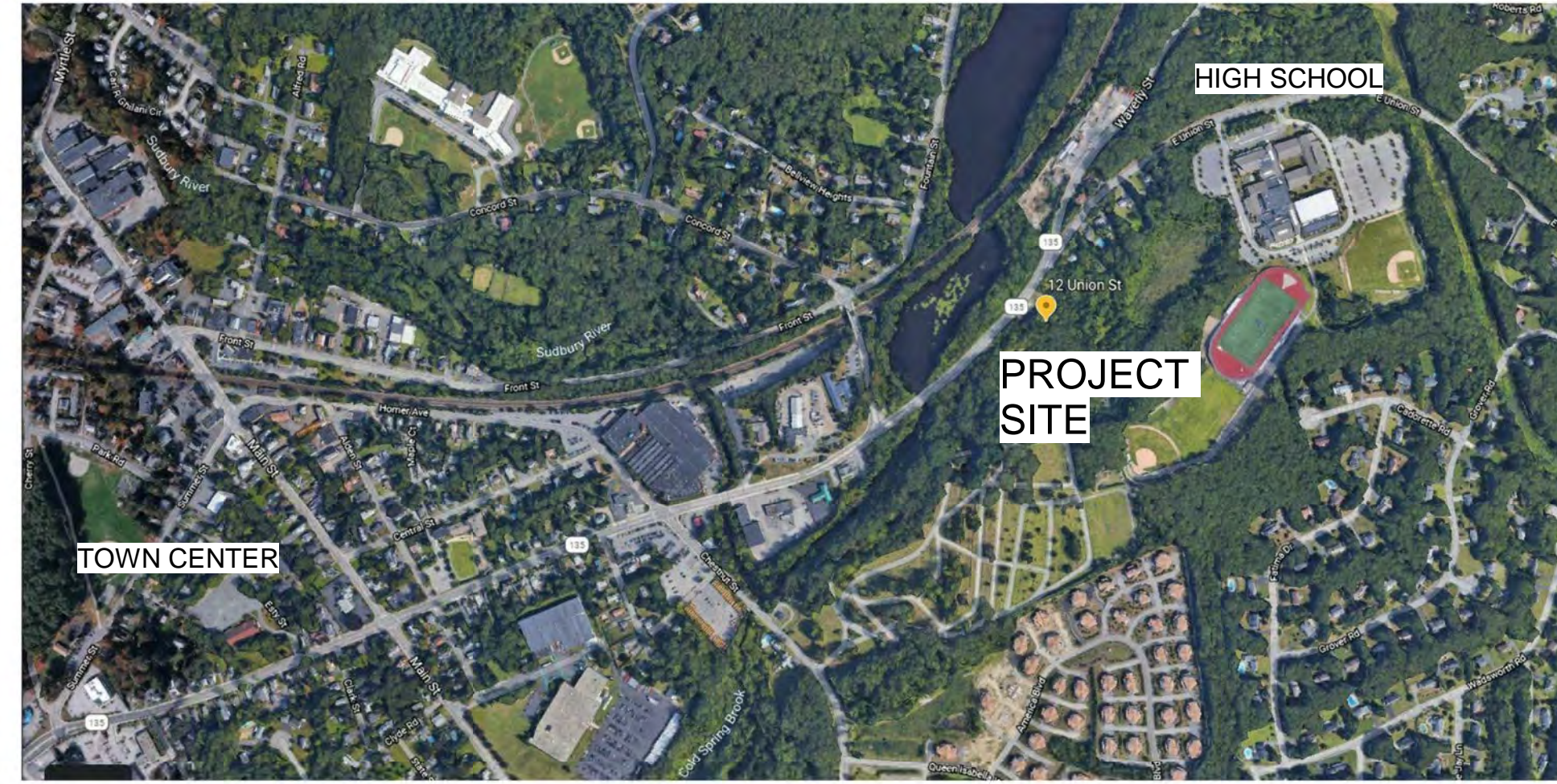
42,000 SF

**BUILDING HEIGHT:**

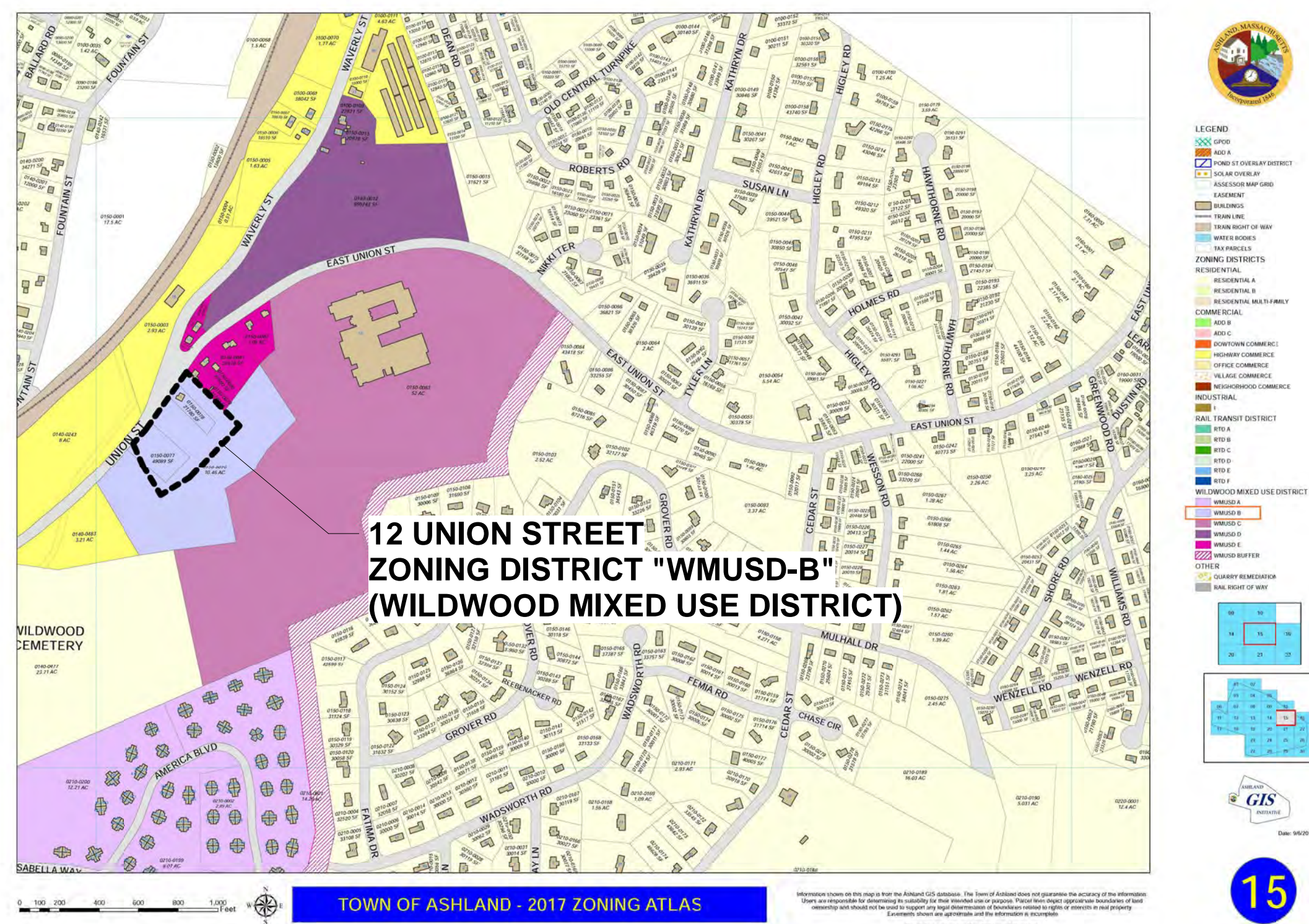
47' - 9"

**CONSTRUCTION TIMELINE:**

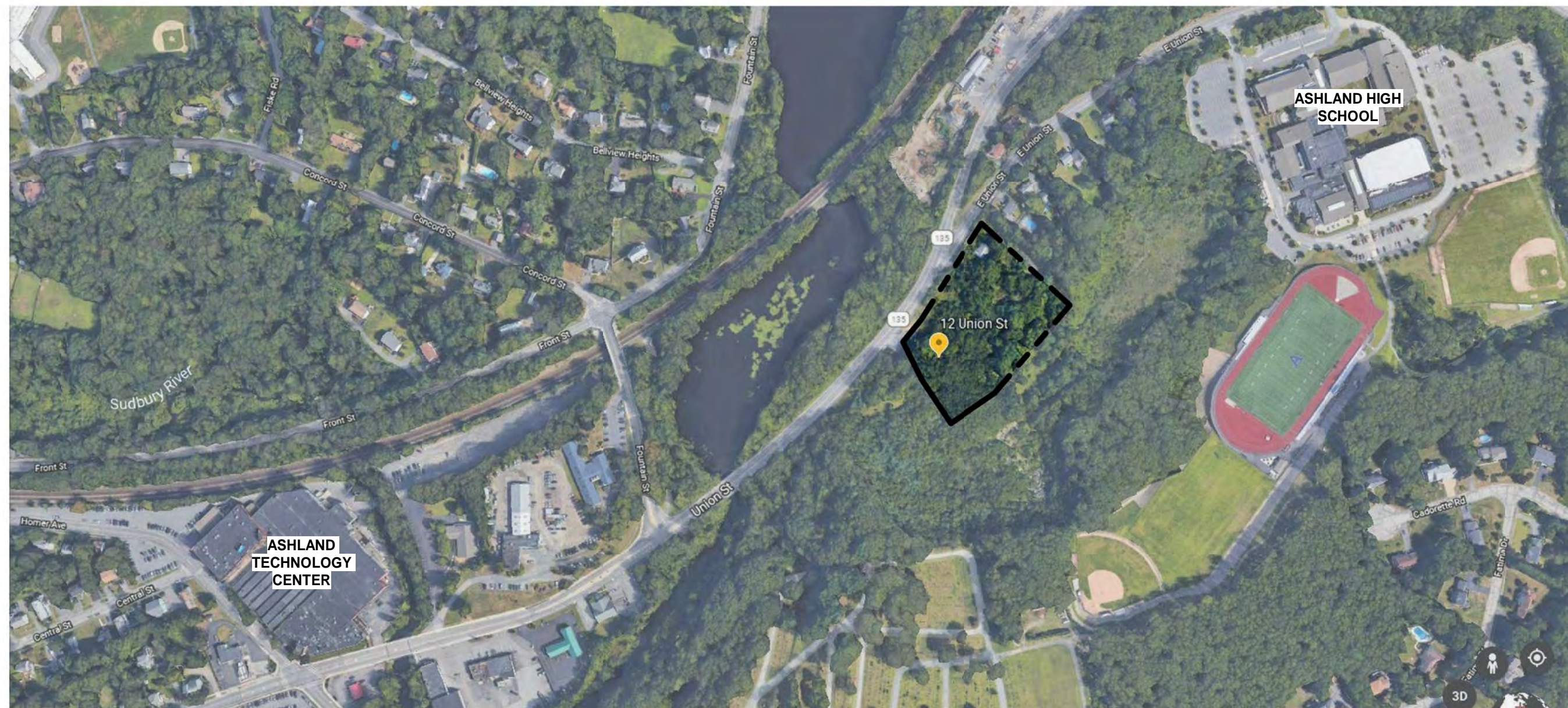
START UP: FEBRUARY 2021  
COMPLETION: APRIL 2022 (62 WEEKS)



VICINITY MAP



MAP\_ZONING



MAP\_CONTEXT

# PROJECT NARRATIVE

**SITE:**

THE SITE AT 12 UNION STREET HAS BEEN CREATED FROM A PORTION OF COMBINED PROPERTIES LOCATED AT 1, 12 AND 16 UNION STREET, AND IS OWNED BY THE TOWN OF ASHLAND. AS PART OF THE PROJECT, (2) NEW DRIVEWAYS WILL BE CREATED ON UNION STREET.

THE SITE IS DEVELOPED TO INCLUDE INTERNAL DRIVEWAYS SOUTH OF THE PROPOSED BUILDING, 69 PARKING SPACES, WALKWAYS, LANDSCAPING, AND A SHOOTING RANGE STRUCTURE. APPURTENANT UTILITIES ARE PROPOSED FOR SERVICE TO THE BUILDING INCLUDING A NEW SEWER CONNECTION, DOMESTIC AND FIRE WATER SERVICES, AND A NEW GAS SERVICE. STORMWATER IS MANAGED ONSITE USING TREE BOX FILTERS, GREEN ROOF, AND INFILTRATION FOR WATER QUALITY, AND DETENTION SYSTEMS TO MANAGE PEAK FLOW RATES. A FULL DESCRIPTION OF THE STORMWATER MANAGEMENT SYSTEM AND ITS COMPLIANCE WITH THE ASHLAND STORMWATER MANAGEMENT BYLAW IS INCLUDED AS AN ATTACHMENT TO THIS APPLICATION. THE PROJECT WILL ALSO BE SUBMITTING AN APPLICATION FOR A STORMWATER MANAGEMENT PERMIT TO THE CONSERVATION COMMISSION.

THE WEST DRIVEWAY WILL PROVIDE ACCES TO PUBLIC AND DEPARTMENTAL PARKING. THE EAST DRIVEWAY WILL PROVIDE FIRE DEPARTMENT VEHICLE ACCESS TO AND FROM THE VEHICLE GARAGE/ APPARATUS BAYS. AT THE EXISTING UNION ST, EAST UNION ST, AND WAVERLY ST INTERSECTION, THE SIGNALS ARE BEING REMOVED AND REPLACED. THE INSTALLATION OF NEW MAST ARMS WILL HELP REDUCE EXISTING AMBIGUITY OF THE SIGNAL HEAD DIRECTIONS AND ADD SIGNAL HEADS FACING THE FIRE STATION APRON. ADDITIONALLY, A RIGHT-HAND TURN LANE FOR THE NORTHBOUND UNION STREET LEG WILL HELP IMPROVE THE LEVEL OF SERVICE AT THE INTERSECTION. A SUMMARY OF THE TRAFFIC ANALYSIS AND RECOMMENDATIONS IS DISCUSSED IN THE TRAFFIC IMPACT ANALYSIS INCLUDED WITH THIS APPLICATION.

IMPACTS TO THE NATURAL ENVIRONMENT HAVE BEEN LIMITED AS MUCH AS POSSIBLE TO ENABLE THIS DEVELOPMENT.

IN JANUARY OF 2020, AN ORDER OF RESOURCE AREA DELINEATION (ORAD) WAS ISSUED BY THE CONSERVATION COMMISSION FOR WETLANDS ON THE PROPERTY TO ASSIST IN THE PLANNING OF THE SITE LAYOUT. THE PROPOSED DEVELOPMENT RESULTS IN LESS THAN 3000 SF OF BORDERING VEGETATED WETLAND FILL AND INCLUDES WORK WITHIN BUFFER ZONES. THE WORK AND IMPACTS TO THE WETLAND RESOURCE AREAS WILL BE MITIGATED THROUGH OFFSITE REPLICATION AND WILL BE REVIEWED BY THE CONSERVATION COMMISSION AS PART OF THE NOTICE OF INTENT APPLICATION.

THE SITE HAS SUBSTANTIAL TOPOGRAPHICAL RELIEF OF 30 FEET ACROSS THE SITE, WITH A LOW POINT IN THE SOUTHWEST CORNER AND THE HIGH POINT IN THE NORTHEAST. AS PART OF THE SITE LAYOUT, SOME CUTS INTO THE EXISTING TOPOGRAPHY WILL BE NECESSARY. TO MITIGATE THE AMOUNT OF CUT NECESSARY, THE BUILDING HAS BEEN DESIGNED TO ACCOMMODATE A SPLIT FIRST FLOOR ELEVATION TO KEEP THE NORTHERN PORTION OF THE BUILDING AT A HIGHER ELEVATION. ADDITIONALLY, THE REAR OF THE BUILDING HAS A WALKOUT AT THE SECOND FLOOR WITH A SLOPED DRIVEWAY UP TO THE REAR PARKING LOT. TO MITIGATE SURFACE WATER AND GROUNDWATER FLOWS FROM THE SURROUNDING PROPERTY FROM IMPACTING THE SITE, A SWALE AT THE TOP OF WALL WILL DIRECT SURFACE FLOW TO MAINTAIN THE HYDROLOGY OF THE ONSITE WETLANDS.

**BUILDINGS:**

THE PROPOSED FACILITY DESIGN IS FOR A NEW 42,000 SF, 3-STORY PUBLIC SAFETY BUILDING FOR THE TOWN OF ASHLAND POLICE AND FIRE DEPARTMENTS ON THE PROPERTY LOCATED AT 12 UNION STREET. THE SITING OF THE BUILDING WAS DETERMINED BY THE REQUIRED LOCATION FOR FIRE DEPARTMENT VEHICLE ACCESS TO UNION STREET, AT THE INTERSECTION OF WAVERLY STREET, AND RESTRICTIONS OF BUILDABLE AREA DETERMINED BY EXISTING WETLANDS ON THE SITE.

A 3-STORY STRUCTURE WAS DETERMINED TO BE THE BEST SOLUTION TO PROVIDE NEEDED PROGRAM SPACE FOR BOTH POLICE AND FIRE DEPARTMENTS WHILE PROVIDING ADEQUATE PARKING AND VEHICLE ACCESSES AROUND THE BUILDING AND MAINTAINING REQUIRED CLEARANCES AT WETLAND AREAS.

GROUND FLOOR USES ARE A SHARED LOBBY, DISPATCH OFFICE AND TRAINING/EMERGENCY OPERATIONS ROOM, AS WELL AS FIRE VEHICLE APPARATUS BAY AND SUPPORT ROOMS, INCLUDING FIREFIGHTER GEAR STORAGE AND DECONTAMINATION ROOMS, POLICE ROLL CALL ROOM, EVIDENCE ROOM, LUNCH ROOM, RECORDS CLERK AND ARCHIVE. POLICE DETENTION CELLS AND SALLY PORT ARE TO THE REAR OF THE SITE AT THIS SAME LEVEL.

SECOND FLOOR USES ARE POLICE LOCKER ROOMS, POLICE ARMORY, A SHARED FITNESS ROOM AND FIRE FIGHTER LIVING QUARTERS AND DAY ROOM.

THE THIRD FLOOR IS USED FOR ADMINISTRATIVE OFFICES AND CONFERENCE ROOMS FOR BOTH DEPARTMENTS.

THE STREET FRONTAGE HAS BEEN DESIGNED TO BE EASILY VISIBLE FROM THE STREET FOR EASY PUBLIC RECOGNITION AND ACCESS. THE MAJORITY OF PARKING AND ACCESSORY STRUCTURES TO THE MAIN BUILDING ARE CONCEALED FROM VIEW, AT THE REAR OF THE SITE. THESE STRUCTURES INCLUDE A CARPORT FOR (4) FIRE VEHICLES, A TRASH ENCLOSURE AND A MODULAR FIRING RANGE.

**ENERGY:**

THE DESIGN OF THE BUILDING ENVELOPE AND INTERNAL SYSTEMS ARE DESIGNED TO EXCEED THE THERMAL REQUIREMENTS OF THE INTERNATIONAL ENERY CONSERVATION CODE AND INCORPORATE MANY SUSTAINBLE FEATURES. INSULATION HAS BEEN INCREASED IN THE WALLS AND ROOF FOR GREATER THERMAL RESISTANCE (R-VALUES), AS WELL AS SPECIFICATION OF WINDOWS AND STOREFRONT SYSTEMS WITH LOW THERMAL TRANSMITTANCE VALUES (U-VALUES).

ALL LIGHT FIXTURES WILL HAVE LED LAMPING, TO MINIMIZE POWER USAGE AND ALL PLUMBING FIXTURES WILL BE WATER SAVING. INTERIOR FINISHES WILL BE SELECTED FOR MINIMUM ENVIRONMENTAL IMPACT, LOW VOC CONTENT AND EITHER HIGH RECYCLED CONTENT, OR ABILITY TO BE RECYCLED. THE ROOFS ARE ALSO BEING DESIGNED TO BE SOLAR READY, SO PHOTOVOTAIC PANELS CAN BE INSTALLED IN THE FUTURE.

AS PART OF THE BUILDING DESIGN, GEOTHERMAL WELLS WILL BE INSTALLED WITHIN THE SITE AS PART OF THE MAIN BUILDINGS' HEATING AND COOLING SYSTEM. (2) ROOF GARDENS, ONE AT THE SECOND FLOOR AND THE OTHER AT THE THIRD FLOOR WILL REDUCE STORMWATER RUNOFF FROM THE ROOFS AND FURTHER INSULATE THE ROOFS BELOW. ADDITIONALLY, (2) ELECTRIC VEHICLE CHARGING STATIONS AND (2) GREEN VEHICLE SPACES ARE PART OF THE PARKING SCHEME.

**COMMUNITY BENEFITS:**

CURRENT ESTIMATES FOR TOTAL PROJECT COST IS \$33,204,153. THE PROJECT TEAM'S INTENT IS TO PRESENT THE FUNDING REQUEST AT TOWN MEETING IN DECEMBER.

THE PROJECT WILL BE A SOLUTION TO DEFICIENCIES IN STORAGE, OPERATIONS AND SECURITY IN EXISTING POLICE AND FIRE FACILITIES CURRENTLY LOCATED ACROSS SEVERAL SITES AROUND THE TOWN. THE PROJECT WILL ALLOW FOR THE CONSOLIDATION OF ALL ADMINISTRATIVE STAFF, OPERATIONAL SUPPORT SPACES, DETENTION AREAS AND VEHICULAR STORAGE AND MAINTENANCE IN A COMBINED FACILITY THAT WILL ALLOW FOR MORE EFFICIENCIES BETWEEN THE TWO DEPARTMENTS AND BETTER SERVICE FOR THE COMMUNITY. THE PROVISION OF A NEW TRAINING AND EMERGENCY OPERATIONS ROOM WILL ALSO SERVE AS A RESOURCE FOR COMMUNITY USES.



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Revision Schedule	Number	Revision	Date

Registrations

Consultants

Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

Drawing Title  
MAPS & PROJECT OVERVIEW & NARRATIVE

PJC  
Drawn by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number  
G001

Revision Schedule		
Number	Revision	Date

Registrations

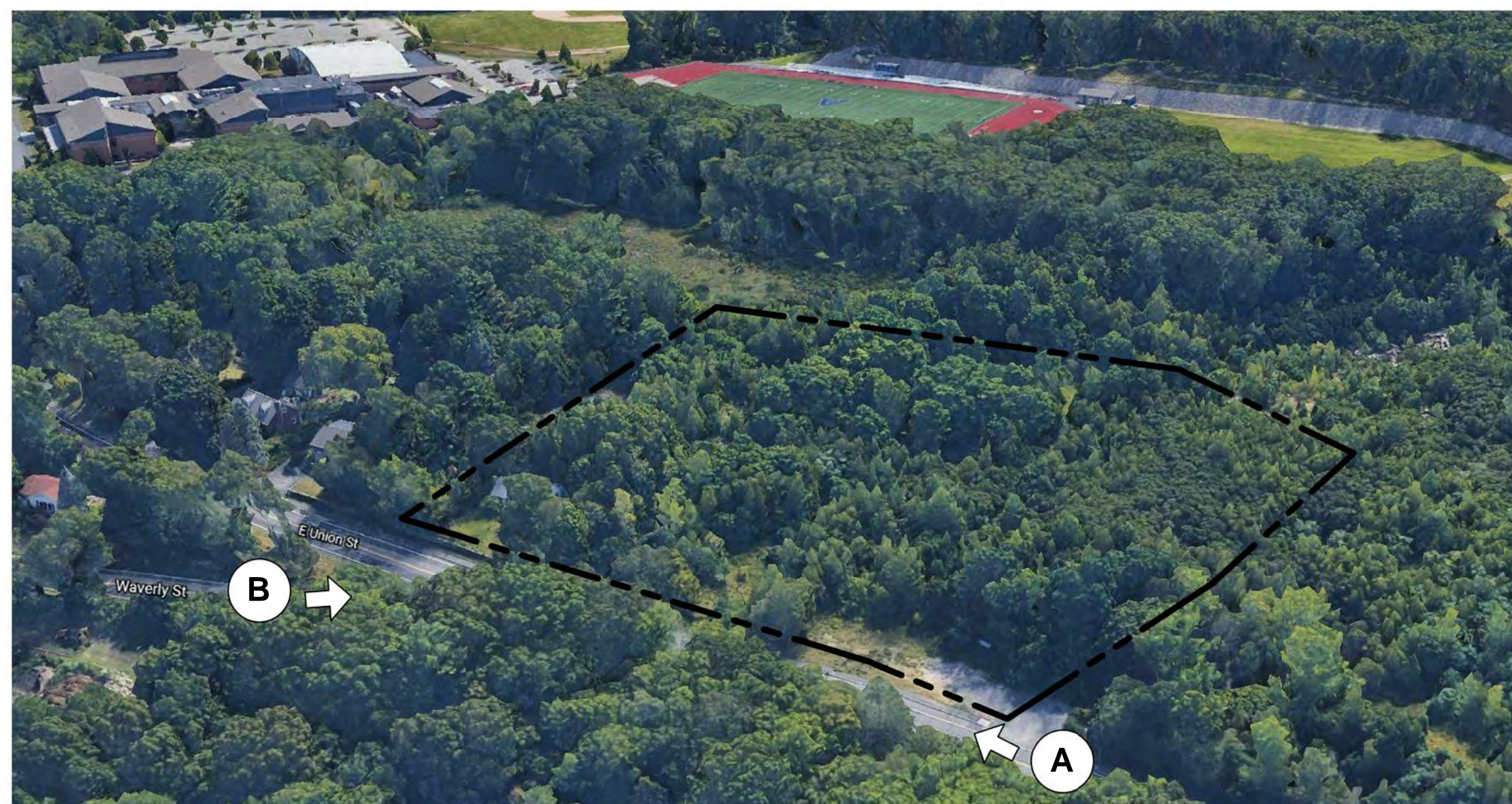
Consultants



A - VIEW LOOKING EAST ALONG UNION STREET



B - VIEW LOOKING WEST ALONG UNION STREET



SITE AERIAL



MAP\_SITE



Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

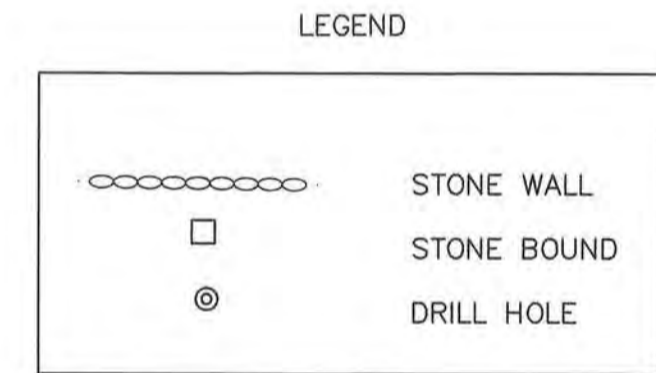
Drawing Title  
EXISTING CONDITIONS

PJC PJC  
Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
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SUBMISSION

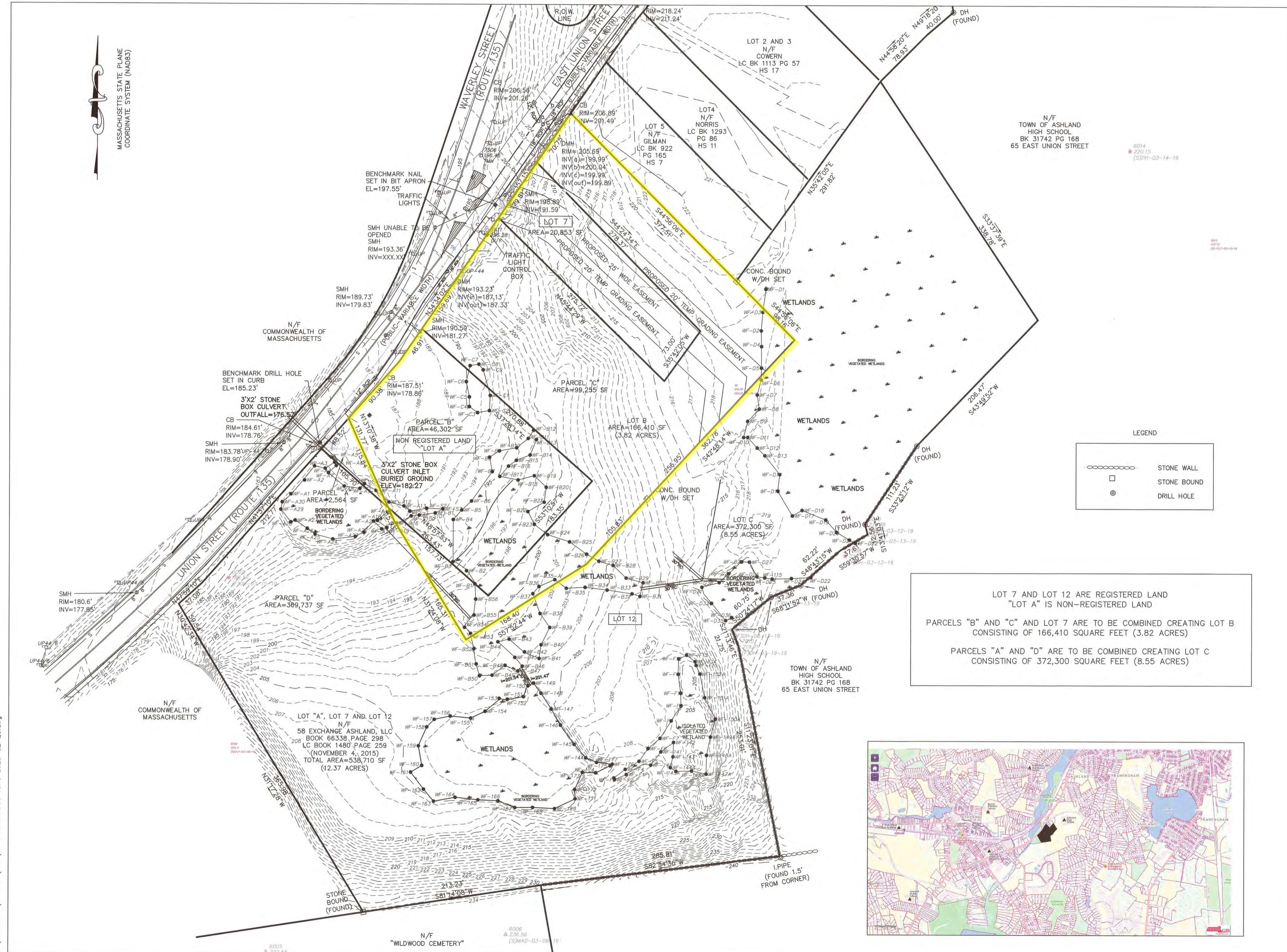
Drawing number  
G002



- NOTES
- SEE THE FOLLOWING PLANS RECORDED AT THE MIDDLESEX DISTRICT REGISTRY OF DEEDS—  
 PLAN 934 OF 2000  
 LC PLAN 14371D 1995  
 LC PLAN 147371B 1948  
 LC PLAN 14371A 1931  
 STATE LAYOUT 4365 1955
  - THE FIELD SURVEY HAD A TOTAL LINEAR DISTANCE OF 3915.72' WITH A RAW CLOSURE OF 0.09' FOR AN ADJUSTMENT CALCULATED TO A PRECISION OF 1:43,508. THE TOTAL STATION USED WAS LEICA TS12.
  - I CERTIFY THAT THE LOTS SHOWN ON THIS PLAN HAVE FRONTAGE ON A PUBLIC WAY THAT WAS SHOWN ON PREVIOUS PLANS REFERENCED ABOVE, APPROVED IN ACCORDANCE WITH THE SUBDIVISION CONTROL LAW, OF AT LEAST SUCH DISTANCE, IF ANY, AS IS REQUIRED BY ORDINANCE OR BY-LAW OF SAID CITY OR TOWN FOR ERECTION OF A BUILDING ON SUCH LOT, AND IF NO DISTANCE IS SO REQUIRED, HAS SUCH FRONTAGE OF AT LEAST TWENTY FEET.
  - PLAN REFERS TO NAD 83 HORIZONTAL COORDINATE SYSTEM.
  - PLAN REFERS TO NAVD 88 VERTICAL DATUM.
  - WATER LINE SHOWN HEREON OWNED AND OPERATED BY THE TOWN OF ASHLAND.

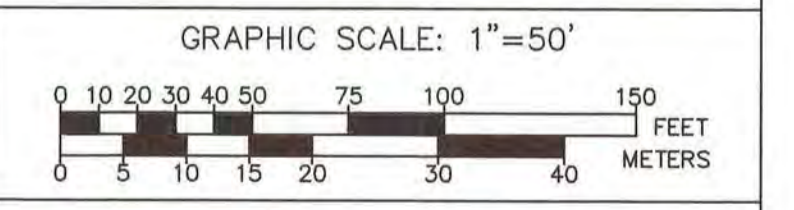


LOT 7 AND LOT 12 ARE REGISTERED LAND  
 "LOT A" IS NON-REGISTERED LAND  
 PARCELS "B" AND "C" AND LOT 7 ARE TO BE COMBINED CREATING LOT B  
 CONSISTING OF 166,410 SQUARE FEET (3.82 ACRES)  
 PARCELS "A" AND "D" ARE TO BE COMBINED CREATING LOT C  
 CONSISTING OF 372,300 SQUARE FEET (8.55 ACRES)



OWNER:  
 58 EXCHANGE ASHLAND, LLC  
 120 QUARRY DRIVE  
 MILFORD MA 01757

TOPOGRAPHIC  
 PLAN OF LAND  
 1 EAST UNION STREET AND  
 12-16 UNION STREET (ROUTE 135)  
 MIDDLESEX COUNTY  
**ASHLAND, MASS.**  
 SCALE: 1"=50'  
 DATE: APRIL 7, 2020



**Guerriere & Halon, Inc.**  
 ENGINEERING & LAND SURVEYING  
 333 WEST STREET PH. (508) 473-6630  
 MILFORD, MA 01757 FX. (508) 473-8243  
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Revision Schedule		
Number	Revision	Date

Registrations

Consultants



Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

**REFERENCE**

- PROJECT LOCATION: 12-16 UNION STREET, ASHLAND, MA 01721  
ASSESSOR'S MAP 150, PORTIONS OF LOTS 76, 77, AND 78.
- EXISTING CONDITIONS MAPPING TAKEN FROM PLAN ENTITLED "TOPOGRAPHIC PLAN OF LAND 1 EAST UNION STREET AND 12-16 UNION STREET (ROUTE 135) MIDDLESEX COUNTY ASHLAND, MASS. PREPARED BY GUERRIERE & HALNON, INC. DATED APRIL 7, 2020.
- WETLAND FLAGS IDENTIFYING WETLAND RESOURCE AREAS WERE PLACED BY PARE CORPORATION ON SEPTEMBER 11, 2018 AND LOCATED BY GUERRIERE & HALNON, INC.

**GENERAL NOTES**

- THE COMMONWEALTH OF MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGE CONSTRUCTION, 2020 EDITION OR LATEST REVISION, AND THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION CONSTRUCTION STANDARD DETAILS ARE MADE A PART HEREOF AS FULLY AND COMPLETELY AS IF ATTACHED HERETO. ALL WORK SHALL MEET OR EXCEED THE MASSACHUSETTS STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, WITH LATEST REVISIONS. THE LATEST REVISION OF THE STANDARD SPECIFICATIONS MAY BE OBTAINED AT THE MASSACHUSETTS DEPARTMENT OF TRANSPORTATION.
- THE CONTRACTOR SHALL MAKE ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS, PAY ALL FEES AND POST ALL BONDS ASSOCIATED WITH THE SAME, AND COORDINATE WITH THE ENGINEER AND OWNER'S REPRESENTATIVE AS REQUIRED.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE CONTRACTOR SHALL PROVIDE TEMPORARY FENCING AND/OR BARRIERS AROUND ALL OPEN EXCAVATED AREAS IN ACCORDANCE WITH OSHA FEDERAL, STATE, AND LOCAL REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER AND THE ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK WHICH WOULD BE AFFECTED. NO FIELD ADJUSTMENTS IN THE LOCATION OF SITE ELEMENTS SHALL BE MADE WITHOUT THE ENGINEER'S APPROVAL.
- IF ANY DEVIATION OR ALTERATION OF THE WORK PROPOSED ON THESE DRAWINGS IS REQUIRED, THE CONTRACTOR SHALL IMMEDIATELY CONTACT AND COORDINATE ANY DEVIATIONS WITH THE ENGINEER AND OWNER.
- ANY AREA OUTSIDE OF THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
- ALL SITE WORK SHALL MEET OR EXCEED THE SITE WORK SPECIFICATIONS PREPARED FOR THIS PROJECT.
- ALL SIGNS SHALL BE REFLECTORIZED TYPE III SHEETING AND CONFORM WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST REVISION.
- ALL UNDERGROUND UTILITIES (LOCATION AND ELEVATION) DEPICTED SHALL BE CONSIDERED APPROXIMATE ONLY. BEFORE COMMENCING SITE WORK IN ANY AREA, CONTACT "DIG SAFE" AT 1-888-DO-DIG-SAFE (1-888-344-7233) TO ACCURATELY LOCATE UNDERGROUND UTILITIES. ANY AND ALL DAMAGE TO EXISTING UTILITIES OR STRUCTURES, DEPICTED OR NOT DEPICTED ON THE PLANS SHALL BE THE CONTRACTORS RESPONSIBILITY. COST TO REPAIR THE DAMAGES TO INITIAL CONDITIONS SHALL BE THE CONTRACTOR'S RESPONSIBILITY. NO EXCAVATION SHALL BE DONE UNTIL UTILITY COMPANIES ARE PROPERLY NOTIFIED.
- NO EXCAVATION SHALL BE DONE UNTIL COMPANIES ARE PROPERLY NOTIFIED IN ADVANCE. NOTE THAT NOT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL RESPECTIVE UTILITY COMPANIES TO VERIFY AND LOCATE EXISTING UTILITIES.
- ALL MATERIALS SHALL BE FURNISHED AND INSTALLED NEW AND IN GOOD WORKING CONDITION. REUSED MATERIALS ON SITE SHALL ONLY BE AS SPECIFICALLY NOTED ON THE PLAN SET.

**LAYOUT NOTES**

- ALL LINES ARE PERPENDICULAR OR PARALLEL TO THE LINES FROM WHICH THEY ARE MEASURED UNLESS OTHERWISE INDICATED.
- ACCESSIBLE RAMPS SHALL BE PER THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES AND CODE OF MASSACHUSETTS REGULATIONS (CMR) TITLE 521 OF THE ARCHITECTURAL ACCESS BOARD REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING BENCHMARKS ON SITE, PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL PERFORM BENCHMARK FIELD LEVEL VERIFICATION AND COORDINATE LAYOUT CHECK. THE CONTRACTOR SHALL CONTACT PARE CORPORATION IF ANY DISCREPANCIES ARE FOUND.
- DIMENSIONS OF PARKING SPACES AND DRIVEWAYS ARE FROM FACE OF CURB TO FACE OF CURB. DIMENSIONS FROM BUILDING ARE FROM FACE OF BUILDING TO FACE OF CURB.
- ALIGN WALKWAYS ON DOORWAYS THEY GUIDE TO PROVIDE MINIMUM REQUIRED MANEUVERING CLEARANCE IN ACCORDANCE WITH THE AMERICAN WITH DISABILITIES ACT (ADA) ACCESSIBILITY GUIDELINES AND CODE OF MASSACHUSETTS REGULATIONS (CMR) TITLE 521 OF THE ARCHITECTURAL ACCESS BOARD REGULATIONS.

**DEMOLITION NOTES**

- THE CONTRACTOR SHALL COORDINATE ALL DEMOLITION OF STRUCTURES, PAVEMENT AND CONCRETE MATERIALS, AND UTILITIES WITH APPROPRIATE PROPOSED SITE GENERAL, GRADING, UTILITY, AND LANDSCAPING DRAWINGS.
- ALL NOTED UTILITIES TO BE REMOVED AND DISPOSED OF, RELOCATED OR CAPPED REPRESENT ALL KNOWN SITE CONDITIONS TO BE DEMOLISHED. THE CONTRACTOR SHALL COORDINATE ALL UNFORESEEN CONDITIONS WITH THE PROJECT ENGINEER, OWNER AND/OR RESPECTIVE UTILITY COMPANIES PRIOR TO PROCEEDING WITH WORK.
- WATER, SEWER, DRAINAGE, GAS, AND ALL OTHER SITE UTILITIES SERVICING THE EXISTING FACILITIES ARE TO REMAIN ACTIVE THROUGHOUT CONSTRUCTION.
- THESE SHALL BE NO INTERRUPTION OF UTILITY SERVICES DURING THE CONSTRUCTION OPERATION WITHOUT APPROVAL OF THE OWNER AND THE RESPECTIVE UTILITY OWNER/DEPARTMENT.

**GRADING AND UTILITY NOTES**

- ALL WORK PERFORMED AND ALL MATERIALS FURNISHED SHALL CONFORM WITH THE LINES AND GRADES ON THE PLANS AND SITE WORK SPECIFICATIONS.
- AT ALL LOCATIONS WHERE EXISTING CURBING OR PAVEMENT ABUT NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE. BLEND NEW PAVEMENT AND CURBS SMOOTHLY INTO EXISTING BY MATCHING LINES, GRADES AND JOINTS.
- ALL UTILITY COVERS, GRATES, ETC. SHALL BE ADJUSTED TO BE FLUSH WITH THE SURROUNDING SURFACE OR PAVEMENT FINISH GRADE. RIM ELEVATIONS OF STRUCTURES AND MANHOLES ARE APPROXIMATE. FINAL ELEVATIONS ARE TO BE SET FLUSH AND CONSISTENT WITH THE GRADING PLANS.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION OF PRIVATE UTILITIES BY THE UTILITY COMPANIES, AS REQUIRED.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR AND THE INFORMATION SHALL BE PROVIDED ON A SKETCH TO SCALE OF THE EXISTING UTILITY WITH TIES TO KNOWN POINTS, PHOTOS AND FURNISHED TO THE ENGINEER FOR RESOLUTION.
- THE CONTRACTOR SHALL PROTECT ALL UNDERGROUND DRAINAGE, SEWER AND UTILITY FACILITIES FROM EXCESSIVE VEHICULAR LOADS DURING CONSTRUCTION. ANY DAMAGE TO THESE FACILITIES RESULTING FROM CONSTRUCTION LOADS SHALL BE RESTORED TO ORIGINAL CONDITION.
- PROPOSED GAS, ELECTRIC, AND COMMUNICATIONS ROUTING ARE SUBJECT TO REVIEW AND APPROVAL BY APPROPRIATE UTILITY COMPANIES.
- DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL PROTECT EXISTING UTILITIES BY PROVIDING TEMPORARY SUPPORTS OR SHEETING AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER.
- ALL GRAVITY SANITARY PIPING SHALL BE SDR-35 PVC. ALL SEWER CONSTRUCTION SHALL CONFORM TO THE ASHLAND SEWER DEPARTMENT REGULATIONS.
- ALL PROPOSED WATER LINE BENDS AND TEES SHALL BE REINFORCED WITH THRUST BLOCKS. ALL WATER DISTRIBUTION PIPING AND FITTINGS MUST ADHERE TO THE ASHLAND WATER DEPARTMENT SPECIFICATIONS AND SHALL BE INSPECTED BEFORE, DURING, AND AFTER CONSTRUCTION PRIOR TO TAPPING THE SERVICE MAIN.
- EXCAVATION REQUIRED WITHIN THE PROXIMITY OF EXISTING UTILITY LINES SHALL BE DONE BY HAND. CONTRACTOR SHALL REPAIR ANY DAMAGE TO EXISTING UTILITY LINES OR STRUCTURES INCURRED DURING CONSTRUCTION OPERATIONS AT NO COST TO THE OWNER.
- PITCH EVENLY BETWEEN SPOT GRADES. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MIN. OF 1/8" PER FOOT.
- THE PROPOSED WALKWAYS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5%, NO TOLERANCE, AS SHOWN ON CONSTRUCTION DETAILS AND GRADING PLAN.

**CATCH BASINS WITH SUMPS INSPECTION, MAINTENANCE, AND REPAIR NOTES**

- INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR (SPRING/FALL). UNITS SHALL BE CLEANED ANNUALLY AND WHENEVER THE DEPTH OF SEDIMENT IS GREATER THAN OR EQUAL TO HALF THE SUMP DEPTH.
- THE INLET GRATE SHALL NOT BE WELDED TO THE FRAME OR PAVED OVER SO THAT THE SUMP CAN BE EASILY INSPECTED AND MAINTAINED.
- CARE SHALL BE TAKEN TO AVOID DAMAGING AND DISPLACING HOODS PLACED ON HOODED OUTLETS DURING CLEANING.

**EROSION AND SEDIMENTATION CONTROL NOTES - MASSACHUSETTS**

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING ALL TEMPORARY SOIL EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION AGENCY'S (EPA) NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) CONSTRUCTION GENERAL PERMIT (CGP) AND THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL PREPARE AND SUBMIT AN ELECTRONIC NOTICE OF INTENT (NOI) WITH THE EPA IN ACCORDANCE WITH THE NPDES PERMIT REQUIREMENTS PRIOR TO CONSTRUCTION.
- SOIL EROSION AND SEDIMENTATION CONTROLS SHALL BE PROVIDED IN ACCORDANCE WITH THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" AND THE NOTES AND DETAILS SHOWN IN THIS PLAN SET.
- THE INTENT OF THE PLANS PROVIDED IS TO CONTROL EROSION ON THE SITE. THE CONTRACTOR SHALL UTILIZE THE PLANS PROVIDED, HOWEVER THE CONTRACTOR IS, AT ALL TIMES, RESPONSIBLE FOR THE CONTROL OF EROSION ON THE SITE. THE EROSION AND SEDIMENTATION CONTROLS SHOWN ON THE PLANS ARE INTENDED TO REPRESENT THE MINIMUM CONTROLS NECESSARY TO MEET ANTICIPATED SITE CONDITIONS. ADDITIONAL MEASURES SHALL BE IMPLEMENTED AS CONDITIONS WARRANT OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- PERIMETER CONTROLS SHALL BE PROPERLY ESTABLISHED, CLEARLY VISIBLE AND IN OPERATION PRIOR TO INITIATING ANY LAND CLEARING ACTIVITY AND/OR OTHER CONSTRUCTION RELATED WORK. SUCH FACILITIES SHALL REPRESENT THE LIMIT OF WORK. WORKERS SHALL BE INFORMED THAT NO CONSTRUCTION ACTIVITY IS TO OCCUR BEYOND THE LIMIT OF WORK AT ANY TIME THROUGHOUT THE CONSTRUCTION PERIOD.
- CONSTRUCTION SHALL BE PHASED TO LIMIT THE AREA OF EXPOSED SOIL AND THE DURATION OF EXPOSURE. ALL DISTURBED AREAS SHALL BE TEMPORARILY AND/OR PERMANENTLY STABILIZED WITHIN 14 DAYS FOLLOWING COMPLETION OF GRADING ACTIVITIES.
- THE CONTRACTOR SHALL INSPECT AND MAINTAIN ALL EROSION AND SEDIMENTATION CONTROL MEASURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED ON A WEEKLY BASIS AND AFTER EACH STORM EVENT OF 0.25 INCH OR GREATER CONSTRUCTION TO ENSURE THAT THE EROSION CONTROL BARRIERS ARE INTACT.
- CLEAN AND MAINTAIN SEDIMENTATION CONTROL BARRIERS WHEN SEDIMENT ACCUMULATES TO ONE HALF THE HEIGHT OF THE BARRIER. MATERIAL COLLECTED FROM THE SEDIMENTATION BARRIER SHALL BE REMOVED AS NECESSARY AND DISPOSED IN AN UPLAND AREA.
- THE CONTRACTOR SHALL MAINTAIN A SUFFICIENT RESERVE OF VARIOUS EROSION CONTROL MATERIALS ONSITE AT ALL TIMES FOR EMERGENCY PURPOSES OR ROUTINE MAINTENANCE.
- THE CONTRACTOR SHALL SCHEDULE HIS WORK TO ALLOW THE FINISHED SUB GRADE ELEVATIONS TO DRAIN PROPERLY WITHOUT PUDDLING. SPECIFICALLY, ALLOW WATER TO ESCAPE WHERE PROPOSED CURB MAY RETAIN RUNOFF PRIOR TO PAVING. PROVIDE TEMPORARY POSITIVE DRAINAGE, AS REQUIRED, TO STABILIZED DISCHARGE POINTS.
- SOIL AND OTHER MATERIALS RESULTING FROM SITE CLEARING MAY BE RECYCLED AND/OR REUSED ON THE SITE AS APPROPRIATE. WASTE MATERIALS SHALL BE REMOVED FROM THE SITE, AT NO ADDITIONAL COST TO THE OWNER.
- CRUSHED STONE CONSTRUCTION ENTRANCES SHALL BE ESTABLISHED AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
- TEMPORARY DIVERSIONS (TD) MAY CONSIST OF A DITCH OR SWALE, OR MAY BE ACHIEVED USING WOOD CHIP PILES, COIR LOGS, OR SIMILAR MATERIALS.
- TEMPORARY SEDIMENT TRAPS (TST) AND TEMPORARY SWALES (TS) SHALL BE SIZED BY THE CONTRACTOR USING THE PARAMETERS CONTAINED IN THE MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES.
- STORMWATER SHALL BE CONTROLLED BY SPRINKLING OR OTHER APPROVED METHODS AS NECESSARY, OR AS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE.
- CATCH BASINS AND STORM DRAINS SHALL BE PROTECTED WITH INLET PROTECTION IN PAVED AREAS UNTIL CONTRIBUTING AREA IS PERMANENTLY STABILIZED.
- DEWATERING WASTEWATER PUMPED FROM EXCAVATIONS SHALL BE CONVEYED BY HOSE TO AN UPLAND AREA AND DISCHARGED INTO A DEWATERING BASIN; HAY BALE CORRALS, OR SEDIMENTATION BAGS.
- CONSTRUCTION SITE WASTE MATERIALS SHALL BE PROPERLY CONTAINED ONSITE AND DISPOSED OFF SITE AT A LOCATION IN ACCORDANCE WITH THE LOCAL AND STATE REGULATIONS, AT NO ADDITIONAL COST TO THE OWNER.
- RIPRAP OR OTHER ENERGY DISSIPATORS SHALL BE USED WHERE NECESSARY TO CONTROL EROSION.
- ANY EQUIPMENT THAT IS NOT READILY MOBILE (TRACK MACHINERY) SHALL BE PARKED WITHIN THE PROJECT LIMIT OF DISTURBANCE. LARGE AND/OR BULKY MATERIALS SHALL BE STORED SUCH THAT THEY DO NOT INTERFERE WITH THE ONGOING CONSTRUCTION ACTIVITIES OR EROSION CONTROL MEASURES.
- NEWLY VEGETATED AREAS SHALL BE REGULARLY INSPECTED AND MAINTAINED TO ENSURE THE ESTABLISHMENT OF STABLE VEGETATED SURFACES.
- THE CONTRACTOR SHALL NOT REMOVE ANY COMPOST FILTER SOCKS OR OTHER EROSION CONTROLS UNTIL THE CONTRIBUTING AREA IS PERMANENTLY STABILIZED.
- ALL DRAINAGE STRUCTURES SHALL BE CLEARED OF ACCUMULATED SEDIMENT PRIOR TO ACCEPTANCE OF THE FINAL PROJECT.
- ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 14 DAYS UPON COMPLETION OF WORK IN THAT AREA.

**STORMWATER MANAGEMENT SYSTEM INSPECTION AND MAINTENANCE NOTES**

**DURING CONSTRUCTION (CONTRACTOR'S RESPONSIBILITY)**

- THE CONTRACTOR SHALL REMOVE SEDIMENT AND DEBRIS FROM ALL CATCH BASINS, MANHOLES, AND THE DRAINAGE SYSTEM ON A ROUTINE BASIS, IMMEDIATELY FOLLOWING SITE STABILIZATION, AND PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- THE CLOSED DRAINAGE SYSTEM AND ASSOCIATED STRUCTURES SHALL BE CLEANED AND FLUSHED BY THE CONTRACTOR AT THE COMPLETION OF CONSTRUCTION, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM UNTIL ACCEPTANCE OF THE SYSTEM BY THE ENGINEER AND THE TOWN OF ASHLAND. FOLLOWING ACCEPTANCE OF THE PROPOSED DRAINAGE SYSTEM, THE OWNER OF THE SITE SHALL BE RESPONSIBLE FOR THE LONG-TERM INSPECTION AND MAINTENANCE OF THE DRAINAGE SYSTEM.
- ANY ACCUMULATION OF PONDING WATER IN AREAS WITHIN THE LIMITS OF DISTURBANCE, OTHER THAN DESIGNATED AREAS, SHALL BE REMOVED ACCORDINGLY AND PREVENTED IN THE FUTURE.

**POST-CONSTRUCTION (OWNER'S RESPONSIBILITY)**

- TRASH, LITTER, SEDIMENT AND OTHER DEBRIS SHALL BE REMOVED FROM ANY STORMWATER MANAGEMENT SYSTEM FACILITY (INCLUDING BUT NOT LIMITED TO CATCH BASINS, MANHOLES, INLETS, OUTLET STRUCTURES, AND STORMWATER BEST MANAGEMENT PRACTICES (BMPs)) AT LEAST TWICE A YEAR, ONCE IN THE SPRING AND ONCE IN THE FALL, AT THE COST OF THE OWNER.
- THE PARKING LOT, ENTRY DRIVES, AND SIDEWALKS SHALL BE SWEEP BY THE OWNER AS EARLY AS POSSIBLE EVERY SPRING AND ONCE IN THE FALL TO REMOVE SEDIMENT.
- ALL CLEANING AND MAINTENANCE OF STORMWATER MANAGEMENT SYSTEMS POST-CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE OWNER.

**UNDERGROUND INFILTRATION/DETENTION SYSTEM BASIN INSPECTION, MAINTENANCE, AND REPAIR NOTES**

FOLLOWING ACCEPTANCE OF THE FACILITIES, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

- THE SYSTEM SHALL BE MAINTAINED AS RECOMMENDED BY THE MANUFACTURER.
- FOLLOWING STORM EVENTS WITH RAINFALL EXCEEDING 3.1"
  - INSPECT INFILTRATION/DETENTION SYSTEM FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
- BI-ANNUALLY
  - INSPECTIONS SHALL BE PERFORMED A MINIMUM OF TWO TIMES PER YEAR ON THE INSPECTION PORTS AND DRAINAGE STRUCTURES AND OUTLET CONTROL STRUCTURES OF THE UNDERGROUND INFILTRATION/DETENTION SYSTEM TO ENSURE PROPER OPERATION OF THE SYSTEM.

**TREE BOX FILTER INSPECTION, MAINTENANCE, AND REPAIR NOTES**

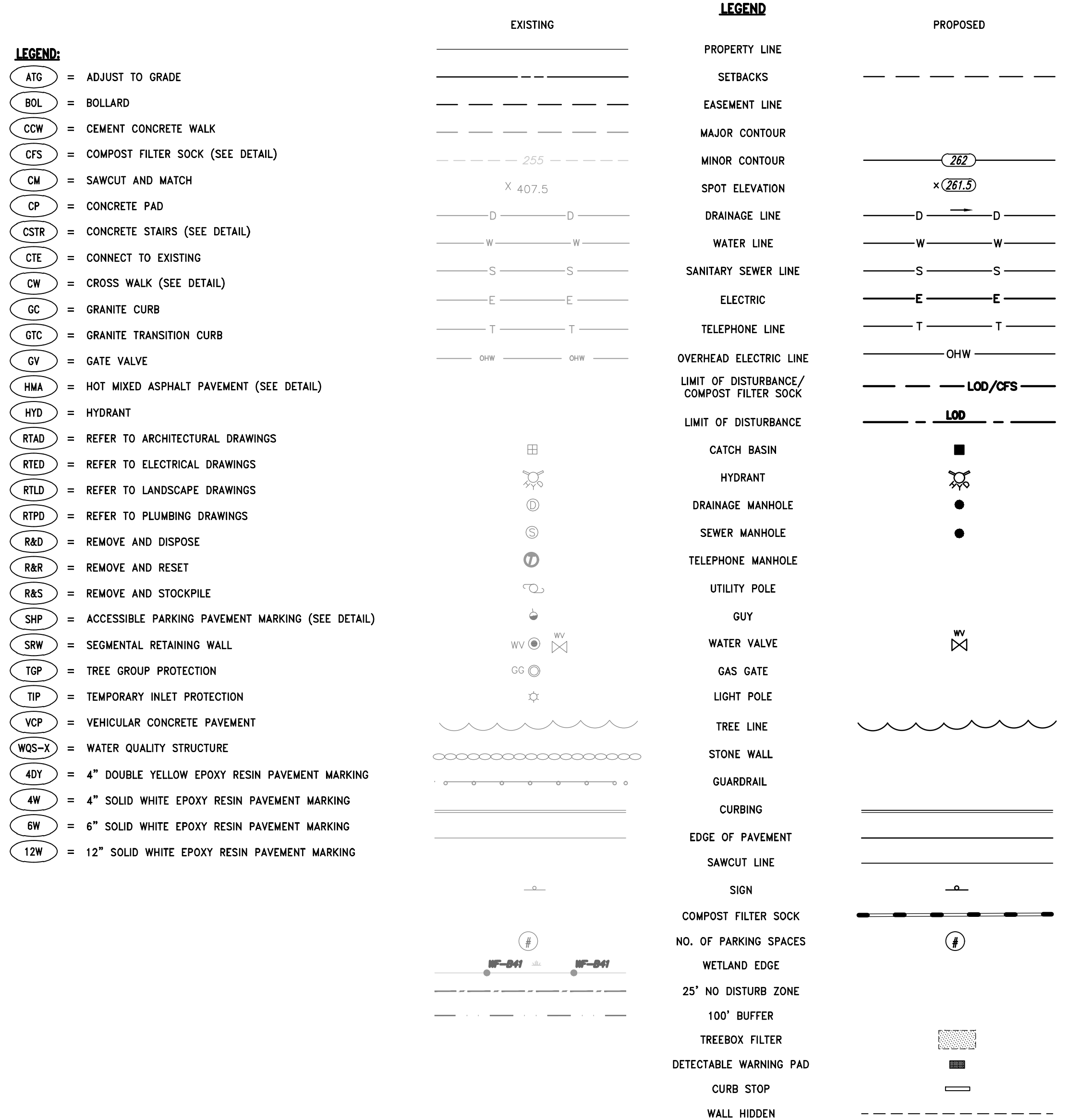
FOLLOWING ACCEPTANCE OF THE FACILITIES, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

- INSPECTIONS, MAINTENANCE, AND REPAIRS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.
- HYDRODYNAMIC SEPARATORS SHALL BE INSPECTED TWICE A YEAR TO MONITOR ACCUMULATED SEDIMENT.
- THE STRUCTURE SHOULD BE CLEANED WHEN THE SEDIMENT HAS ACCUMULATED TO A DEPTH OF TWO FEET IN THE TREATMENT CHAMBER. THIS DETERMINATION CAN BE MADE BY TAKING TWO MEASUREMENTS WITH A STADIA ROD OR SIMILAR MEASURING DEVICE; ONE MEASUREMENT FROM THE MANHOLE OPENING TO THE TOP OF THE SEDIMENT PILE AND THE OTHER FROM THE MANHOLE OPENING TO THE WATER SURFACE.

**TREE BOX FILTER INSPECTION, MAINTENANCE, AND REPAIR NOTES**

FOLLOWING ACCEPTANCE OF THE FACILITIES, THE COMPLETION OF THE INSPECTION AND MAINTENANCE REQUIREMENTS BELOW SHALL BE THE RESPONSIBILITY OF THE OWNER.

- THE TREE FILTER SHALL BE INSPECTED AFTER EVERY MAJOR STORM OF 3.1" OR GREATER FOR TRASH, DEBRIS, SEDIMENT, EROSION, STANDING WATER, AND OVERALL PERFORMANCE. DEFECTS SHALL BE REPAIRED BY THE OWNER.
- OWNER SHALL RE-MULCH TREE BOX FILTERS IN SPRING EVERY YEAR.
- REMOVE ACCUMULATED SEDIMENT FROM THE FILTER AREA ANNUALLY IN THE SPRING OR IF SEDIMENT EXCEEDS 1 INCH IN THE FILTER AREA. REMOVE ACCUMULATED SEDIMENT FROM THE SEDIMENT FOREBAY QUARTERLY OR IF SEDIMENT REACHES HALF THE DESIGN DEPTH OR MORE.
- THE TREE BOX FILTERS SHALL BE INSPECTED AFTER THE FIRST TWO STORM EVENTS OF 1" OR MORE IN THE FIRST 6 MONTHS AFTER CONSTRUCTION.
- IF PONDING EXCEEDS 48 HOURS, REMOVE AND REPLACE DISCOLORED SURFACE MATERIAL.
- IF RUNOFF TAKES MORE THAN 36 HOURS TO FLOW FROM THE SEDIMENT FOREBAY TO THE TREE BOX FILTERS, THE SPILLWAY SHALL BE CLEANED.



**CONSTRUCTION NOTES - MASSDOT STANDARDS**

- 106.3.0 = METHOD OF SETTING VERTICAL CURB - M.A. STD. 106.3.0
- 107.2.0 = WHEELCHAIR RAMPS FOR LESS THAN 12'-4" SIDEWALK - M.A. STD. 107.2.0
- 107.6.0 = WHEELCHAIR RAMPS FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL - M.A. STD. 107.6.0
- 107.6.5 = DETECTABLE WARNING PANEL FOR WHEELCHAIR RAMPS - M.A. STD. 107.6.5
- 107.9.0 = CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS - M.A. STD. 107.9.0
- 201.4.0 = PRECAST CONCRETE CATCH BASIN - M.A. STD. 201.4.0
- 201.6.0 = CATCH BASIN FRAME - M.A. STD. 201.6.0
- 201.12.0 = CATCH BASIN HOOD - M.A. STD. 201.12.0
- 202.4.0 = PRECAST CONCRETE MANHOLES 9" OR LESS IN DEPTH - M.A. STD. 202.4.0
- 202.6.0 = MANHOLE FRAME AND COVER - A FRAME - M.A. STD. 202.6.0
- 202.8.0 = MANHOLE COVER DETAILS - M.A. STD. 202.8.0

**ABBREVIATIONS**

- ADA = AMERICANS WITH DISABILITIES ACT
- ASSF = AREA SUBJECT TO STORM FLOWAGE
- BW = BENCHMARK
- BMP = BEST MANAGEMENT PRACTICE
- BIT = BITUMINOUS
- BTM = BOTTOM
- BC = BOTTOM OF CURB (FINISHED GRADE ON LOW SIDE OF CURB)
- BS = BOTTOM OF STAIR (FINISHED GRADE AT BOTTOM STAIR)
- BW = BOTTOM OF WALL (FINISHED GRADE ON LOW SIDE OF WALL)
- CI = CAST IRON
- CB = CATCH BASIN, 4' DIA. UNLESS OTHERWISE NOTED
- CLD = CEMENT-LINED DUCTILE IRON
- CL = CLASS
- CO = CLEANOUT
- CMR = CODE OF MASSACHUSETTS REGULATIONS
- CONC. = CONCRETE
- CO = CONCRETE CURB, VERTICAL
- DEM = DEMOLITION
- DIA = DIAMETER
- DIV = DIVERSION
- DYL = DOUBLE YELLOW LINE
- DW = DRAIN MANHOLE
- EOP = EDGE OF PAVEMENT
- ELEV. = ELEVATION
- EX. EXIST. = EXISTING
- EXCB = EXISTING CATCH BASIN
- EDWH = EXISTING DRAIN MANHOLE
- FTE = FINISH FLOOR ELEVATION
- FT = FOOT
- FND = FOUND
- GTD = GRADE TO DRAIN
- MIN. = MINIMUM
- HDPE = HIGH DENSITY POLYETHYLENE PIPE
- HMA = HOT MIX ASPHALT
- HYD = HYDRANT
- I.D. = INNER DIAMETER
- INVT = INVERT
- LOD = LIMIT OF DISTURBANCE
- LP = LOW POINT
- MUTC = MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION
- MAX. = MAXIMUM
- MIN. = MINIMUM
- MON. = MONITORING
- N.T.S. = NOT TO SCALE
- OWS = OIL WATER SEPARATOR
- OC = OUTLET CONTROL STRUCTURE
- PERF. = PERFORATED
- PE = POLYETHYLENE
- PVC = POLYVINYL CHLORIDE
- R=x" = RADIUS
- RC = REINFORCED CONCRETE PIPE
- MASSDOT = MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION
- MASSDOT STD. = MASSACHUSETTS STANDARD
- MASSDOT = MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
- SMH = SEWER MANHOLE
- SW = SINGLE SOLID WHITE LINE
- SECS = SOIL EROSION AND SEDIMENT CONTROL
- SDR = STANDARD DIMENSIONAL RATIO
- TD = TEMPORARY DIVERSION
- TST = TEMPORARY SEDIMENT TRAP
- TSW = TEMPORARY SWALE
- TP = TEST PIT
- TD = TOP OF CURB
- TS = TOP OF STAIR (FINISHED GRADE OF TOP STAIR)
- TW = TOP OF WALL
- TYE = TYPICAL
- UP = UTILITY POLE
- VGR = VERTICAL GRANITE CURB
- VC = VITRIFIED CLAY
- WPA = WATER PAINT MARK
- W = WITH
- YD = YARD DRAIN

ZONING TABLE			
EXISTING ZONE: WILDOOD MIXED USE SPECIAL DISTRICT (WMUSD)			
MUNICIPAL BUILDINGS ARE ALLOWED BY RIGHT			
TOTAL LOT AREA* = 166,400 SF± (3.82 AC±)			
BUILDING AREA GROSS FLOOR AREA = 42,000 SF±			
	REQUIRED	EXISTING	PROPOSED
BUILDING SETBACK		NO EXIST. BLDG	
FRONT SETBACK	25 FT	N/A	56 FT
SIDE SETBACK	25 FT	N/A	57 FT (FRING RANGE)
REAR SETBACK	50 FT	N/A	78 FT (GARPORT)
MINIMUM LOT AREA	40,000 SF	166,400 SF±	166,400 SF±
MINIMUM LOT WIDTH	150 FT	150 FT	150 FT
MAXIMUM NO. OF STORIES	5	N/A	3

\* THE PARCEL WAS SUBDIVIDED IN 2019 THROUGH AN ANR PROCESS. THE PARCEL INCLUDES PORTIONS OF PARCELS PREVIOUSLY DESIGNATED ON THE TOWN OF ASHLAND ASSESSOR'S MAP 15, LOT 76 AND 77, AND THE ENTIRE PARCEL PREVIOUSLY DESIGNATED ON THE ASSESSOR'S MAP 15, LOT 78.

PARKING SUMMARY		
STANDARD SPACES (9'x20')	REQUIRED	PROPOSED
**	3	66
ACCESSIBLE SPACES *	**	3
TOTAL SPACES	**	69

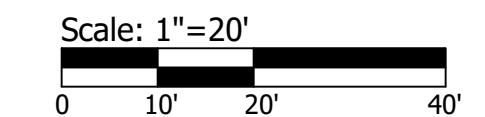
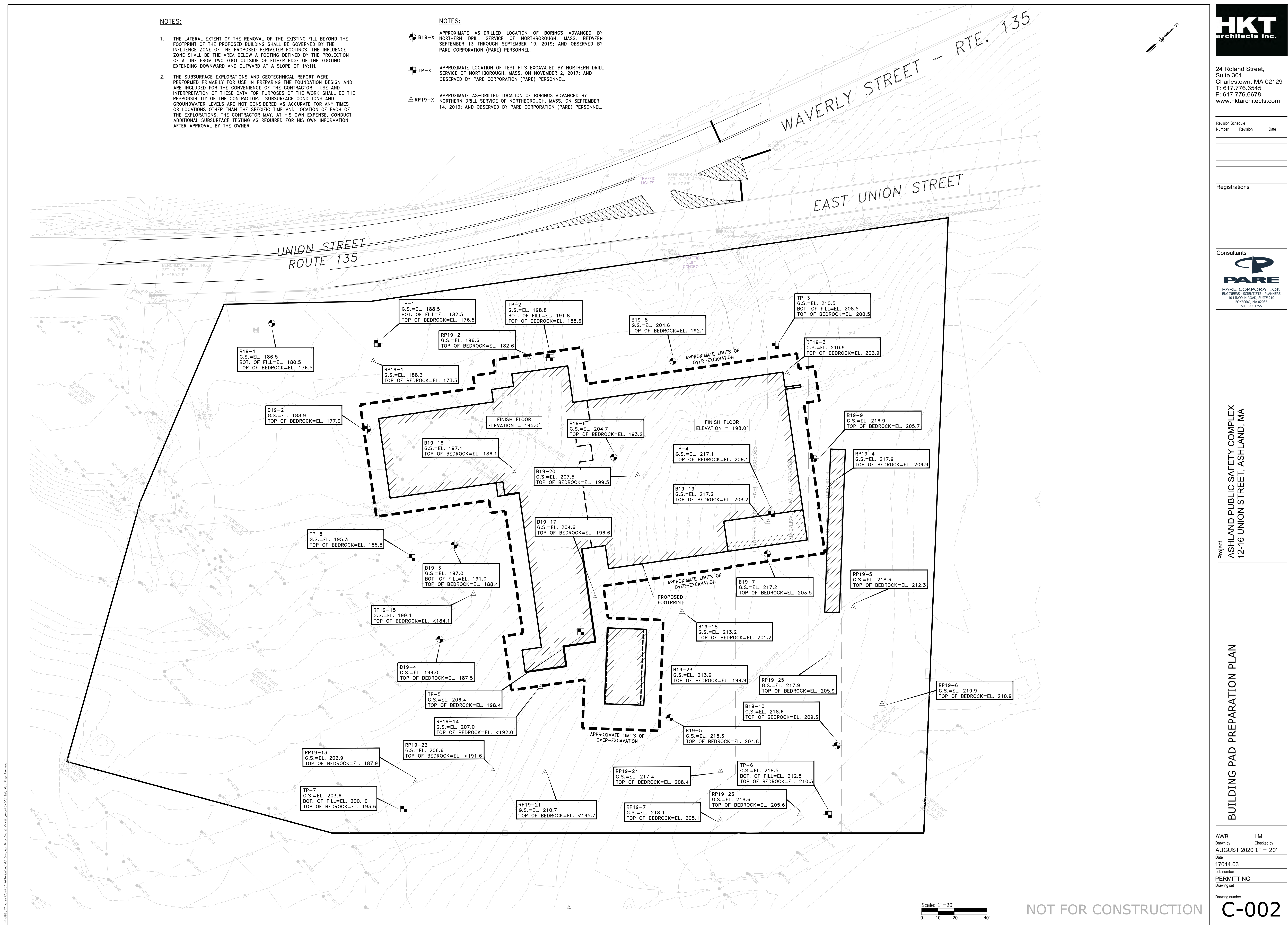
\* ADA REQUIREMENT FOR PARKING LOT 51 TO 75 TOTAL SPACES = 3 SPACES  
 \*\* PER SECTION 5.1.2 TABLE IN THE TOWN OF ASHLAND ZONING BY-LAWS, PARKING REQUIREMENTS FOR USES NOT LISTED INDICATED AS "OTHERS" ARE INDIVIDUALLY DETERMINED BY THE BUILDING INSPECTOR UPON ADVISORY REPORT OF THE PLANNING BOARD WHERE REQUIRED IN COMPLIANCE WITH SECTION 9.4, SITE PLAN REVIEW".

NOTES:

1. THE LATERAL EXTENT OF THE REMOVAL OF THE EXISTING FILL BEYOND THE FOOTPRINT OF THE PROPOSED BUILDING SHALL BE GOVERNED BY THE INFLUENCE ZONE OF THE PROPOSED PERIMETER FOOTINGS. THE INFLUENCE ZONE SHALL BE THE AREA BELOW A FOOTING DEFINED BY THE PROJECTION OF A LINE FROM TWO FOOT OUTSIDE OF EITHER EDGE OF THE FOOTING EXTENDING DOWNWARD AND OUTWARD AT A SLOPE OF 1V:1H.
2. THE SUBSURFACE EXPLORATIONS AND GEOTECHNICAL REPORT WERE PERFORMED PRIMARILY FOR USE IN PREPARING THE FOUNDATION DESIGN AND ARE INCLUDED FOR THE CONVENIENCE OF THE CONTRACTOR. USE AND INTERPRETATION OF THESE DATA FOR PURPOSES OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. SUBSURFACE CONDITIONS AND GROUNDWATER LEVELS ARE NOT CONSIDERED AS ACCURATE FOR ANY TIMES OR LOCATIONS OTHER THAN THE SPECIFIC TIME AND LOCATION OF EACH OF THE EXPLORATIONS. THE CONTRACTOR MAY, AT HIS OWN EXPENSE, CONDUCT ADDITIONAL SUBSURFACE TESTING AS REQUIRED FOR HIS OWN INFORMATION AFTER APPROVAL BY THE OWNER.

NOTES:

- B19-X APPROXIMATE AS-DRILLED LOCATION OF BORINGS ADVANCED BY NORTHERN DRILL SERVICE OF NORTHBOROUGH, MASS. BETWEEN SEPTEMBER 13 THROUGH SEPTEMBER 19, 2019; AND OBSERVED BY PARE CORPORATION (PARE) PERSONNEL.
- TP-X APPROXIMATE LOCATION OF TEST PITS EXCAVATED BY NORTHERN DRILL SERVICE OF NORTHBOROUGH, MASS. ON NOVEMBER 2, 2017; AND OBSERVED BY PARE CORPORATION (PARE) PERSONNEL.
- △ RP19-X APPROXIMATE AS-DRILLED LOCATION OF BORINGS ADVANCED BY NORTHERN DRILL SERVICE OF NORTHBOROUGH, MASS. ON SEPTEMBER 14, 2019; AND OBSERVED BY PARE CORPORATION (PARE) PERSONNEL.



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Revision Schedule		
Number	Revision	Date

Registrations

Consultants

**PARE**  
PARE CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 02035  
508-943-1755

Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

BUILDING PAD PREPARATION PLAN

AWB LM  
Drawn by Checked by  
AUGUST 2020 1" = 20'  
Date  
17044.03  
Job number  
PERMITTING  
Drawing set  
Drawn number

C-002

Revision Schedule		
Number	Revision	Date

Registrations

Consultants



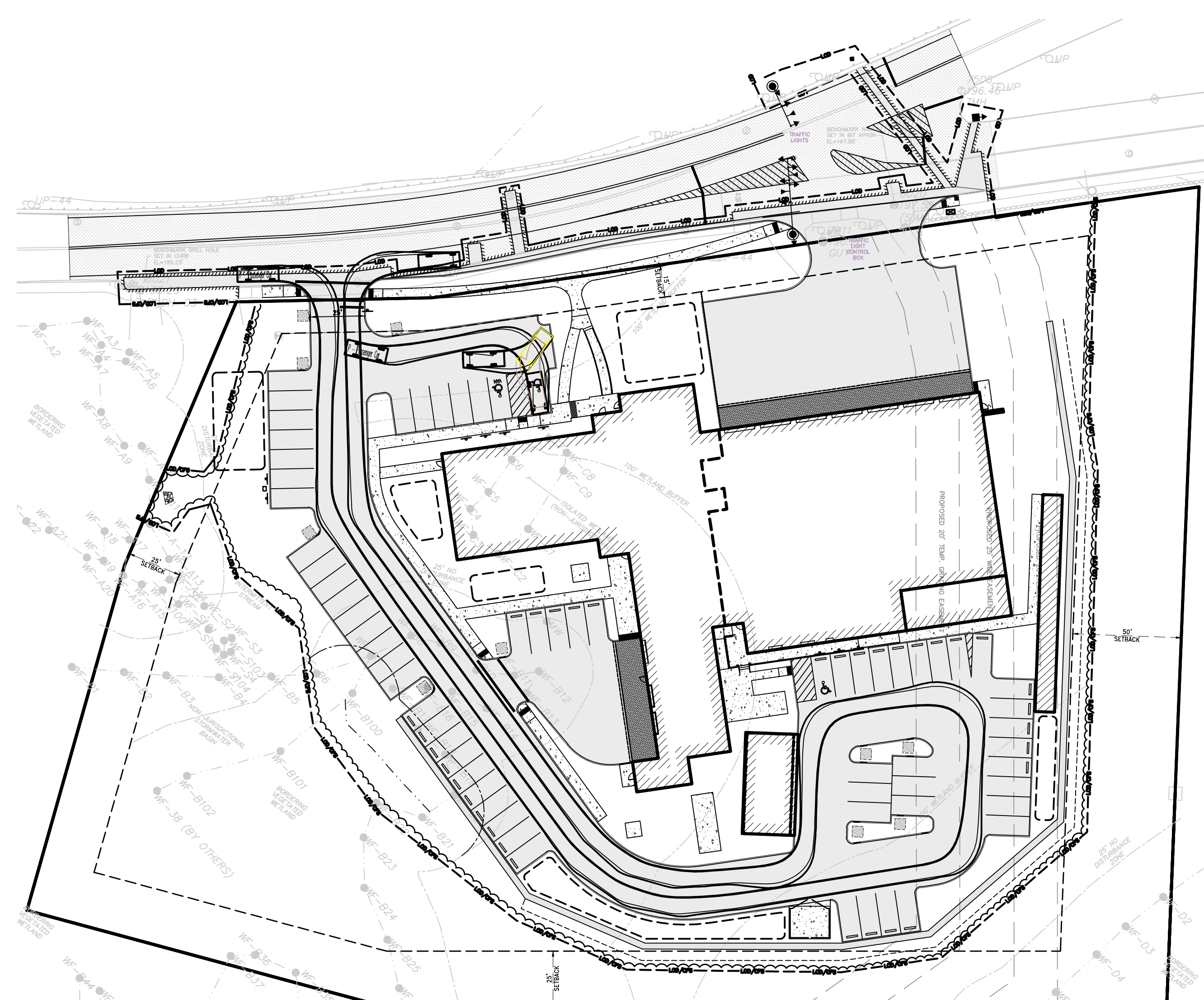
**PARE**  
CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 02035  
508-943-1755

Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

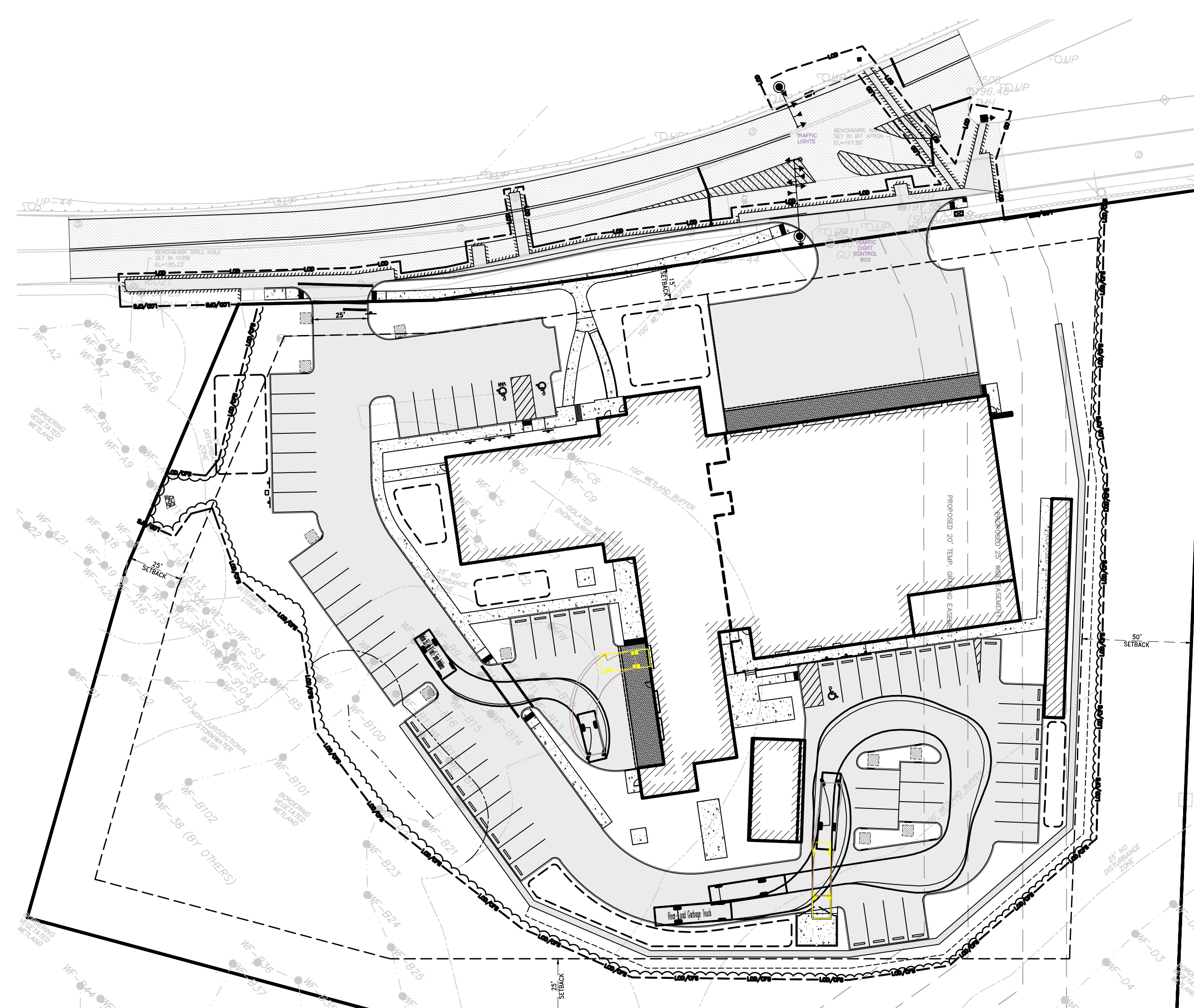
VEHICLE TURNING PLAN

AWB LM  
Drawn by  
Checked by  
AUGUST 2020 1" = 40'  
Date  
17044.03  
Job number  
PERMITTING  
Drawing set

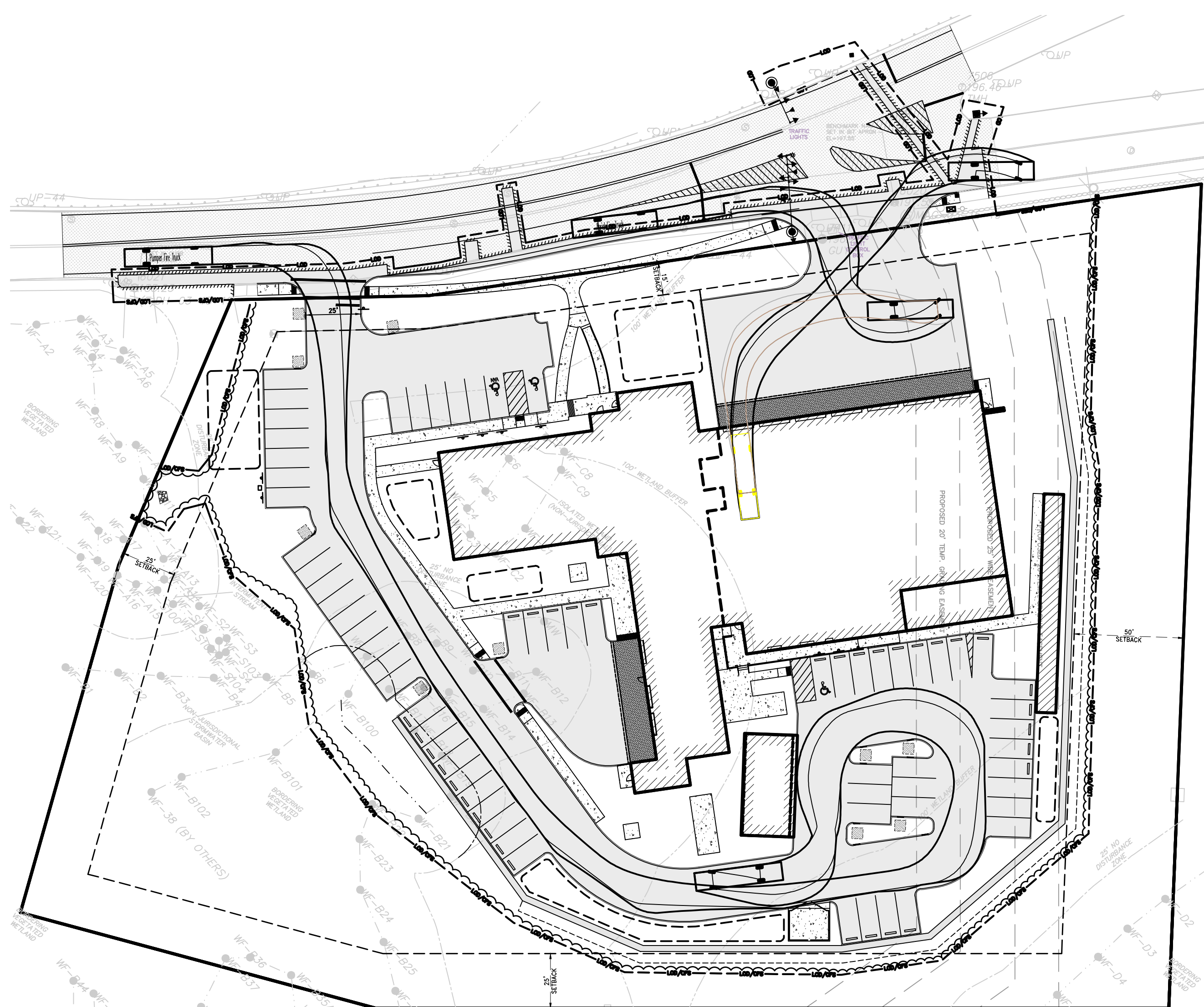
Drawing number  
**C-003**



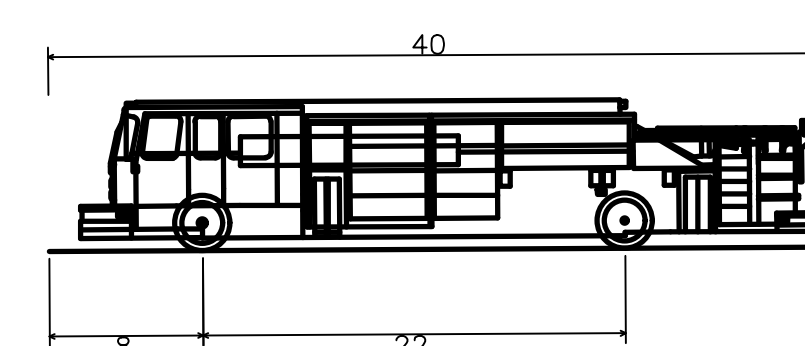
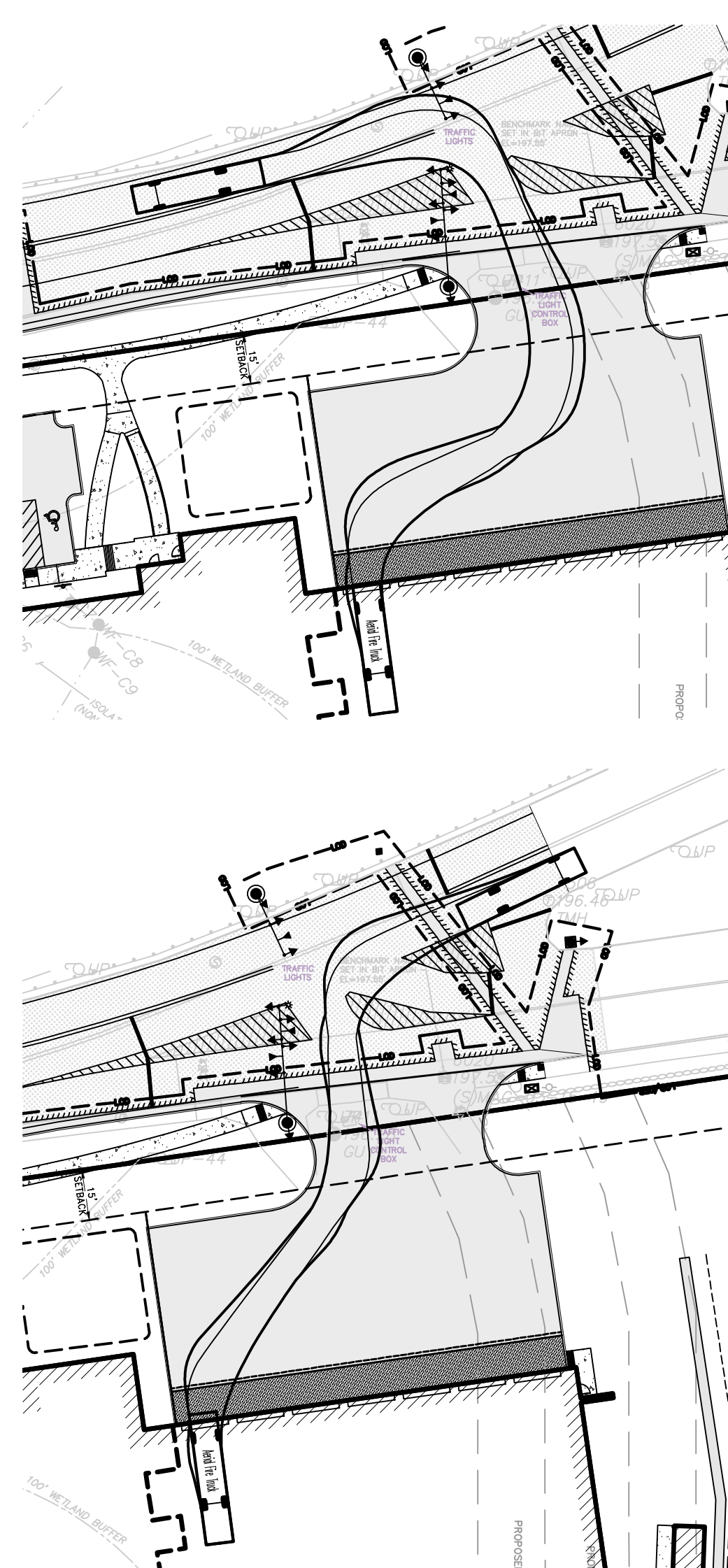
PASSENGER CAR MOVEMENT



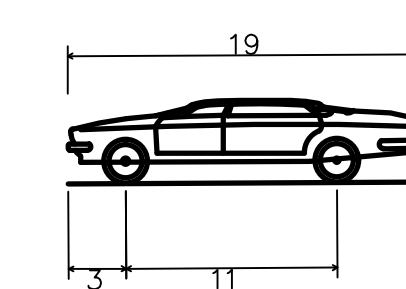
AMBULANCE AND GARBAGE TRUCK MOVEMENTS



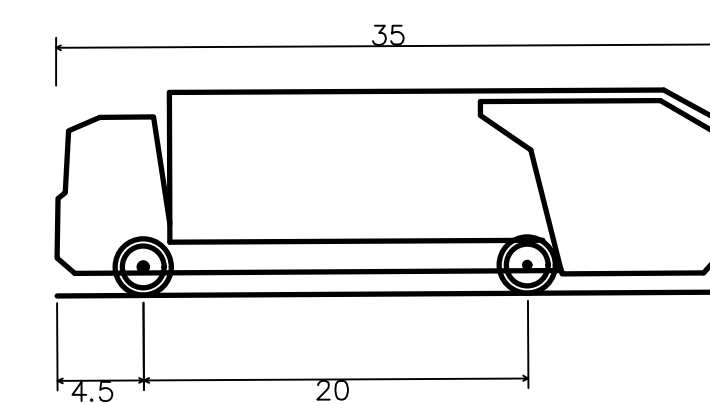
FIRE TRUCK MOVEMENTS



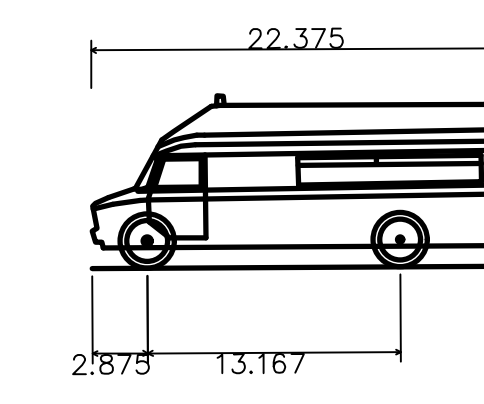
Pumper Fire Truck  
Overall Length 40.000ft  
Overall Width 8.167ft  
Overall Body Height 7.745ft  
Min Body Ground Clearance 0.658ft  
Track Width 8.167ft  
Lock-to-lock time 5.00s  
Max Wheel Angle 45.00°



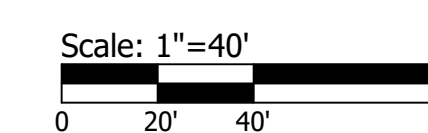
P - Passenger Car  
Overall Length 19.000ft  
Overall Width 7.000ft  
Overall Body Height 4.300ft  
Min Body Ground Clearance 1.115ft  
Track Width 6.000ft  
Lock-to-lock time 4.00s  
Max Steering Angle (Virtual) 31.60°



Rear-Load Garbage Truck  
Overall Length 35.000ft  
Overall Width 8.375ft  
Overall Body Height 10.546ft  
Min Body Ground Clearance 1.000ft  
Track Width 8.375ft  
Lock-to-lock time 6.00s  
Curb to Curb Turning Radius 29.300ft

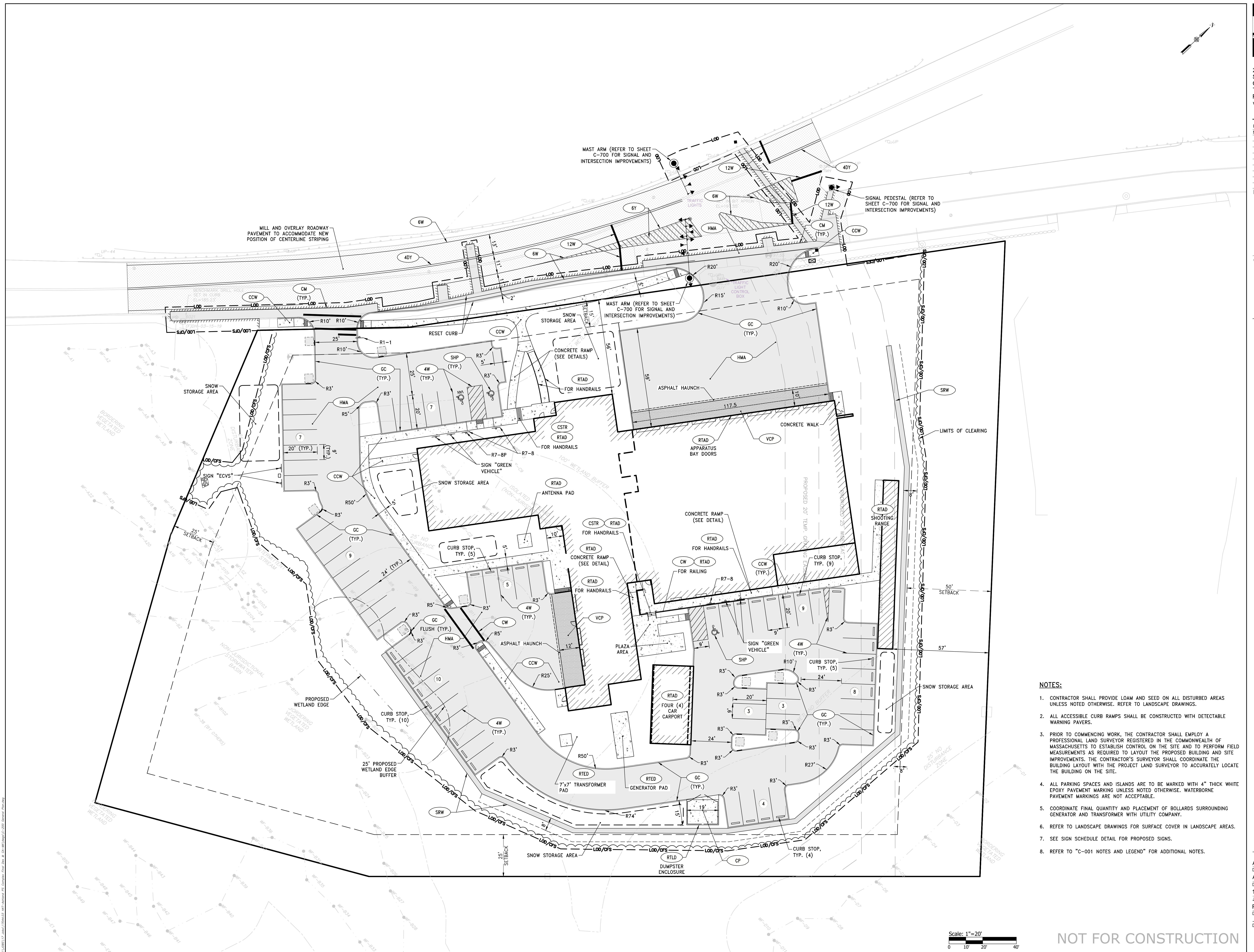


Horton 553 Type III Ford E-Series Ambulance  
Overall Length 22.375ft  
Overall Width 8.021ft  
Overall Body Height 9.000ft  
Min Body Ground Clearance 1.075ft  
Track Width 6.000ft  
Lock-to-lock time 2.00s  
Curb to Curb Turning Radius 27.400ft



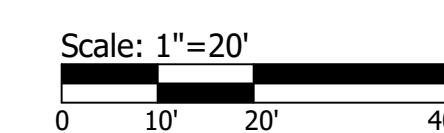
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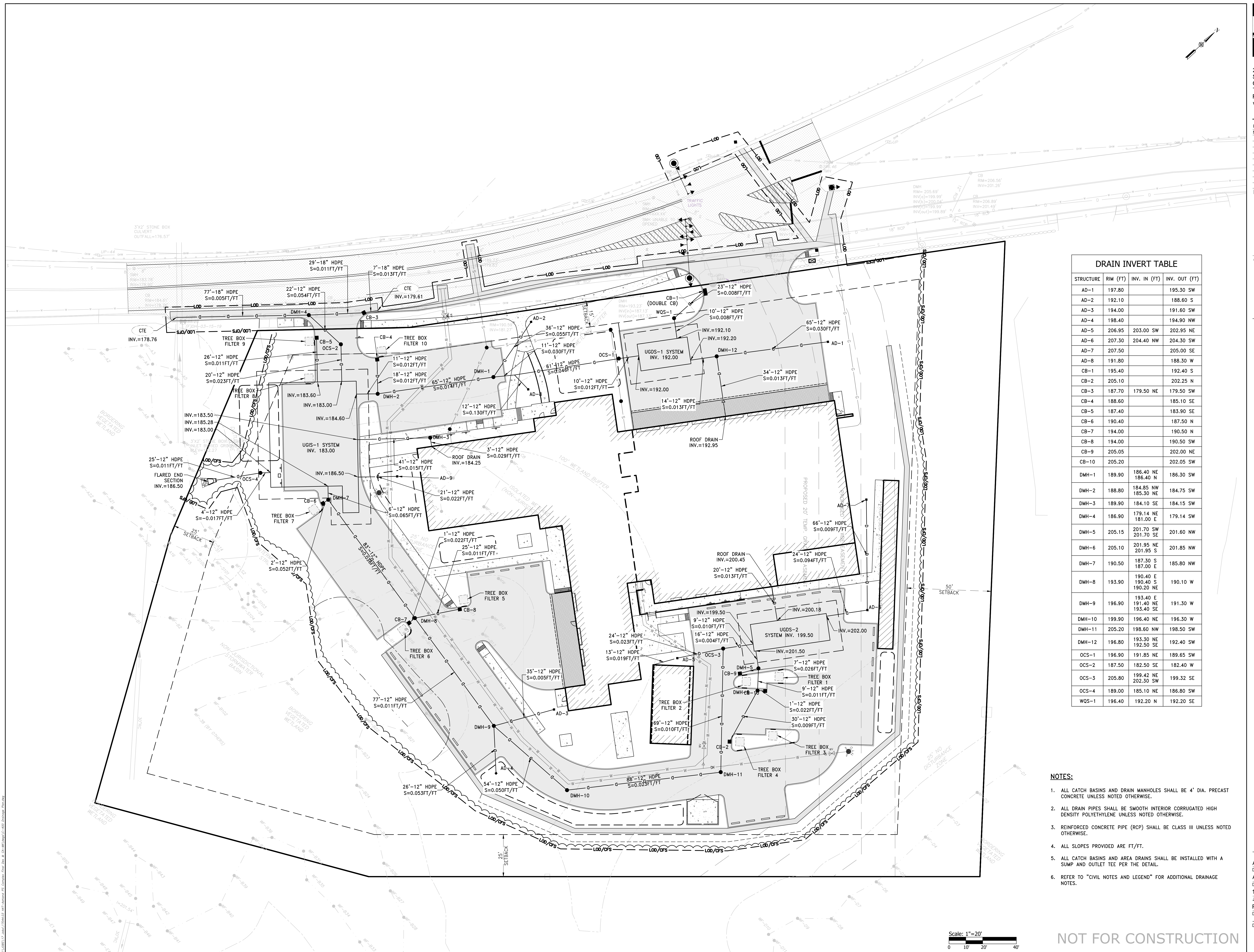
**NOTES:**

1. CONTRACTOR SHALL PROVIDE LOAM AND SEED ON ALL DISTURBED AREAS UNLESS NOTED OTHERWISE. REFER TO LANDSCAPE DRAWINGS.
2. ALL ACCESSIBLE CURB RAMPS SHALL BE CONSTRUCTED WITH DETECTABLE WARNING PAVERS.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL EMPLOY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS TO ESTABLISH CONTROL ON THE SITE AND TO PERFORM FIELD MEASUREMENTS AS REQUIRED TO LAYOUT THE PROPOSED BUILDING AND SITE IMPROVEMENTS. THE CONTRACTOR'S SURVEYOR SHALL COORDINATE THE BUILDING LAYOUT WITH THE PROJECT LAND SURVEYOR TO ACCURATELY LOCATE THE BUILDING ON THE SITE.
4. ALL PARKING SPACES AND ISLANDS ARE TO BE MARKED WITH 4" THICK WHITE EPOXY PAVEMENT MARKING UNLESS NOTED OTHERWISE. WATERBORNE PAVEMENT MARKINGS ARE NOT ACCEPTABLE.
5. COORDINATE FINAL QUANTITY AND PLACEMENT OF BOLLARDS SURROUNDING GENERATOR AND TRANSFORMER WITH UTILITY COMPANY.
6. REFER TO LANDSCAPE DRAWINGS FOR SURFACE COVER IN LANDSCAPE AREAS.
7. SEE SIGN SCHEDULE DETAIL FOR PROPOSED SIGNS.
8. REFER TO "C-001 NOTES AND LEGEND" FOR ADDITIONAL NOTES.



NOT FOR CONSTRUCTION



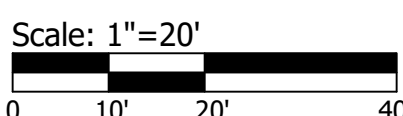


**DRAIN INVERT TABLE**

STRUCTURE	RIM (FT)	INV. IN (FT)	INV. OUT (FT)
AD-1	197.80		195.30 SW
AD-2	192.10		188.60 S
AD-3	194.00		191.60 SW
AD-4	198.40		194.90 NW
AD-5	206.95	203.00 SW	202.95 NE
AD-6	207.30	204.40 NW	204.30 SW
AD-7	207.50		205.00 SE
AD-8	191.80		188.30 W
AD-9	195.40		192.40 S
CB-1	195.40		192.40 S
CB-2	205.10		202.25 N
CB-3	187.70	179.50 NE	179.50 SW
CB-4	188.60		185.10 SE
CB-5	187.40		183.90 SE
CB-6	190.40		187.50 N
CB-7	194.00		190.50 N
CB-8	194.00		190.50 SW
CB-9	205.05		202.00 NE
CB-10	205.20		202.05 SW
DMH-1	189.90	186.40 NE 186.40 N	186.30 SW
DMH-2	188.80	184.85 NW 185.30 NE	184.75 SW
DMH-3	189.90	184.10 SE	184.15 SW
DMH-4	186.90	179.14 NE 181.00 E	179.14 SW
DMH-5	205.15	201.70 SW 201.70 SE	201.60 NW
DMH-6	205.10	201.95 NE 201.95 S	201.85 NW
DMH-7	190.50	187.30 S 187.00 E	185.80 NW
DMH-8	193.90	190.40 E 190.40 S 190.20 NE	190.10 W
DMH-9	196.90	193.40 E 191.40 NE 193.40 SE	191.30 W
DMH-10	199.90	196.40 NE	196.30 W
DMH-11	205.20	198.60 NW	198.50 SW
DMH-12	196.80	193.30 NE 192.50 SE	192.40 SW
OCS-1	196.90	191.85 NE	189.65 SW
OCS-2	187.50	182.50 SE	182.40 W
OCS-3	205.80	199.42 NE 202.30 SW	199.32 SE
OCS-4	189.00	185.10 NE	186.80 SW
WGS-1	196.40	192.20 N	192.20 SE

**NOTES:**

1. ALL CATCH BASINS AND DRAIN MANHOLES SHALL BE 4' DIA. PRECAST CONCRETE UNLESS NOTED OTHERWISE.
2. ALL DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED HIGH DENSITY POLYETHYLENE UNLESS NOTED OTHERWISE.
3. REINFORCED CONCRETE PIPE (RCP) SHALL BE CLASS III UNLESS NOTED OTHERWISE.
4. ALL SLOPES PROVIDED ARE FT/FT.
5. ALL CATCH BASINS AND AREA DRAINS SHALL BE INSTALLED WITH A SUMP AND OUTLET TEE PER THE DETAIL.
6. REFER TO "CIVIL NOTES AND LEGEND" FOR ADDITIONAL DRAINAGE NOTES.



NOT FOR CONSTRUCTION

Revision Schedule

Number	Revision	Date

Registrations

Consultants

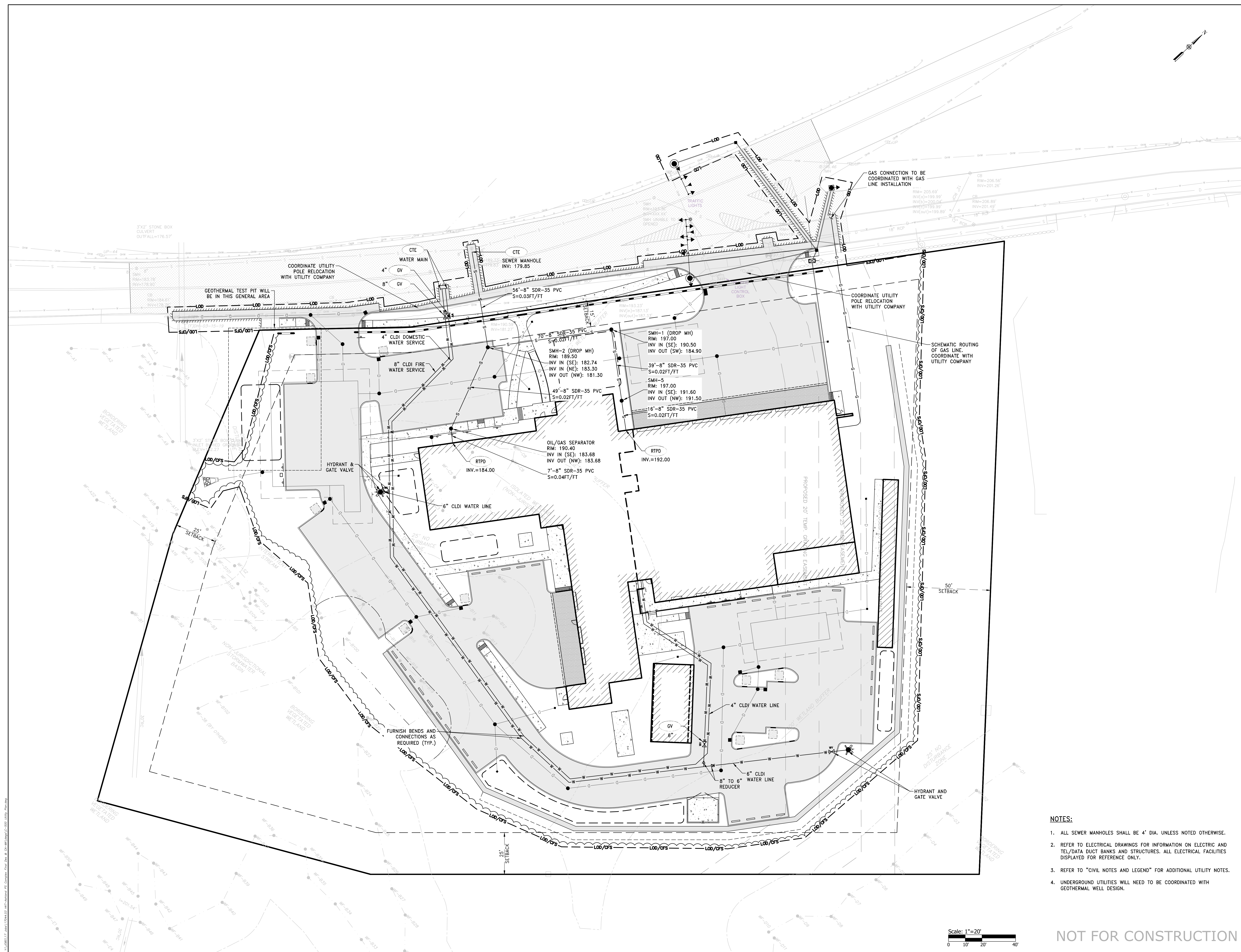
**PARE**  
PARE CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 02035  
508-943-1755

Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

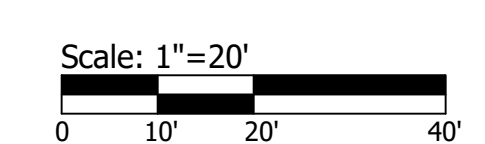
UTILITY PLAN

AWB LM  
Drawn by Checked by  
AUGUST 2020 1" = 20'  
Date  
17044.03  
Job number  
PERMITTING  
Drawing set  
Drawing number

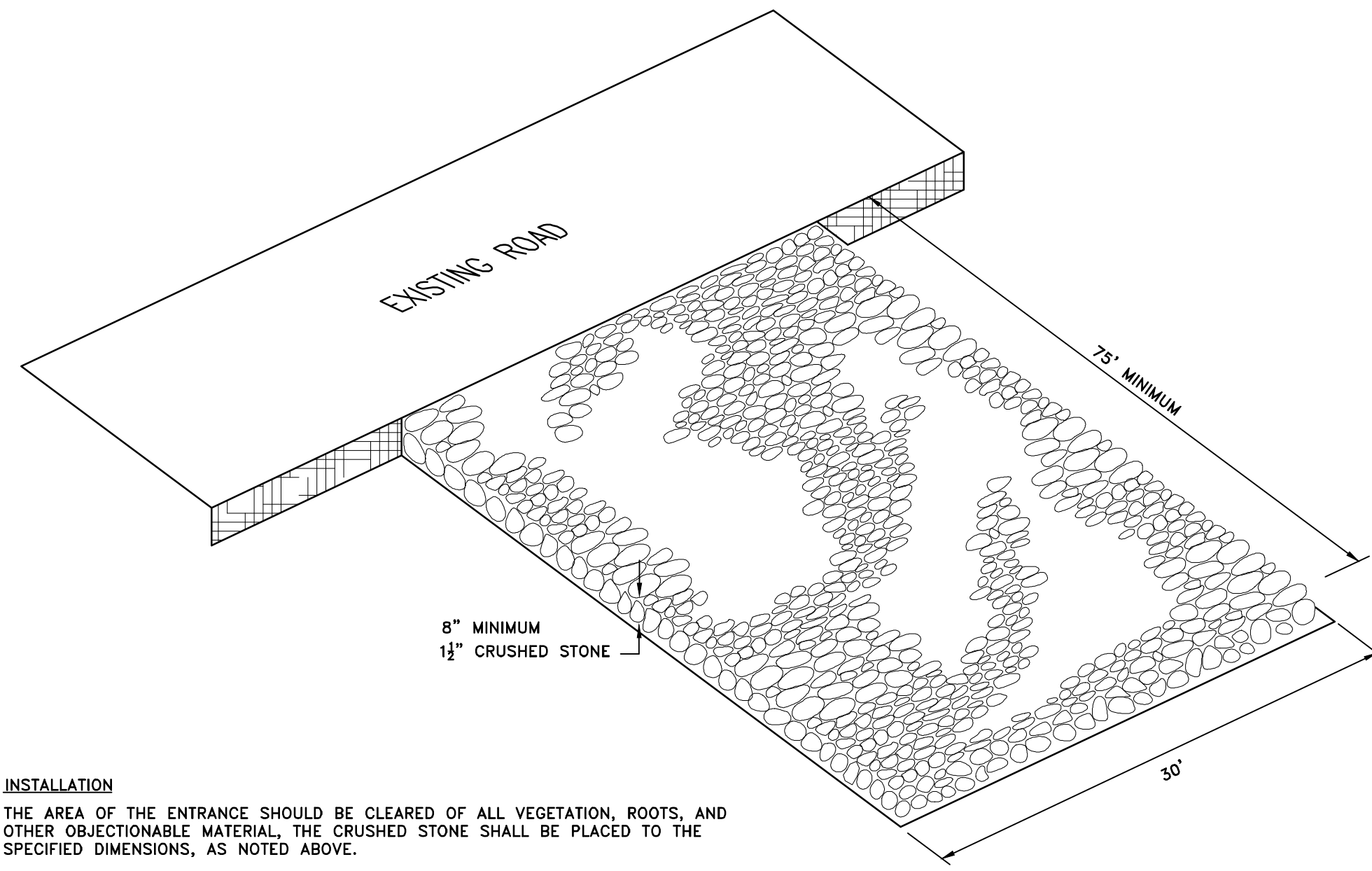
C-500



- NOTES:**
1. ALL SEWER MANHOLES SHALL BE 4' DIA. UNLESS NOTED OTHERWISE.
  2. REFER TO ELECTRICAL DRAWINGS FOR INFORMATION ON ELECTRIC AND TEL/DATA DUCT BANKS AND STRUCTURES. ALL ELECTRICAL FACILITIES DISPLAYED FOR REFERENCE ONLY.
  3. REFER TO "CIVIL NOTES AND LEGEND" FOR ADDITIONAL UTILITY NOTES.
  4. UNDERGROUND UTILITIES WILL NEED TO BE COORDINATED WITH GEOTHERMAL WELL DESIGN.



NOT FOR CONSTRUCTION

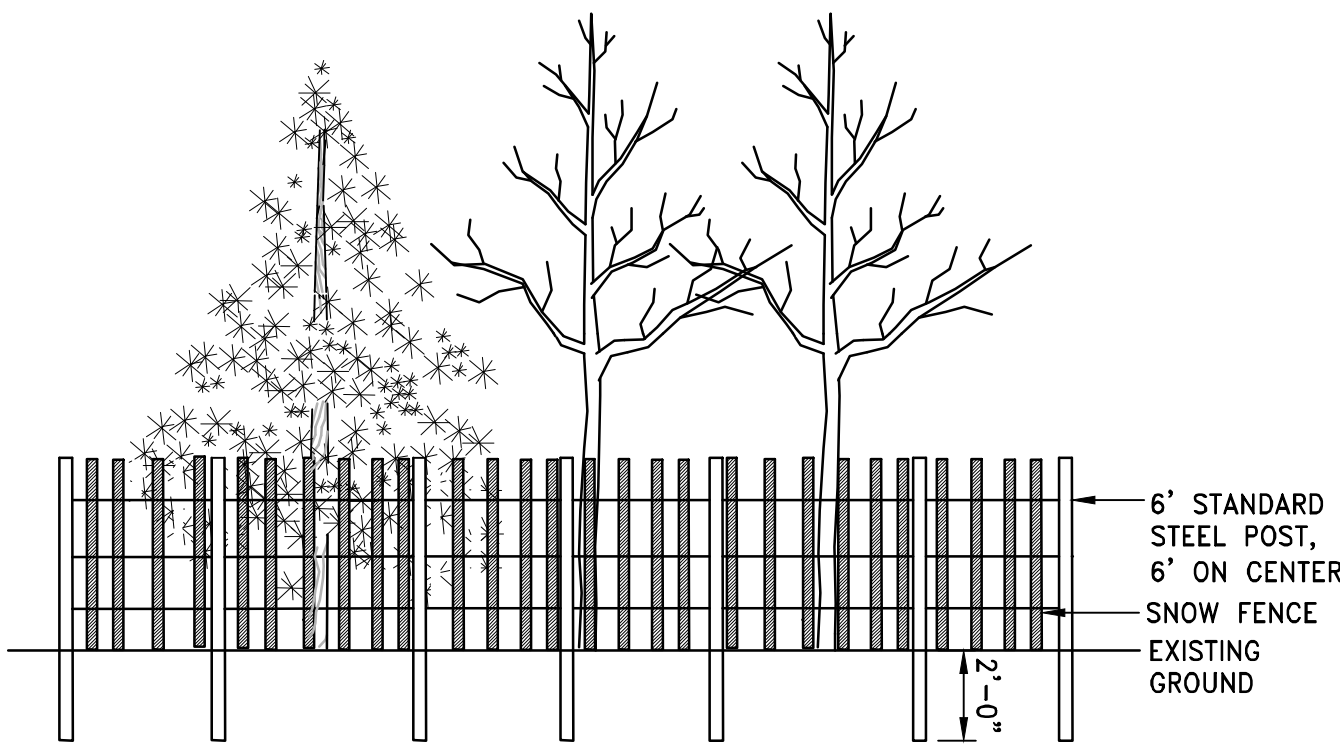


**INSTALLATION**  
THE AREA OF THE ENTRANCE SHOULD BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL. THE CRUSHED STONE SHALL BE PLACED TO THE SPECIFIED DIMENSIONS, AS NOTED ABOVE.

**MAINTENANCE**  
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENTS ONTO PUBLIC RIGHT-OF-WAYS. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE, OR ADDITIONAL LENGTH, AS CONDITIONS DEMAND, AND REPAIR, AND / OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAYS MUST BE REMOVED IMMEDIATELY.

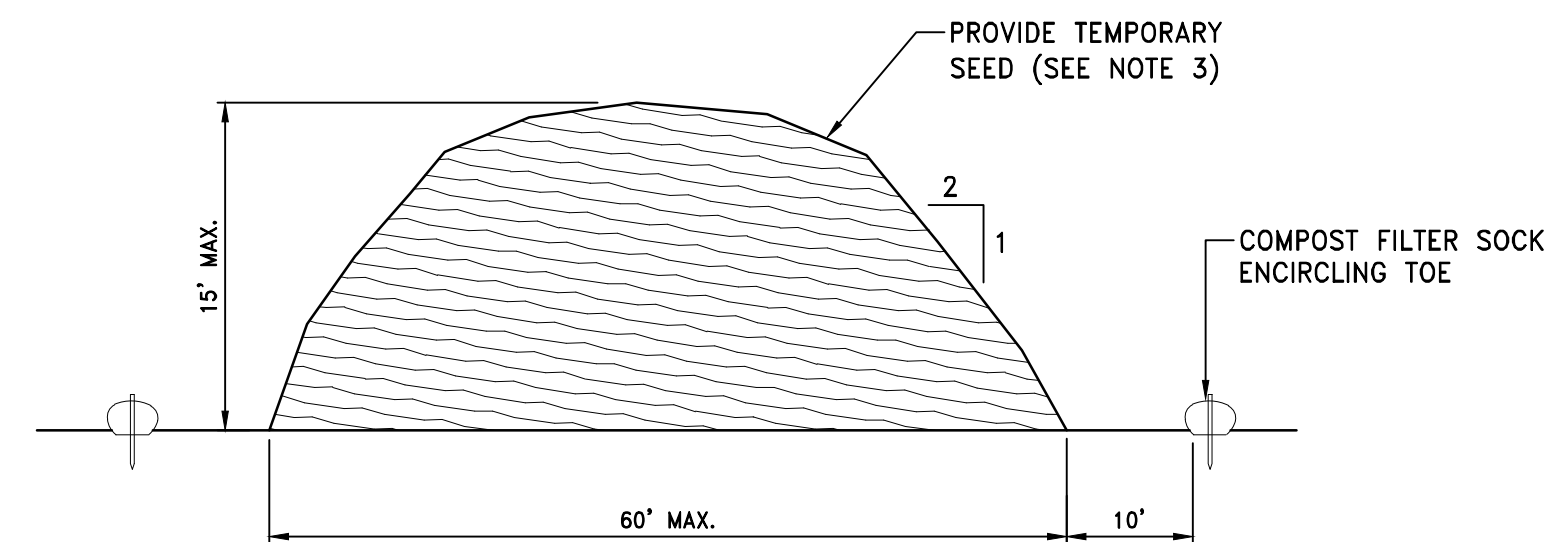
**LOCATION**  
SEE PROJECT PLANS FOR LOCATION OF CONSTRUCTION ENTRANCE.

**CONSTRUCTION ENTRANCE PROTECTION STONE STABILIZATION PAD**  
NOT TO SCALE



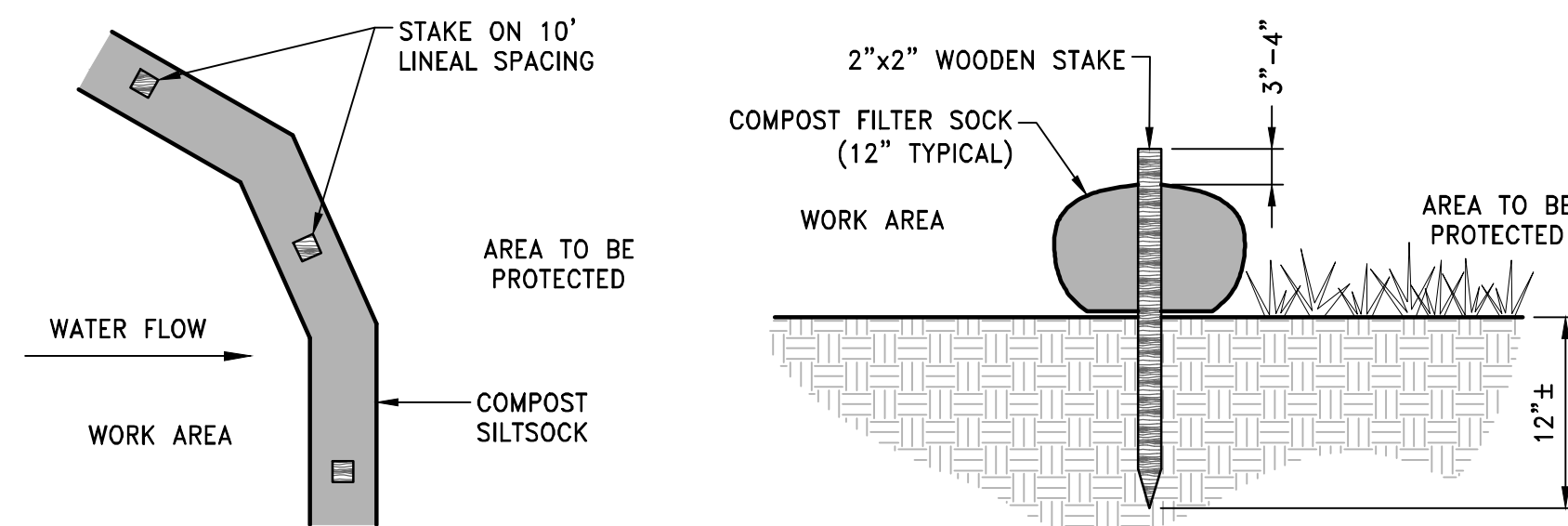
**NOTES:**  
1. TREE GROUP PROTECTION SHALL BE INSTALLED AT THE DRIP LINE OF THE TREES TO BE PROTECTED.

**TGP TREE GROUP PROTECTION DETAIL**  
NOT TO SCALE



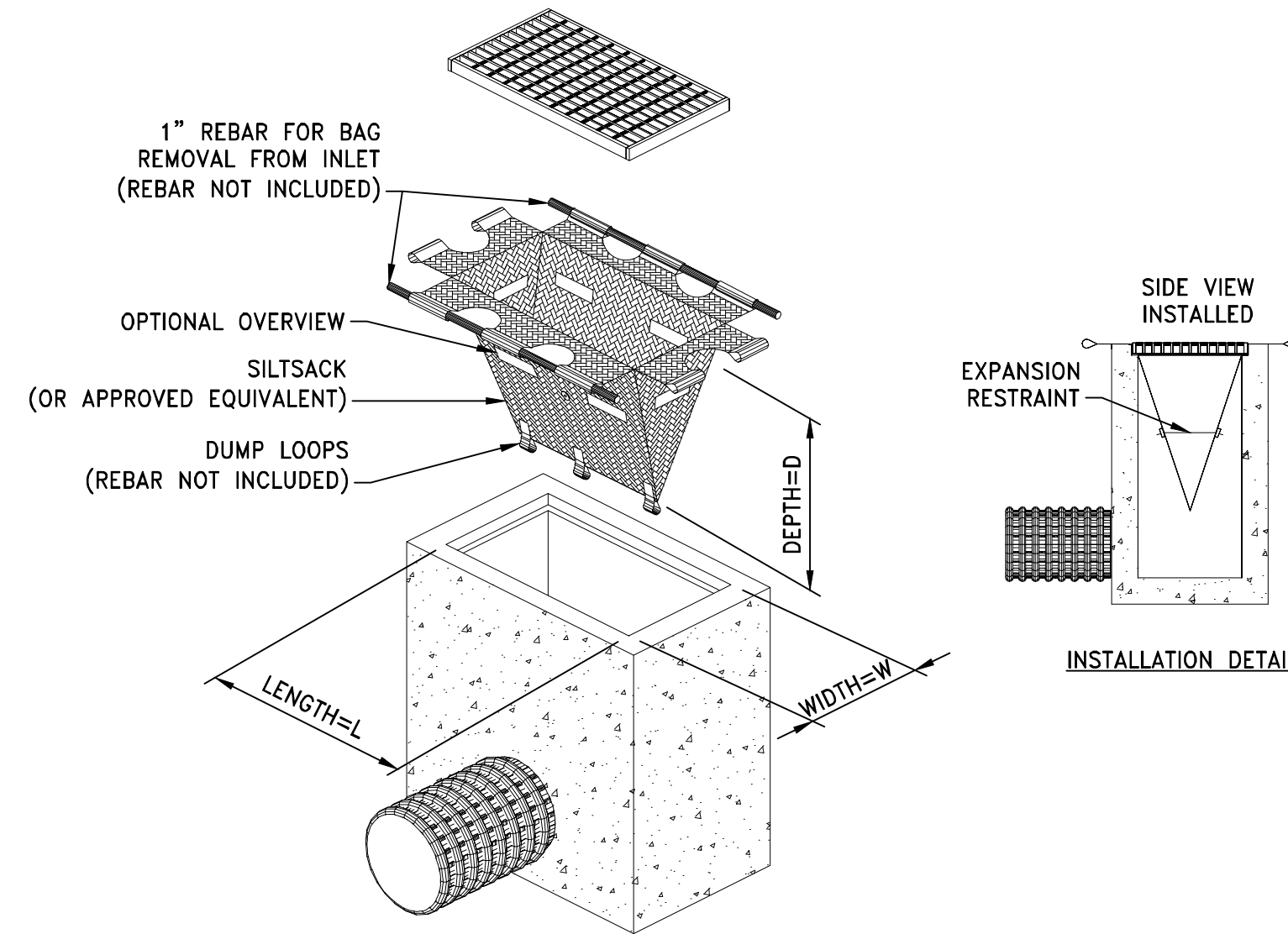
**NOTES:**  
1. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL PREPARE A PLAN SHOWING THE PROPOSED LOCATION OF ALL STOCKPILE AREAS.  
2. STOCKPILE AREA SHALL NOT EXCEED SPECIFIED DIMENSIONS WITHOUT APPROVAL FROM ENGINEER.  
3. STOCKPILED ERODIBLE MATERIAL THAT WILL NOT BE USED FOR GREATER THAN 14 DAYS SHALL BE STABILIZED WITH TEMPORARY SEED IMMEDIATELY FOLLOWING PLACEMENT.

**ERODIBLE MATERIAL STOCKPILE**  
NOT TO SCALE



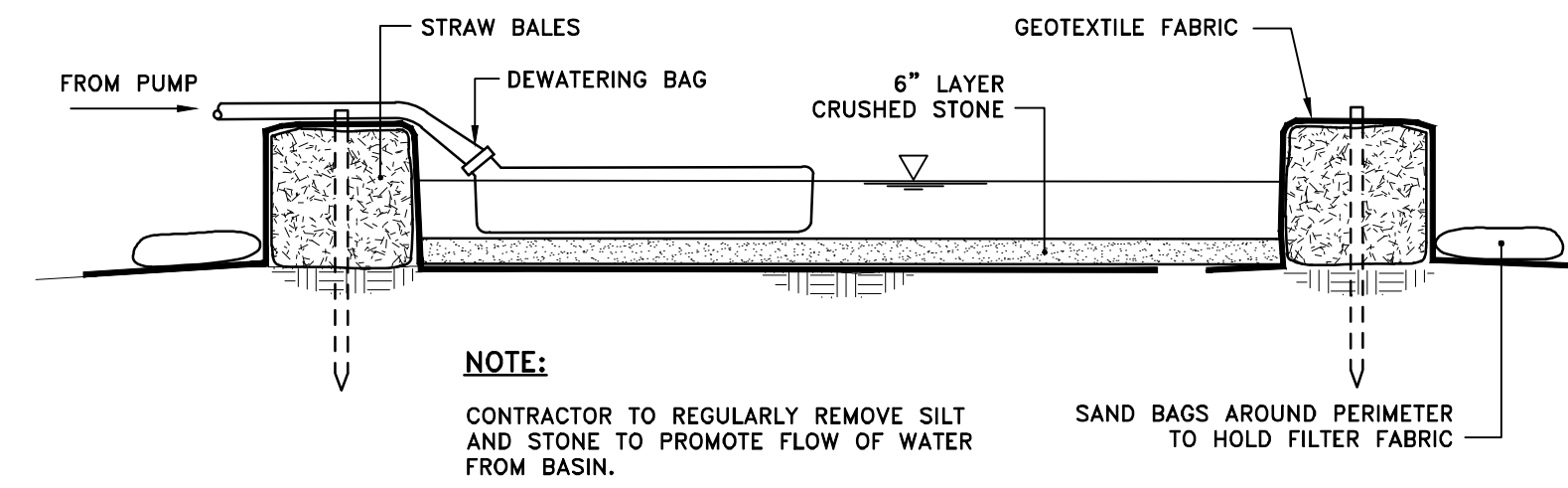
**NOTES:**  
1. COMPOST/ SOIL/ ROCK/ SEED FILL TO MEET APPLICATION REQUIREMENTS.  
2. COMPOST MATERIAL TO BE REMOVED OR DISPERSED ON SITE AS DETERMINED BY ENGINEER.  
3. IF SOCK NETTING MUST BE JOINED, FIT BEGINNING OF NEW SOCK OVER END OF OLD SOCK, OVERLAPPING BY 2 FEET AND STACK OVERLAP. IF SOCK NETTING IS NOT JOINED, OVERLAP OLD SOCK WITH NEW ONE BY MINIMUM OF 2 FEET.

**CFS COMPOST FILTER SOCK DETAIL**  
NOT TO SCALE



**NOTES:**  
1. INLET PROTECTION SHALL BE CLEANED OF SILT AND DEBRIS ON A REGULAR BASIS AS REQUIRED BY PROJECT SPECIFIC SWPPP.  
2. INSPECTIONS SHALL BE DONE AFTER EACH RAIN EVENT AND AT A MINIMUM EVERY TWO WEEKS AND AS REQUIRED BY PROJECT SPECIFIC SWPPP.

**TIP TEMPORARY INLET PROTECTION**  
NOT TO SCALE



**NOTE:**  
CONTRACTOR TO REGULARLY REMOVE SILT AND STONE TO PROMOTE FLOW OF WATER FROM BASIN.

**FILTER FABRIC DEWATERING BASIN**  
NOT TO SCALE



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Revision Schedule		
Number	Revision	Date

Registrations  
  
Consultants



PARE CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 01535  
508-943-1755

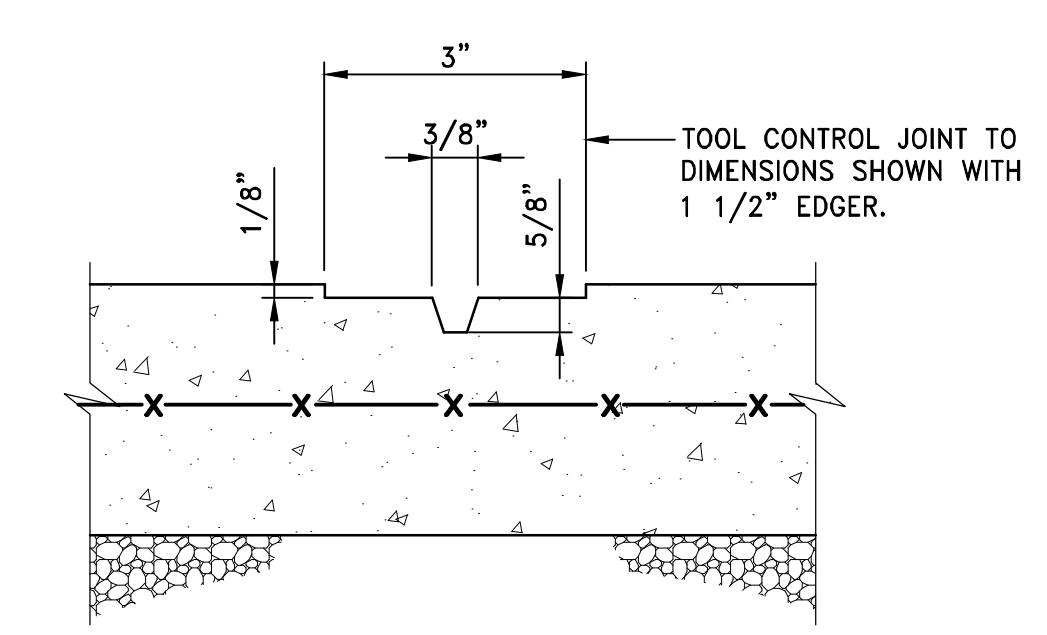
Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

SITE DETAILS - 1

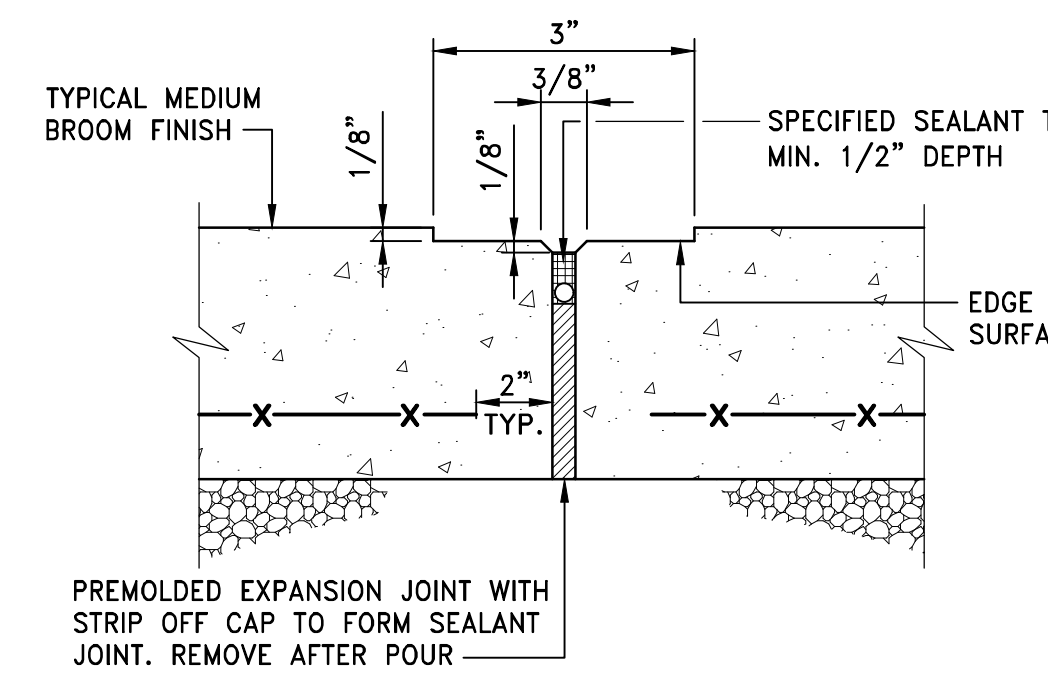
AWB LM  
Drawn by Checked by  
AUGUST 2020 AS NOTED  
Date  
17044.03  
Job number  
PERMITTING  
Drawing set  
Drawing number

NOT FOR CONSTRUCTION

C-601



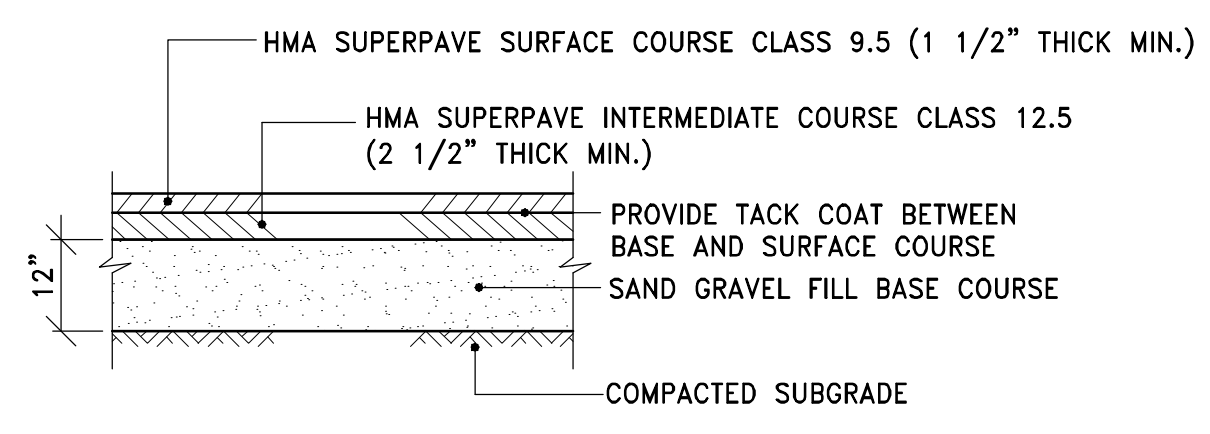
CONTROL JOINT AT 5' O.C. (TYP)



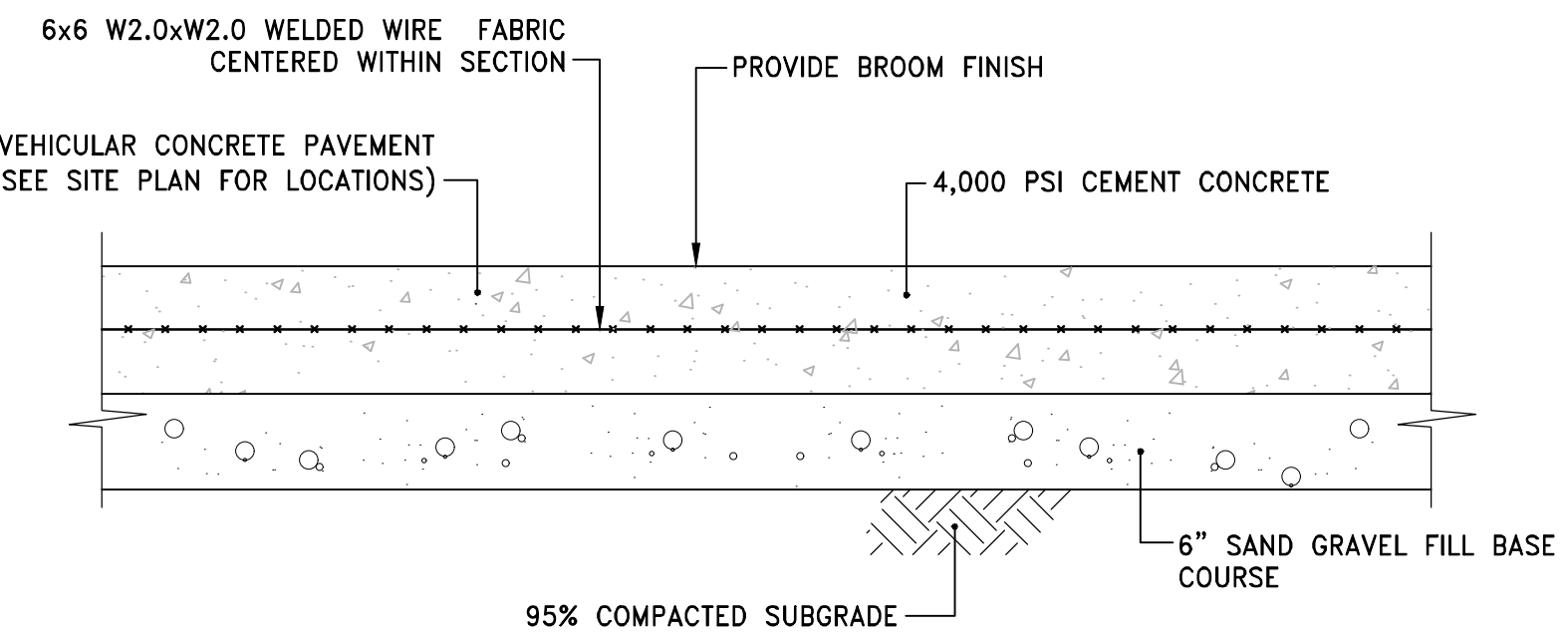
EXPANSION JOINT AT 20' O.C. (TYP)

- NOTES:
1. EXPANSION JOINTS (E.J.) 20 FEET O.C. UNLESS OTHERWISE NOTED.
  2. CONTROL JOINTS (C.J.) 5 FEET O.C. UNLESS OTHERWISE NOTED.
  3. WHERE EXISTING AND NEW CONCRETE SIDEWALKS MEET, SAWCUT EXISTING WALK AND INSTALL EXPANSION JOINT AND DOWELS AS SHOWN. DRILL EXISTING CONCRETE WALK EDGE TO RECEIVE STEEL DOWELS AT EXPANSION JOINT.
  4. REFER TO LANDSCAPE PLANS FOR LOCATIONS.

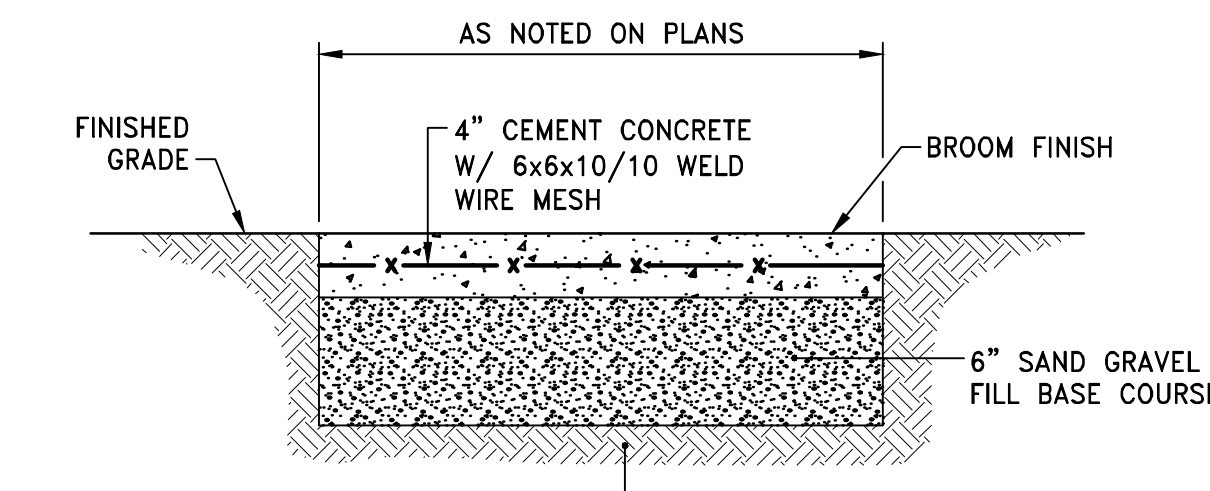
EXPANSION AND CONTROL JOINTS FOR SIDEWALK PAVING  
NOT TO SCALE



HMA TYPICAL PAVEMENT DETAIL  
NOT TO SCALE

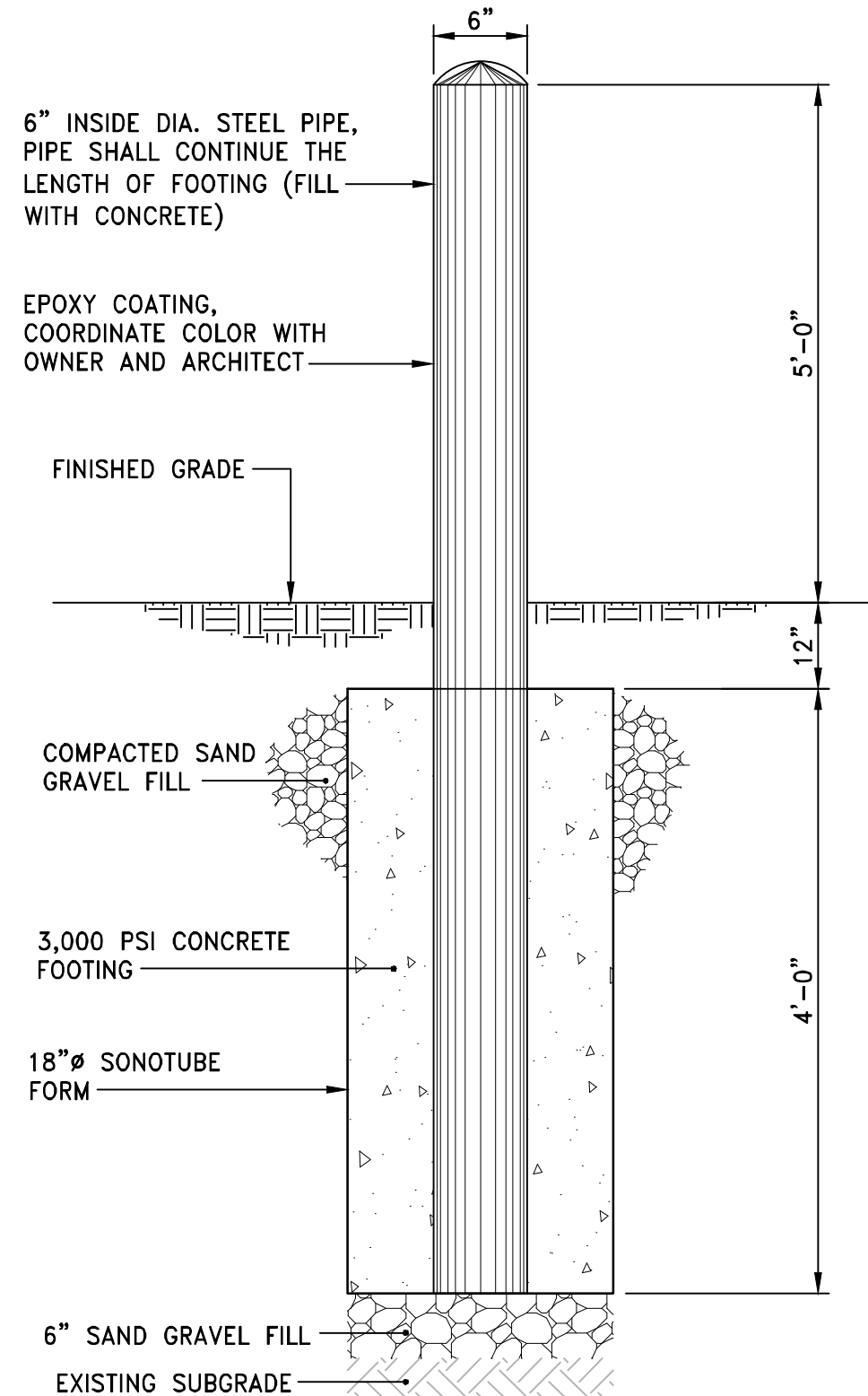


VCP VEHICULAR CONCRETE PAVEMENT DETAIL  
NOT TO SCALE

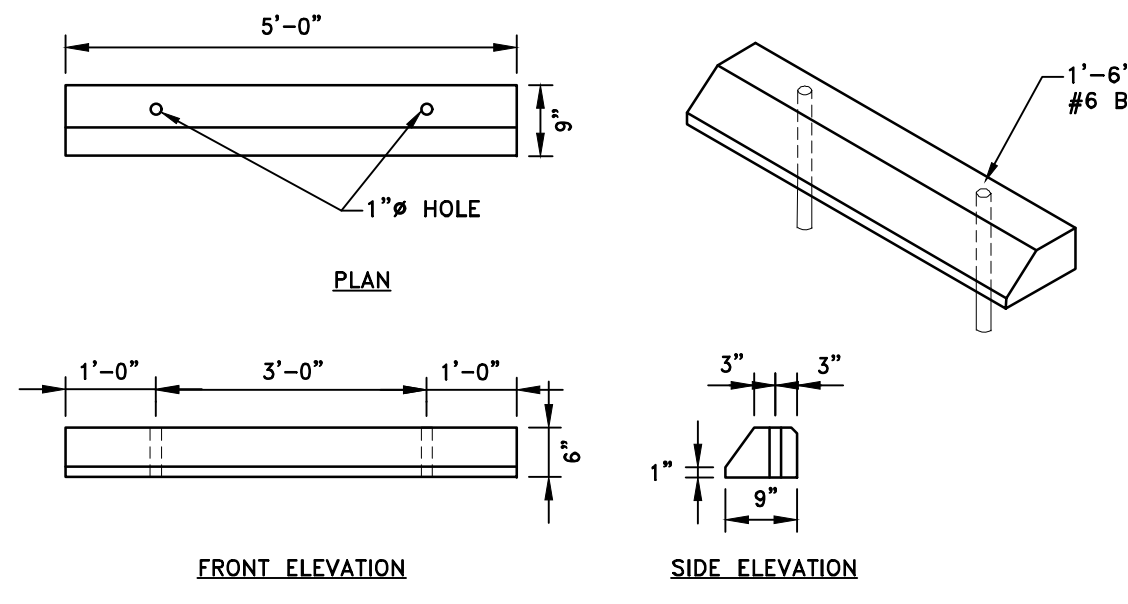


- NOTES:
1. CONCRETE SIDEWALK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 701 OF THE MA STANDARD SPECIFICATIONS.
  2. CEMENT CONCRETE FOR SIDEWALK SHALL ATTAIN COMPRESSIVE STRENGTH OF 4000 PSI (28 DAYS) WITH AIR ENTRAINMENT CONTENT OF 7%.
  3. CONSTRUCTION JOINTS WITH 1/4" PREMOLDED EXPANSION JOINT FILLER SHALL BE PLACED EVERY 20 FEET.
  4. IF SIDEWALK IS TO ABUT A SMOOTH WALL, FOUNDATION OR STATIONARY OBJECT, PLACE THE EXPANSION JOINT FILLER FULL DEPTH, BETWEEN SIDEWALK CONCRETE AND SURFACE OF WALL, FOUNDATION OR STATIONARY OBJECT.
  5. IF SIDEWALK IS TO ABUT AN IRREGULAR WALL, FOUNDATION OR STATIONARY OBJECT, PLACE THE EXPANSION JOINT FILLER FULL DEPTH, FOUR (4) INCHES FROM IRREGULAR SURFACE, AND POUR CONCRETE BETWEEN THE ABOVE MENTIONED SURFACES AND THE EXPANSION JOINT MATERIAL.
  6. THE FORCING OF PREMOLDED EXPANSION JOINT FILLER INTO FRESHLY PLACED CONCRETE WILL NOT BE ALLOWED.
  7. THE MAXIMUM TOLERANCE FOR THE 4" CONCRETE THICKNESS IS ±1/2".
  8. SAND GRAVEL FILL SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M1.03.0 (TYPE B).
  9. SEE LANDSCAPE PLANS FOR JOINT LOCATIONS AND FURTHER DETAILS ON CONSTRUCTION AND FINISHES.
  10. SEE STRUCTURAL PLANS FOR WALKS ABUTTING BUILDINGS.

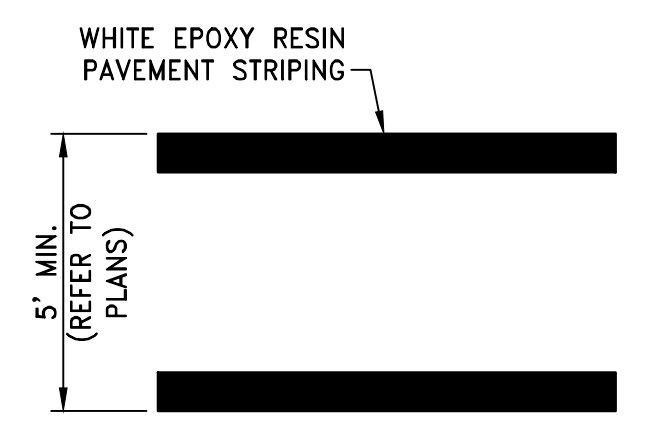
CCW TYPICAL CEMENT CONCRETE SIDEWALK  
NOT TO SCALE



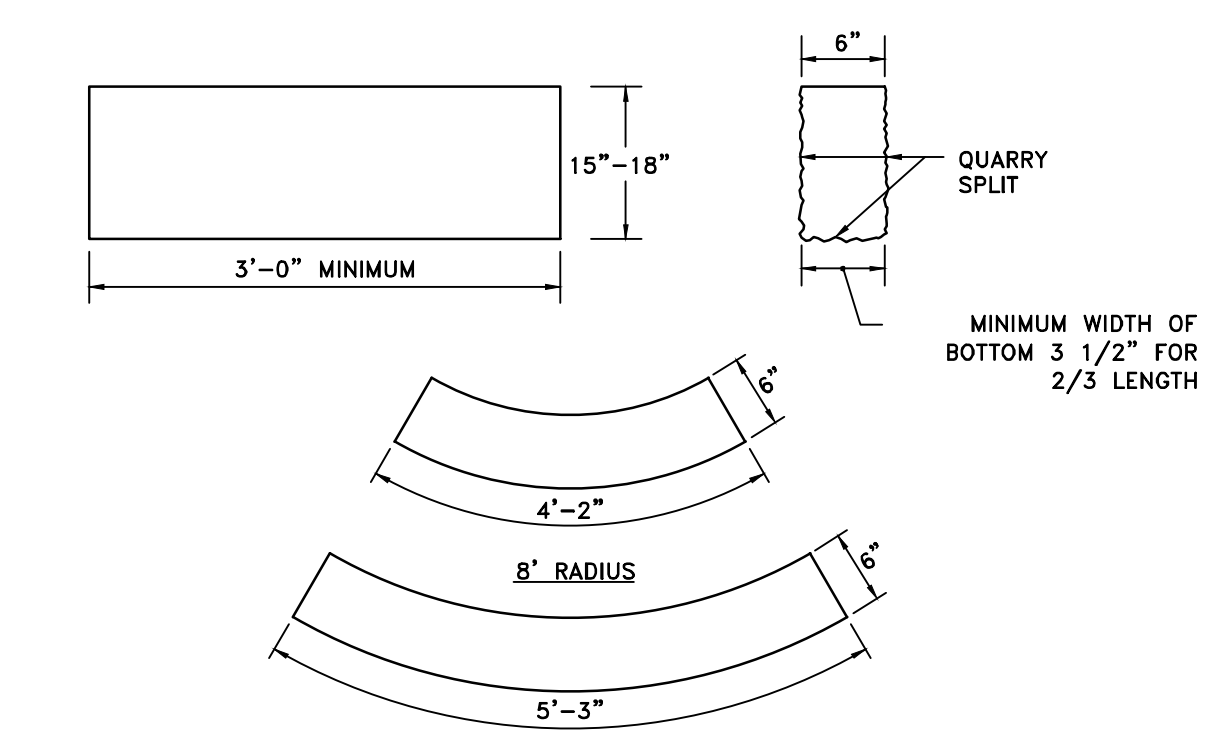
BOL BOLLARD DETAIL  
NOT TO SCALE



PRECAST CONCRETE CURB STOPS  
NOT TO SCALE

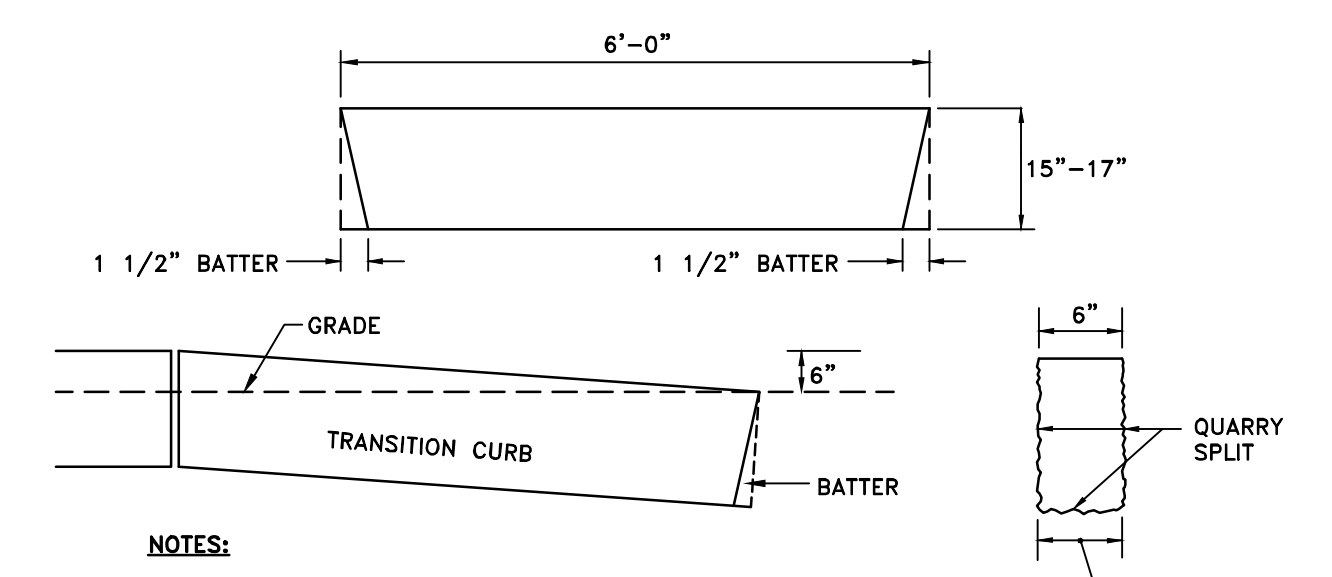


CW TYPICAL CROSSWALK DETAIL  
NOT TO SCALE

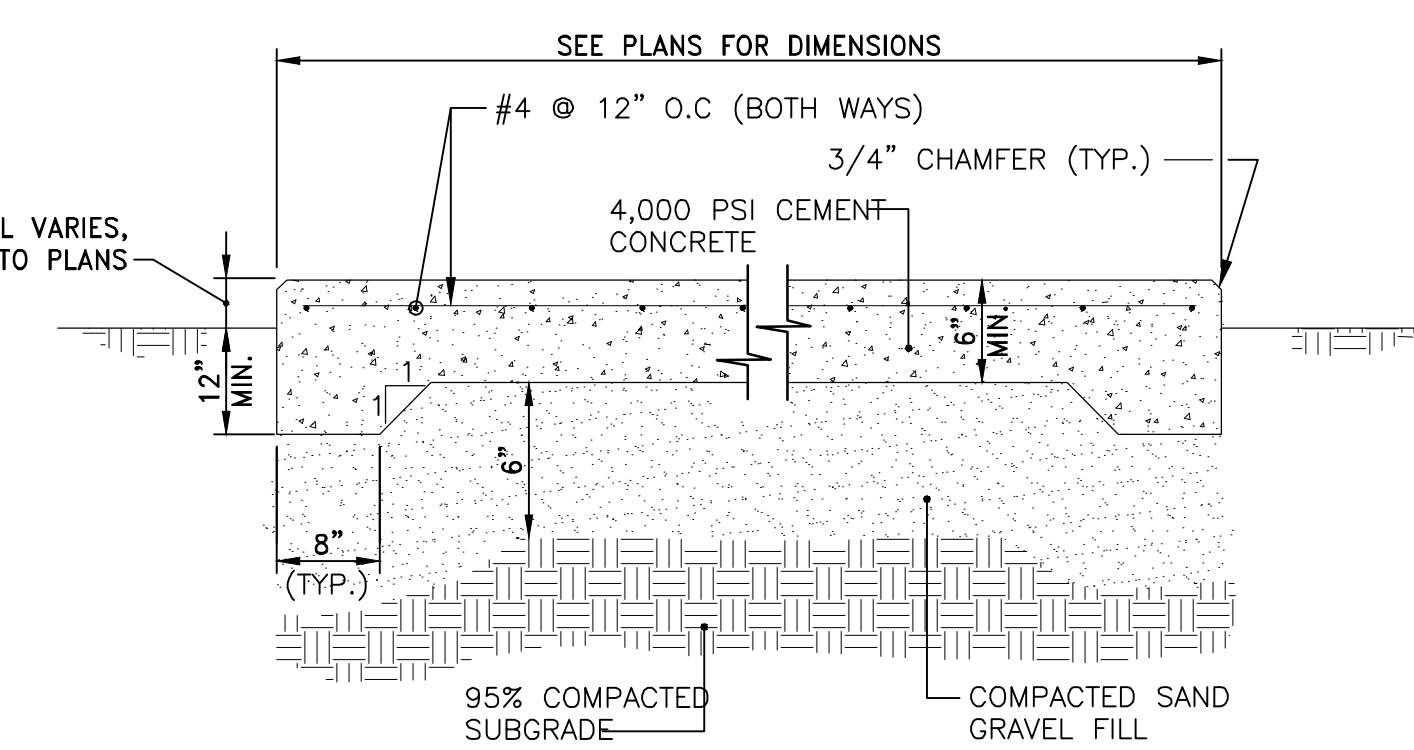


- NOTES:
1. MAXIMUM LENGTHS USING 8' & 10' RADII, WITH 90° ANGLE, ARE 4'-2" AND 5'-3" RESPECTIVELY.
  2. MINIMUM LENGTH OF STRAIGHT OR CIRCULAR FILLER PIECES TO BE 3'-0".
  3. TOP SURFACE TO BE DRESSED BY SAW.
  4. CIRCULAR CURB IS REQUIRED ON CURVES WITH RADI OF 100' OR LESS. STRAIGHT CURB TO BE USED ON CURVES OF MORE THAN 100' RADIUS.
  5. GRANITE CURB SHALL CONFORM TO MASSDOT STD. SPECIFICATION MATERIALS SECTION M9.04.1 GRANITE CURB, TYPE VA4.
  6. 3000 PSI CONCRETE BACKFILL IS REQUIRED FOR ALL GRANITE CURB.

GC GRANITE CURB QUARRY SPLIT  
NOT TO SCALE

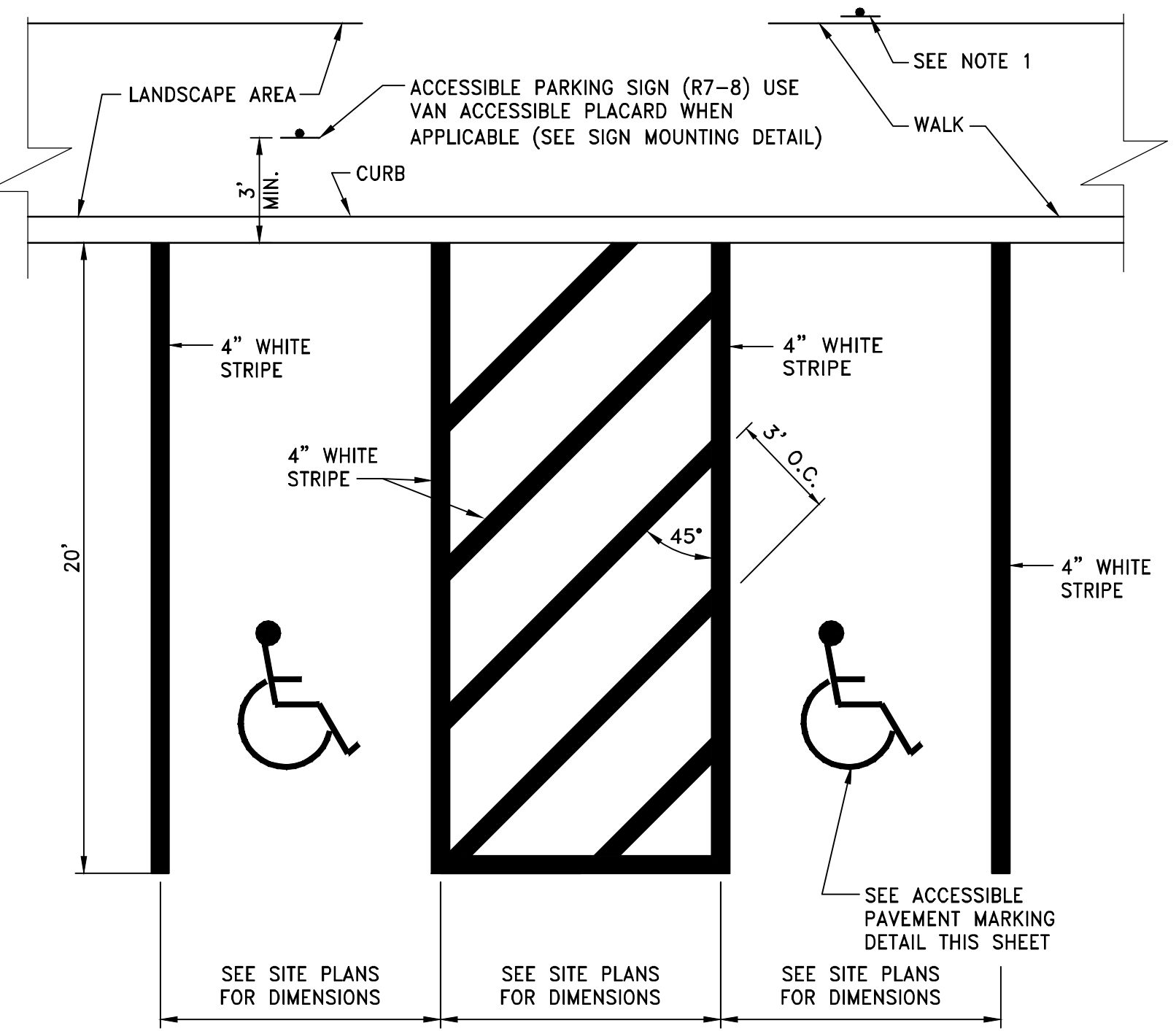


GTC 6" GRANITE TRANSITION CURB  
NOT TO SCALE

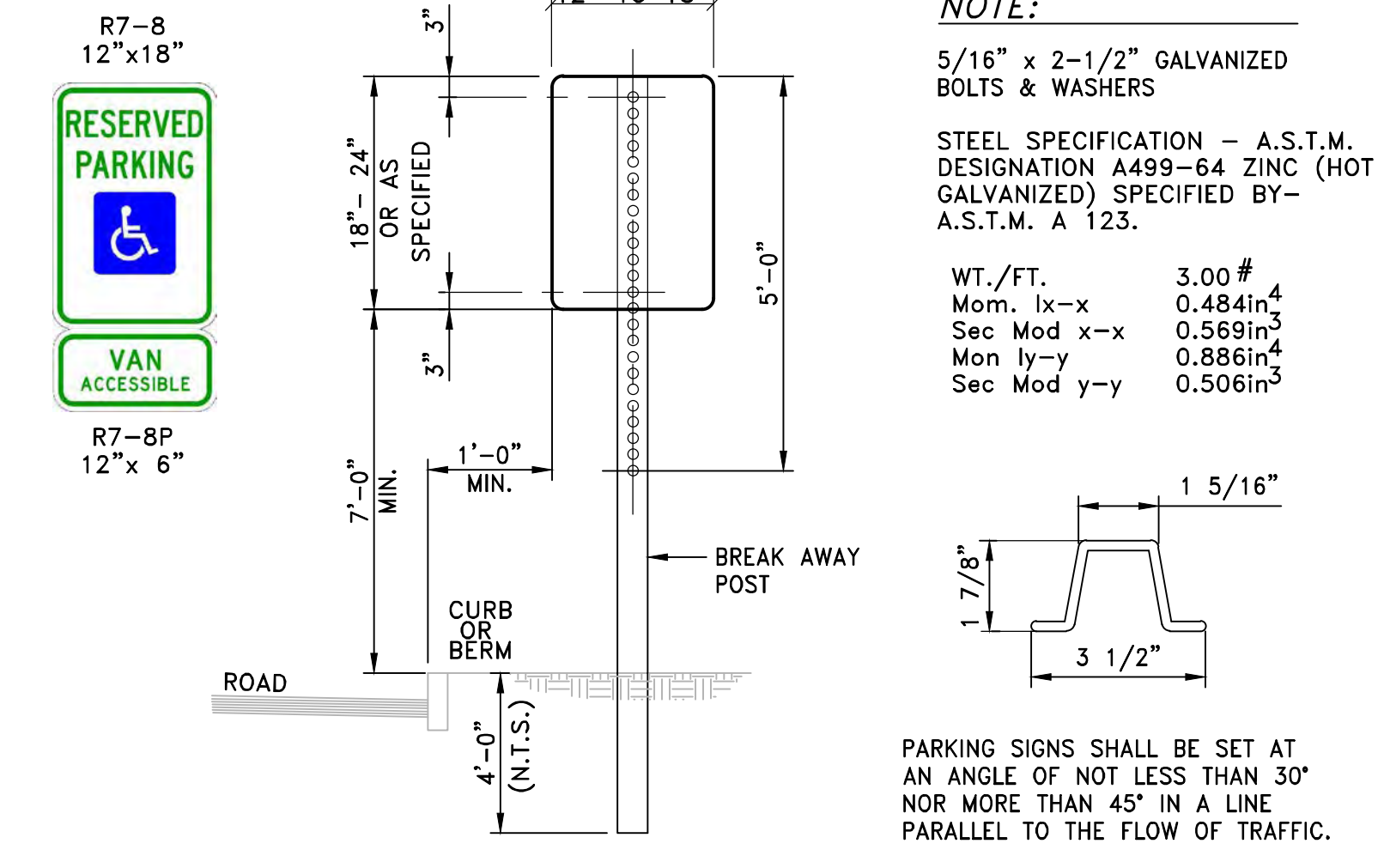


- NOTES:
1. REINFORCING TO BE #4 GRADE 60 BARS AND SHALL CONFORM TO ASTM STANDARD A-615 OF THE LATEST DATA. REINFORCING RODS TO BE LOCATED IN THE CENTER OF THE SLAB, WITH A MINIMUM OF 2" CLEARANCE FROM FACE OF CONCRETE.
  2. CONTRACTOR SHALL COORDINATE LOCATIONS OF OPENINGS, FENCE POSTS, OR OTHER FEATURES IN SLAB.
  3. REFER TO ELECTRICAL PLANS FOR CONCRETE PADS FOR GENERATOR AND TRANSFORMER; REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR CONCRETE PAD FOR ANTENNA.

CP CEMENT CONCRETE DUMPSTER PAD  
NOT TO SCALE

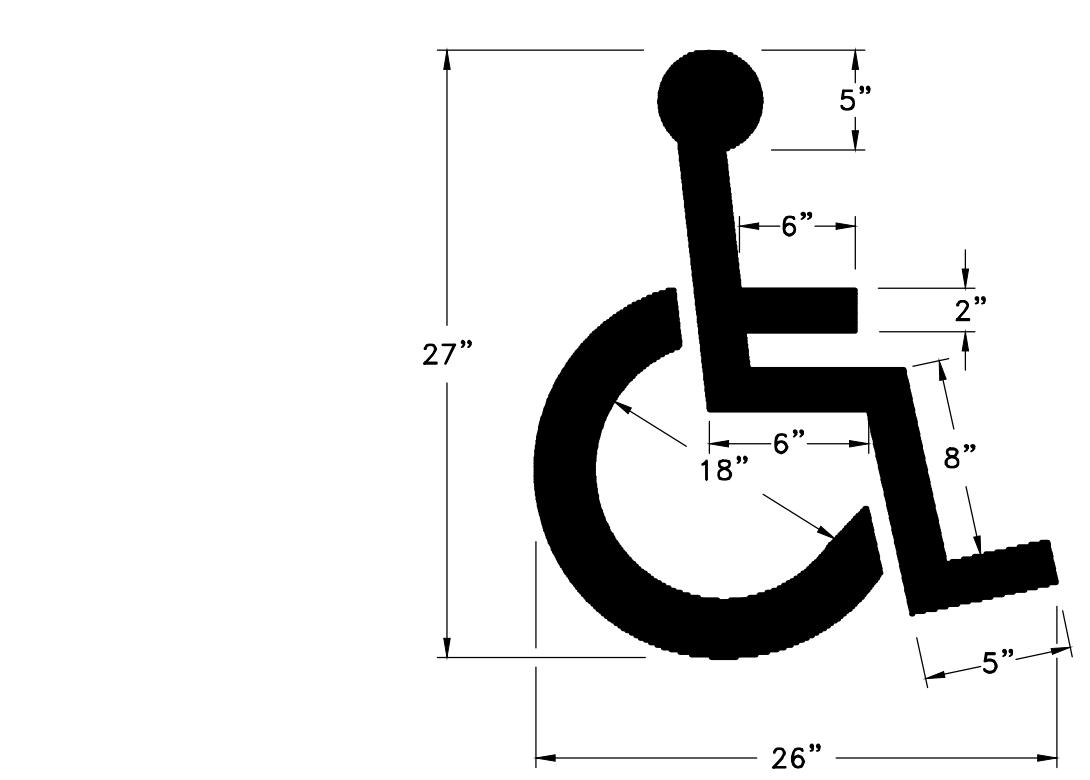


ACCESSIBLE PARKING STALLS @ 90°  
NOT TO SCALE

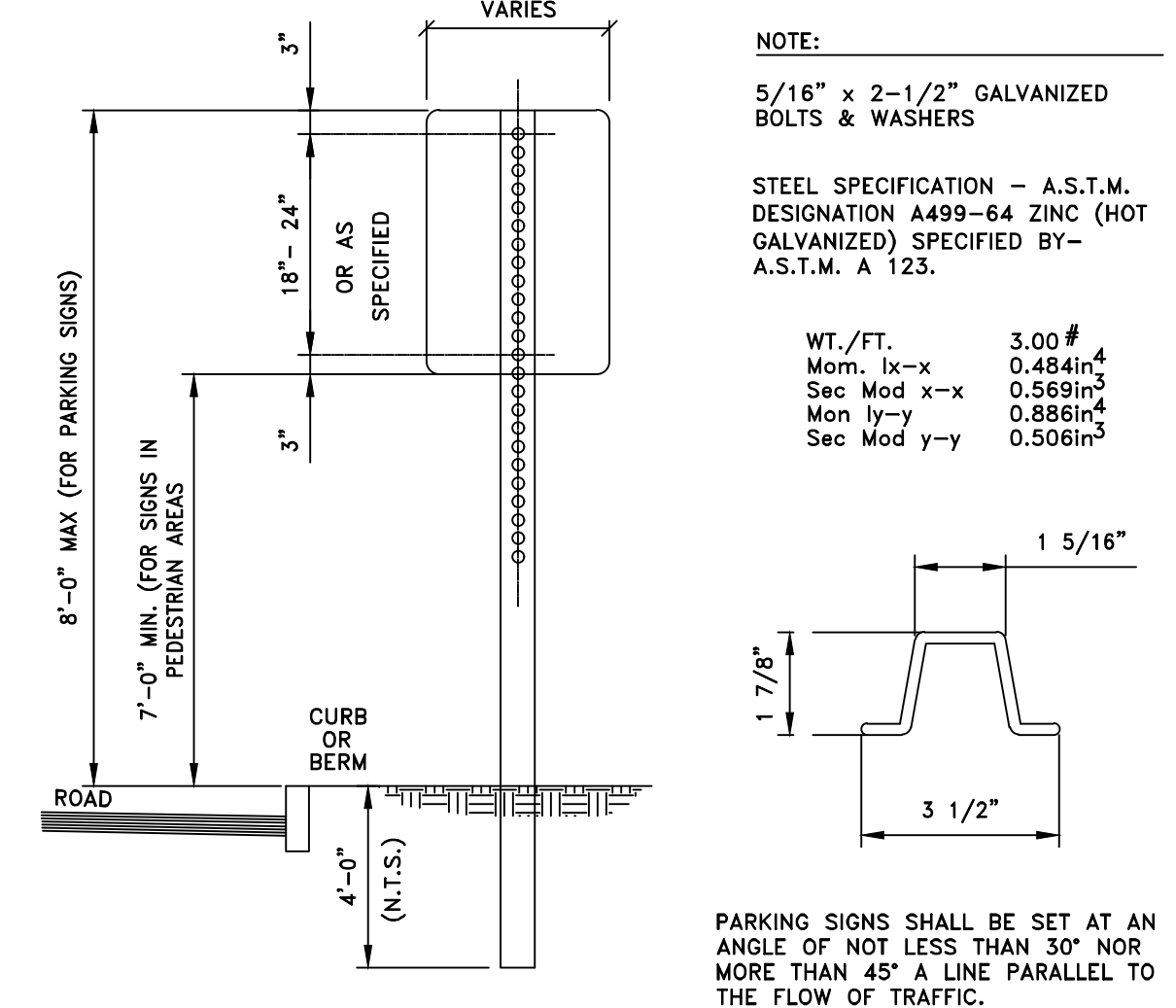


- NOTES:
1. ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
  2. WASHERS SHALL BE 0.07" THICK.
  3. ALL SIGN COLORS, RADI AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
  4. SHALL BE IN ACCORDANCE WITH SECTION T.15 OF THE STANDARD SPECIFICATIONS.
  5. PARKING SIGNS SHALL BE SET AT AN ANGLE OF NOT LESS THAN 30° NOT MORE THAN 45° WITH A LINE PARALLEL TO FLOW OF TRAFFIC, 1'-6" (1'-0" MIN.) FROM THE EDGE OF CURB FACE.
  6. ALL ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS AS SPECIFIED BY THE AMERICAN DISABILITIES ACT (ADA).
  7. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBTSCURED BY A VEHICLE PARKED IN THE SPACE.
  8. FOR ACCESSIBLE VAN SPACE USE SIGN AS DETAILED.
  9. FOR ACCESSIBLE SPACE FOR AUTOMOBILES USE ONLY HANDICAPPED PARKING SIGN.

ACCESSIBLE SIGN MOUNTING  
NOT TO SCALE



SHP ACCESSIBLE PAVEMENT MARKING  
NOT TO SCALE



- NOTES:
1. ALL LAG SCREWS, BOLTS AND WASHERS SHALL BE GALVANIZED 5/16"x2 1/2" LONG UNLESS OTHERWISE NOTED.
  2. WASHERS SHALL BE 0.07" THICK. 3. ALL SIGN COLORS, RADI AND BORDERS AS SPECIFIED IN "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
  3. ALL ACCESSIBLE PARKING AND SIGNAGE SHALL BE IN CONFORMANCE WITH THE RULES & REGULATIONS AS SPECIFIED BY THE AMERICAN DISABILITIES ACT (ADA).
  4. SIGN(S) SHALL BE LOCATED SO THEY CANNOT BE OBTSCURED BY A VEHICLE PARKED IN THE SPACE.

SIGN MOUNTING  
NOT TO SCALE

LEGEND	DESIGNATION	SIZE
	R1-1	(30" x 30")
	EVCS	(12" x 18")
	GREEN VEHICLE	(12" x 18")

- NOTE:
1. SIGNS SHALL BE CONSTRUCTED OF TYPE III REFLECTORIZED SHEETING AND IN ACCORDANCE WITH MUTCD REQUIREMENTS, LATEST REVISION.
  2. THE CONTRACTOR SHALL SUBMIT SAMPLE SIGNS TO THE OWNER FOR APPROVAL PRIOR TO FURNISHING.
  3. LETTERS, COLOR, AND FONT FOR NON-STANDARD SIGNS SHALL BE SELECTED BY THE OWNER.
  4. REFER TO ACCESSIBLE SIGN MOUNTING DETAIL FOR R7-8 AND R7-8P.

SIGN SCHEDULE

Revision Schedule		
Number	Revision	Date

Registrations

Consultants

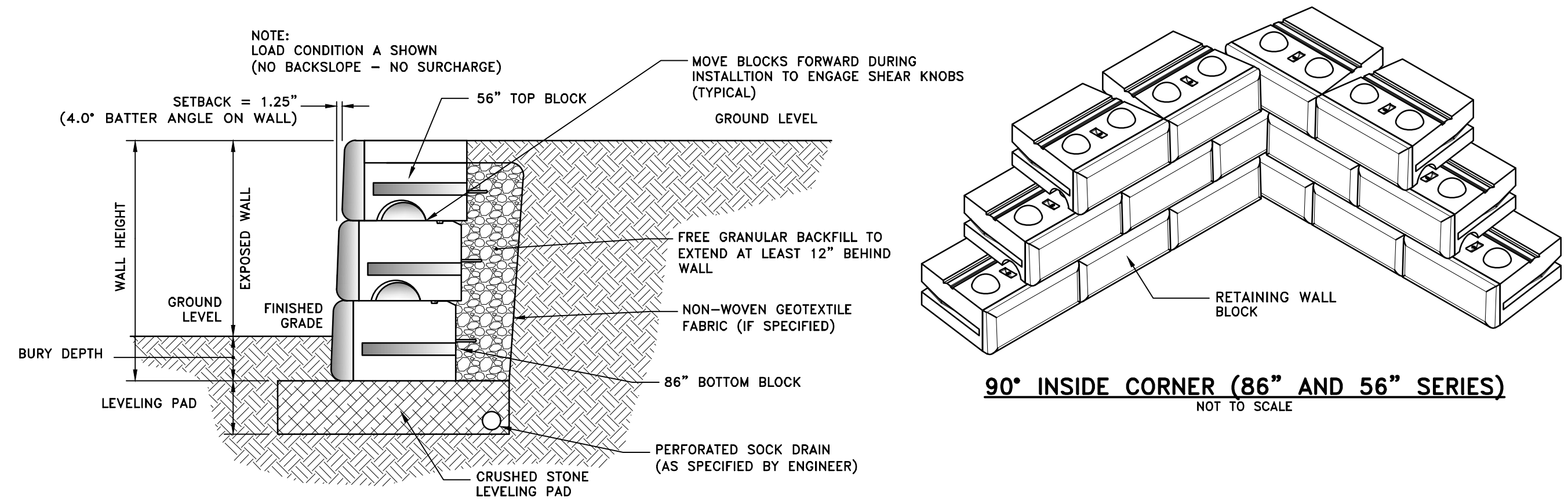


Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

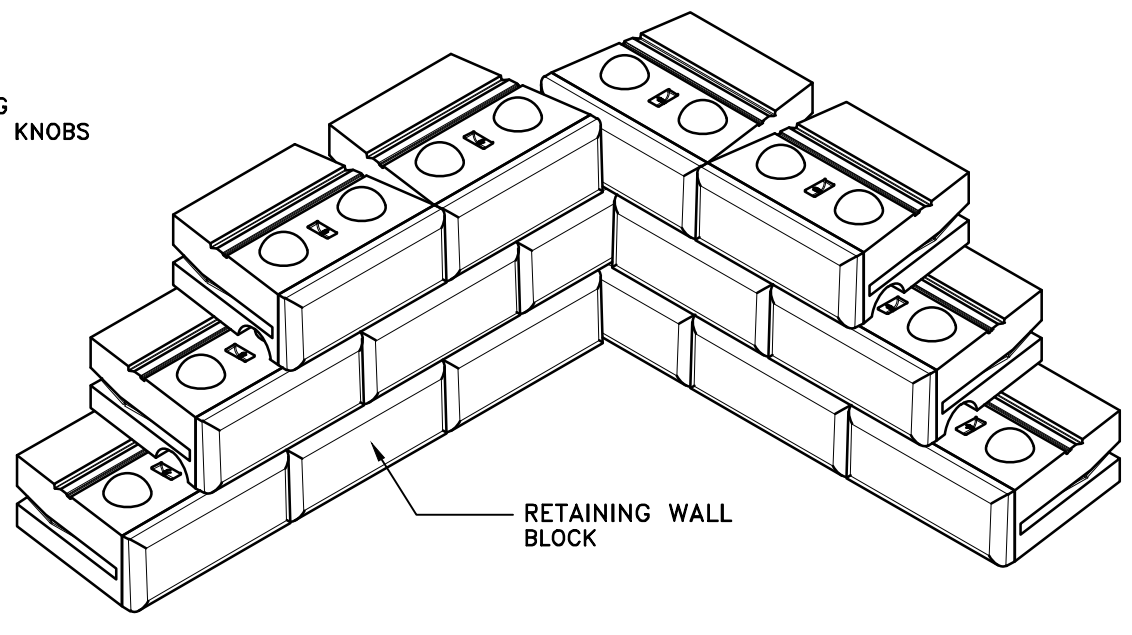
SITE DETAILS - 3

AWB	LM
Drawn by	Checked by
AUGUST 2020 AS NOTED	
Date	1704.03
Job number	PERMITTING
Drawing set	
Drawn number	

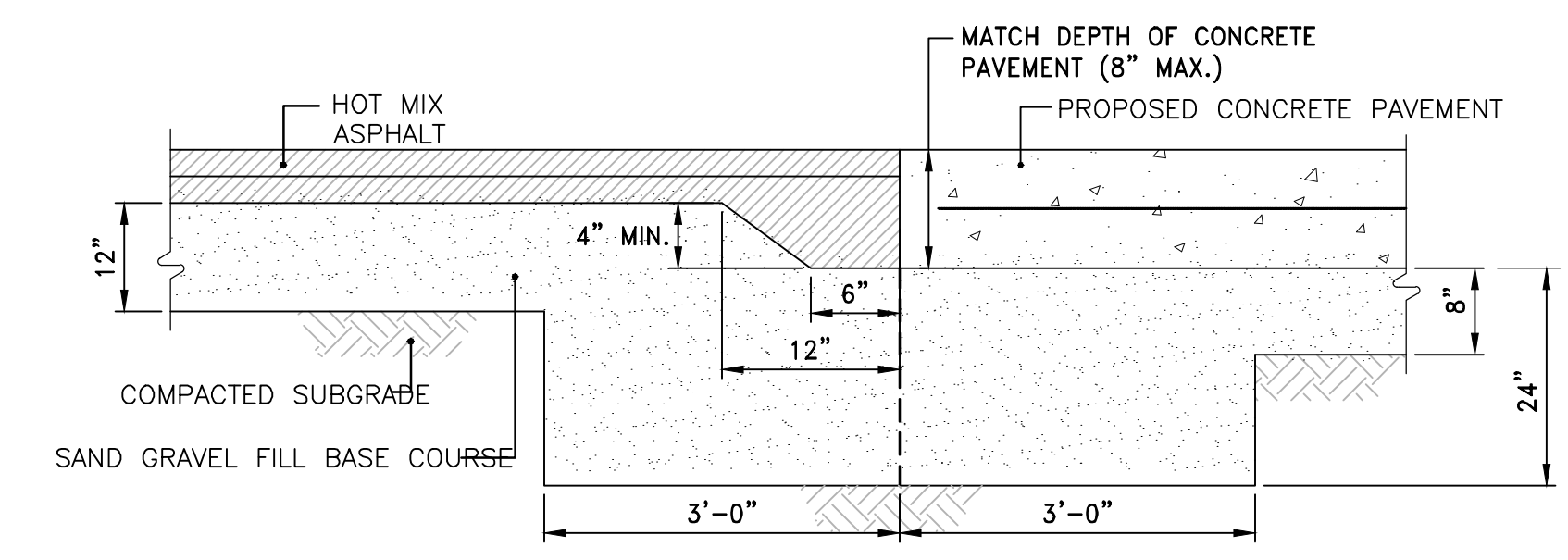
C-603



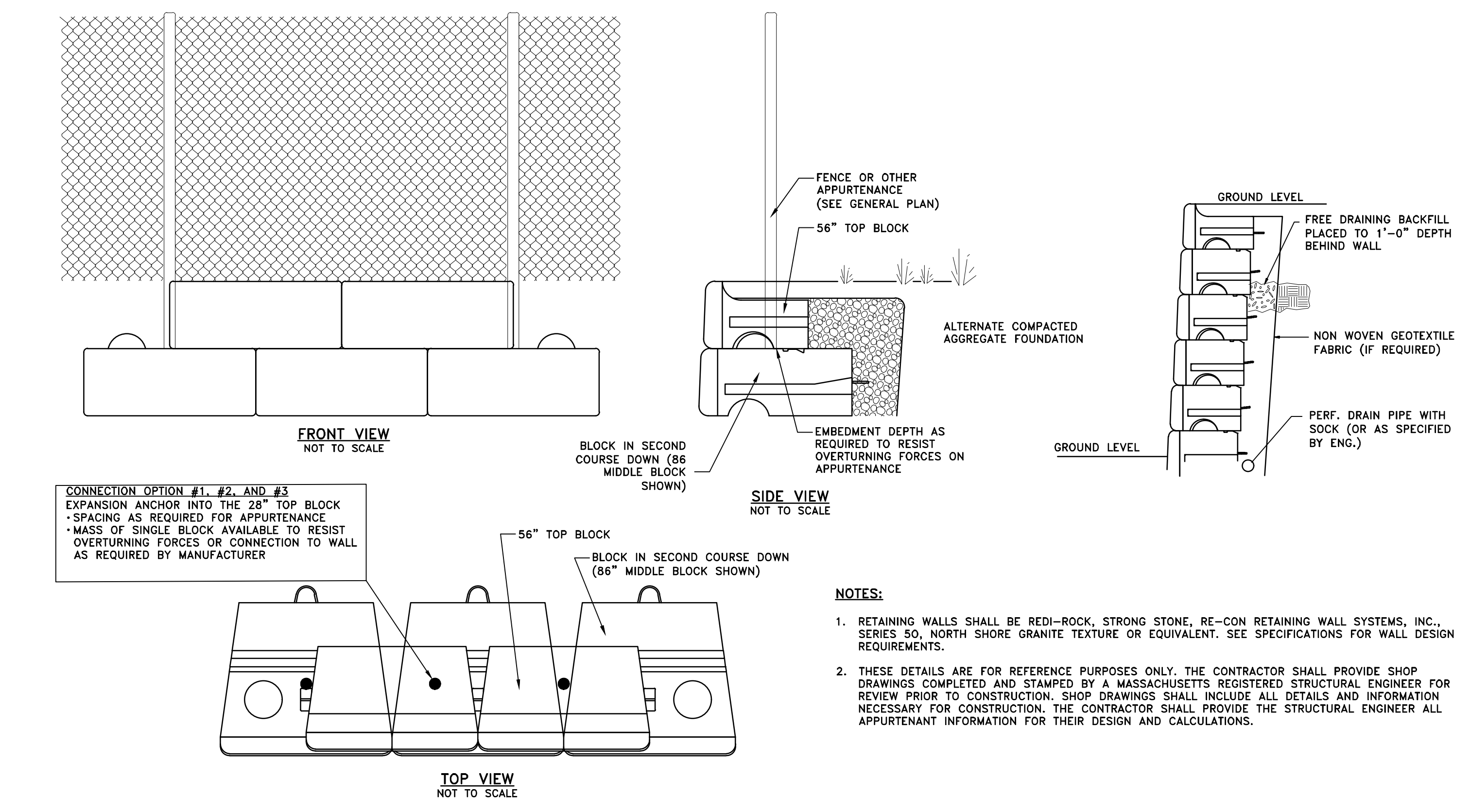
**TYPICAL SECTION-REINFORCED RETAINING WALL**  
MODULAR CONCRETE UNIT  
NOT TO SCALE



**90° INSIDE CORNER (86\"/>**

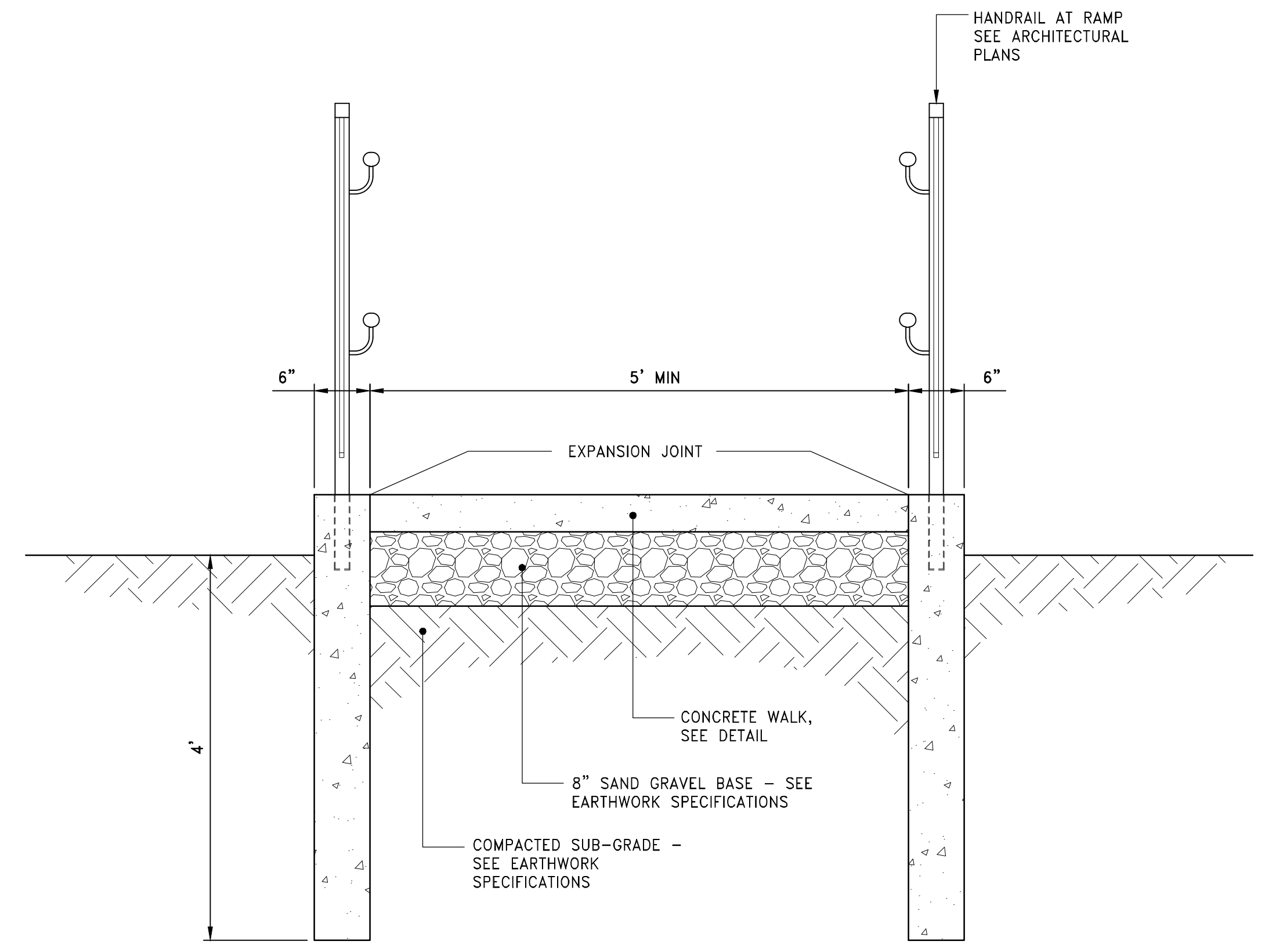


**ASPHALT HAUNCH DETAIL**  
NOT TO SCALE



**SRW SEGMENTAL RETAINING WALL DETAILS**  
NOT TO SCALE

- NOTES:**
- RETAINING WALLS SHALL BE REDI-ROCK, STRONG STONE, RE-COIN RETAINING WALL SYSTEMS, INC., SERIES 50, NORTH SHORE GRANITE TEXTURE OR EQUIVALENT. SEE SPECIFICATIONS FOR WALL DESIGN REQUIREMENTS.
  - THESE DETAILS ARE FOR REFERENCE PURPOSES ONLY. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS COMPLETED AND STAMPED BY A MASSACHUSETTS REGISTERED STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. SHOP DRAWINGS SHALL INCLUDE ALL DETAILS AND INFORMATION NECESSARY FOR CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THE STRUCTURAL ENGINEER ALL APPURTENANT INFORMATION FOR THEIR DESIGN AND CALCULATIONS.



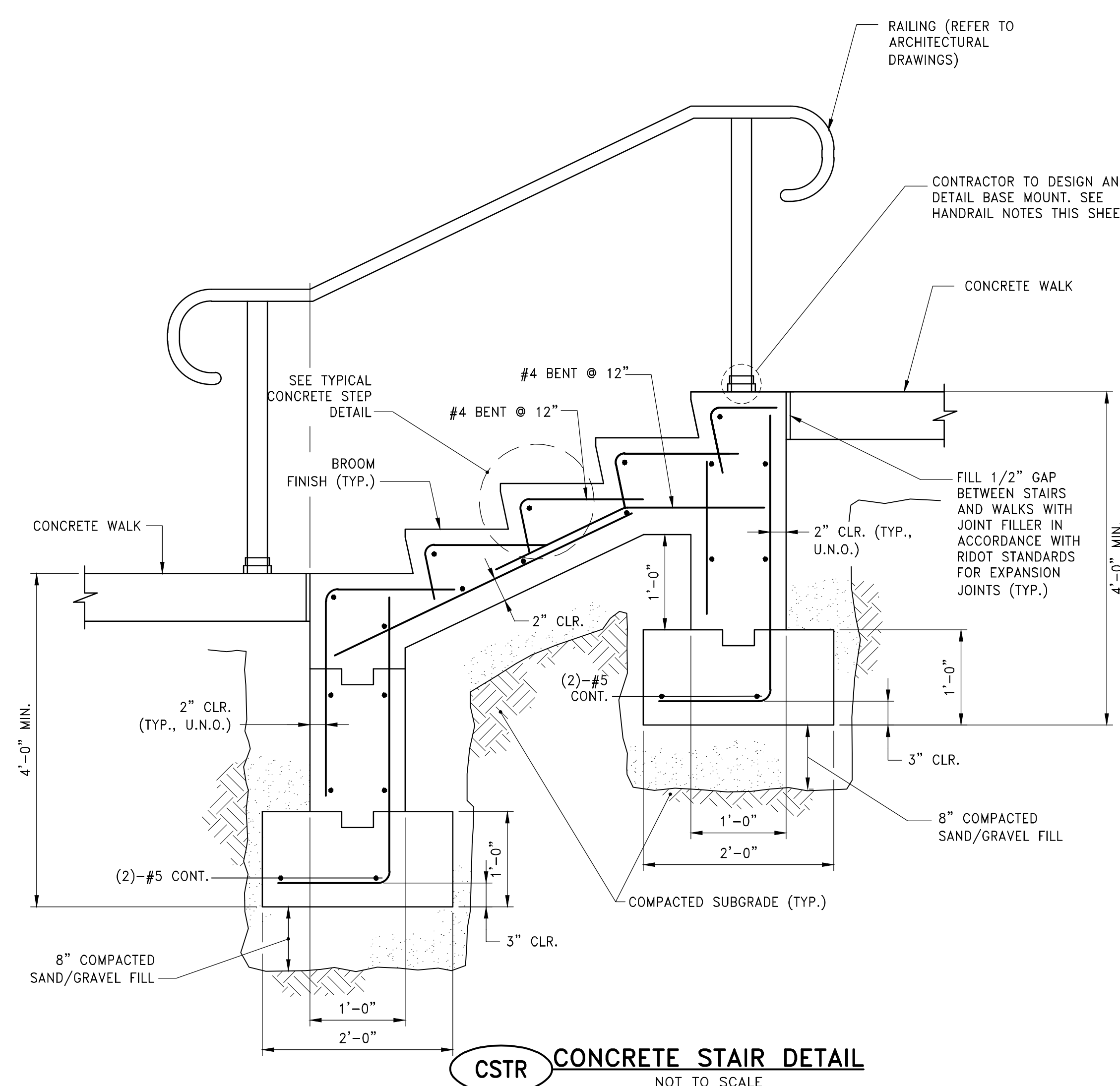
**CONCRETE RAMP DETAIL**  
NOT TO SCALE

**CONCRETE STAIR DETAIL NOTES:**

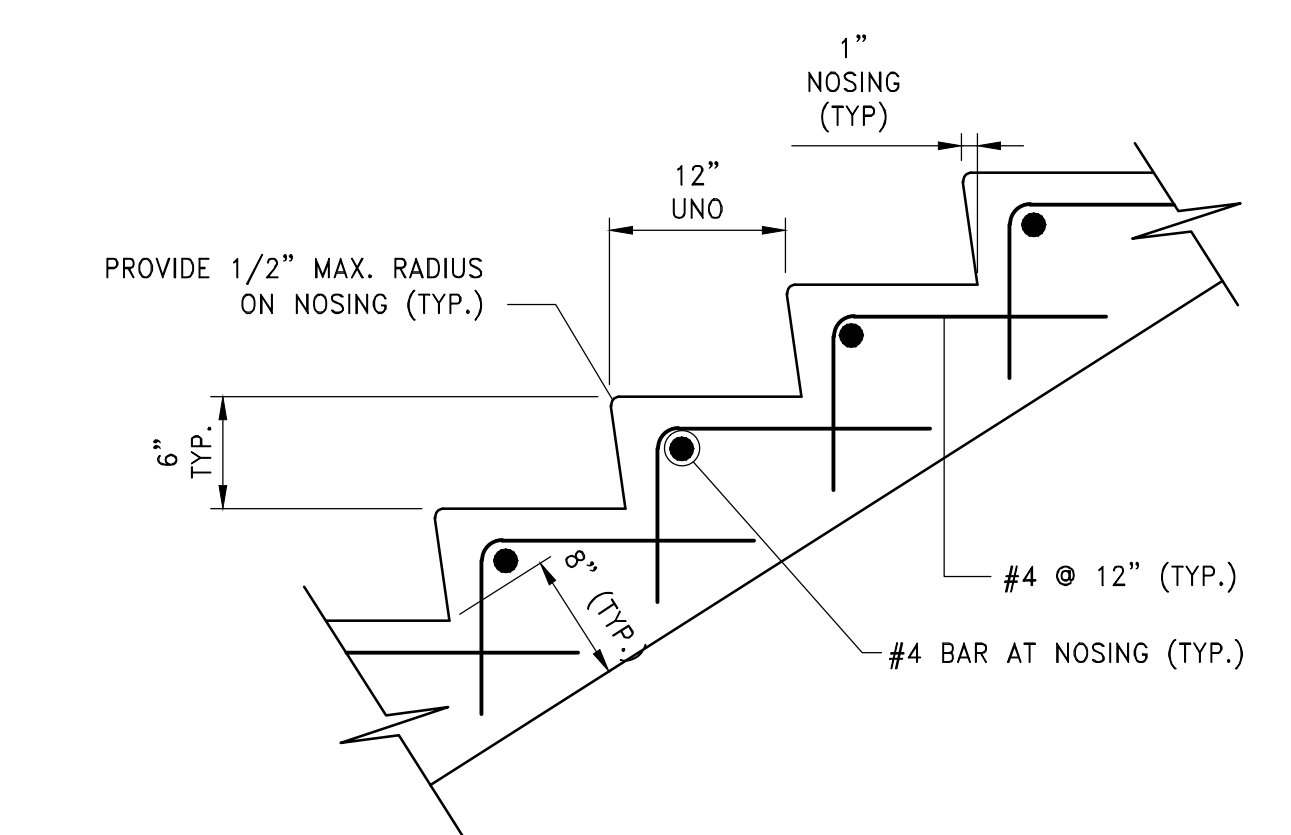
- CAST-IN-PLACE CONCRETE:**
- CONCRETE WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND THE STATE CODE.
  - CONCRETE SHALL BE PROPORTIONED, MIXED, AND PLACED UNDER THE SUPERVISION OF THE APPROVED TESTING AGENCY.
  - UNLESS NOTED OTHERWISE, CONCRETE SHALL BE NORMAL WEIGHT, WITH TYPE II CEMENT, AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS FOLLOWS:  
4,000 PSI 3/4" AGGREGATE-TYPICAL
  - ALL CONCRETE SHALL BE AIR-ENTRAINED WITH AN AIR CONTENT OF 6%± 1%. INTERIOR SLABS ON GRADE SHALL NOT BE AIR-ENTRAINED.
  - CALCIUM CHLORIDE SHALL NOT BE USED.
  - ALL SHORING SHALL REMAIN IN PLACE UNTIL CONCRETE HAS ATTAINED ITS SPECIFIED 28-DAY MINIMUM COMPRESSIVE STRENGTH.
  - ALL CONSTRUCTION JOINT LOCATIONS MUST BE SHOWN ON SHOP DRAWINGS AND APPROVED BY THE ENGINEER. CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS SHALL BE LOCATED SO AS TO LEAST IMPAIR THE STRENGTH OF THE STRUCTURE AND SHOULD GENERALLY BE LOCATED AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.
  - ALL TYPES OF SLABS AND WALLS SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS OR APPROVED IN WRITING BY THE ENGINEER. ALL CONSTRUCTION JOINTS SHALL BE FORMED WITH A STANDARD KEY OR WITH A ROUGHENED SURFACE, UNLESS SHOWN OTHERWISE.
  - PROVIDE A SMOOTH RUBBED SURFACE, FREE FROM BURRS, THE HOLES, HONEYCOMBING, ETC. ON EXPOSED CONCRETE SURFACES.
  - PROVIDE A BROOM FINISH FOR EXTERIOR SLABS.
  - ALL EXPOSED EDGES SHALL BE CHAMFERED 1" UNLESS NOTED OTHERWISE.
  - WHEN CONCRETE IS PLACED AGAINST PREVIOUSLY HARDENED CONCRETE, THE INTERFACE SHALL BE CLEAN, FREE OF LANTAGE, AND INTENTIONALLY ROUGHENED TO FULL AMPLITUDE OF APPROXIMATELY 1/4 INCH.
  - AT ALL CONSTRUCTION JOINTS NOT DESIGNATED TO BE CONTROL JOINTS, NEW CONCRETE SHALL BE EPOXY BONDED TO HARDENED CONCRETE WITH SIKADUR 32. H1-MOD LPL MANUFACTURED BY SIKA CORP. OR ENGINEER APPROVED EQUAL. APPLY PER MANUFACTURER'S RECOMMENDATIONS.
  - ELASTOMERIC JOINT FILLER (FOR WALLS) SHALL BE "SIKAFLEX 1CSL" AND SEMI-RIGID EPOXY JOINT FILLER (FOR SLABS) SHALL BE "SIKADUR 51 SL" AS MANUFACTURED BY SIKA CORP. OR ENGINEER APPROVED EQUAL.
  - ALL CONCRETE SHALL BE PLACED IN THE DRY.
  - PROVIDE POUR STOPS AT THE EDGES OF CONCRETE SLAB POURS WHERE NOT OTHERWISE CONTAINED.

**REINFORCING STEEL:**

- REINFORCING BARS SHALL BE DETAILED IN ACCORDANCE WITH ACI 315 MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES AND THE STATE CODE.
- COMPLETE SHOP DRAWINGS AND SCHEDULES OF ALL REINFORCING STEEL SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO COMMENCEMENT OF THAT PORTION OF THE WORK. ALL ACCESSORIES MUST BE SHOWN ON THE SHOP DRAWINGS.
- REINFORCING BARS SHALL CONFORM TO ASTM A615 OR A706 (WELDABLE) GRADE 60.
- ALL REINFORCING STEEL SHALL BE UNCOATED. HOWEVER, ALL SUPPORTS SUCH AS CHAIRS, BOLSTERS, SPACERS, BLOCKS AND HANGERS SHALL BE OF NON-CORROSIVE MATERIAL. PROVIDE MINIMUM #5 SUPPORT BAR.
- UNLESS NOTED ON THE DRAWINGS, THE MINIMUM CONCRETE PROTECTION (CLEAR COVER) FOR CAST-IN-PLACE CONCRETE COVER SHALL BE AS FOLLOWS:  
CONCRETE PLACED AGAINST EARTH . . . . . 3"  
FORMED CONCRETE EXPOSED TO EARTH OR WATER . . . . . 2"
- MINIMUM REINFORCEMENT DEVELOPMENT LENGTH AND LAP SPICE LENGTHS SHALL BE IN ACCORDANCE WITH ACI 318 FOR CLASS B LAPS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

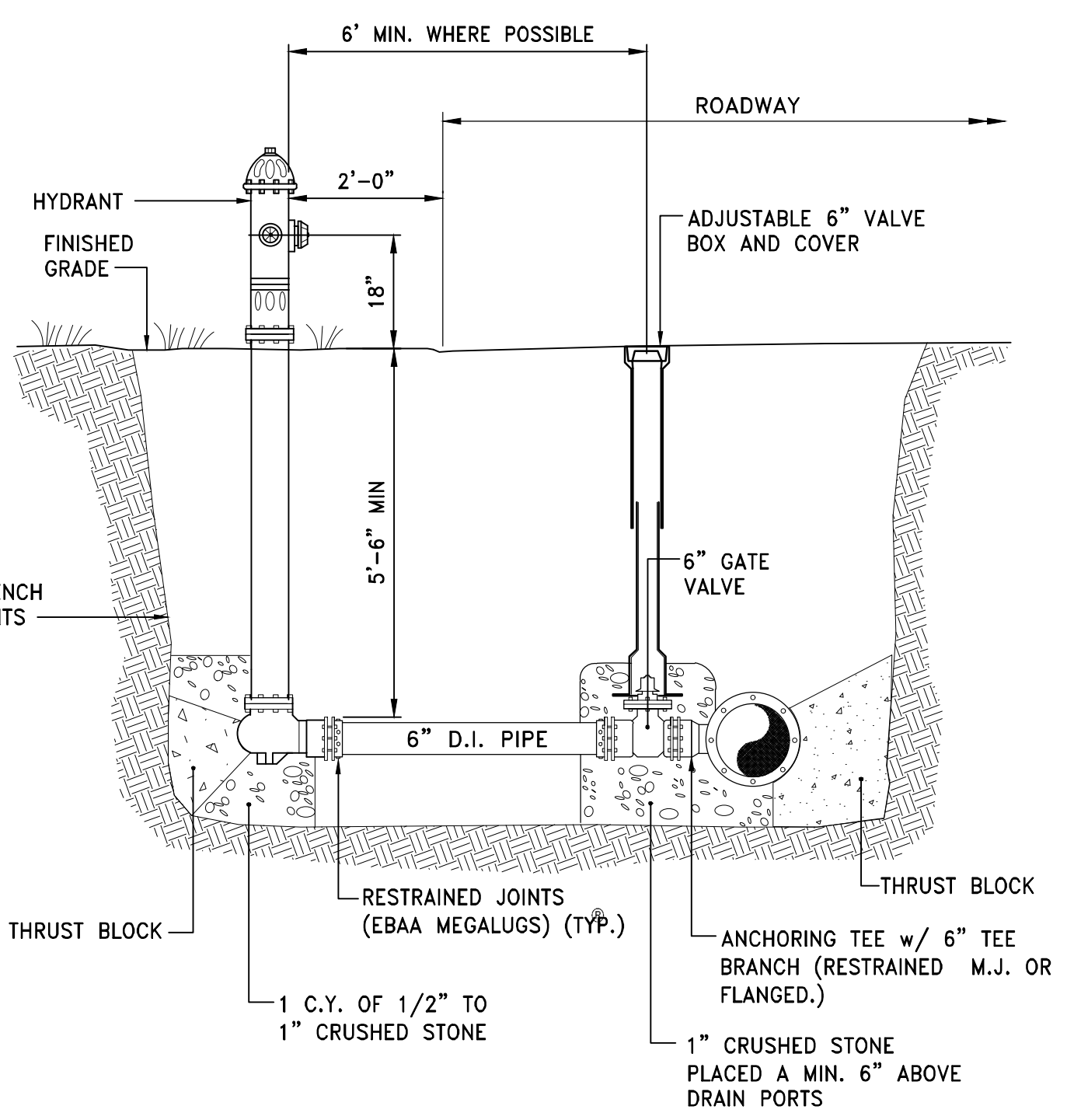


**CSTR CONCRETE STAIR DETAIL**  
NOT TO SCALE

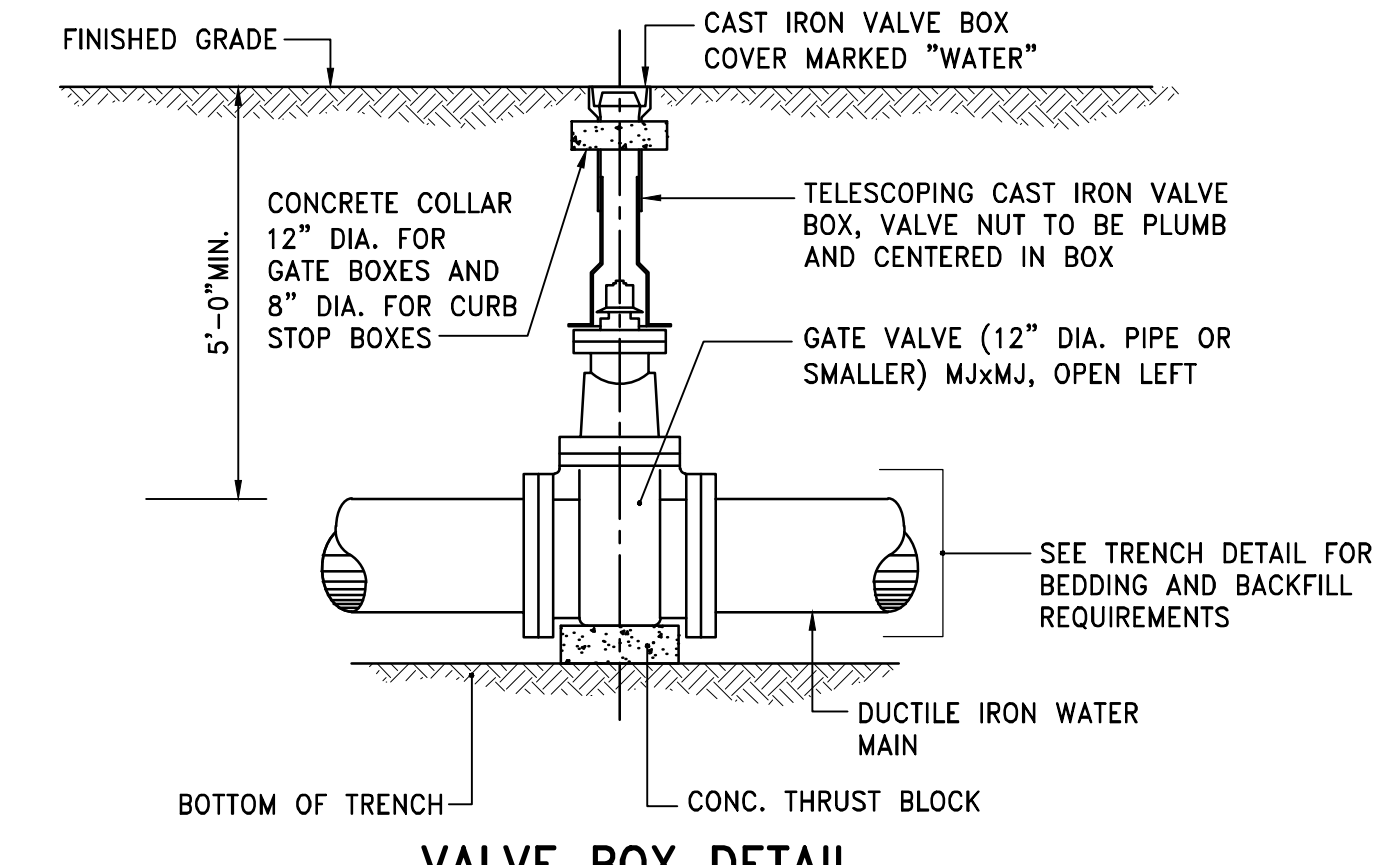


**CONCRETE STEP DETAIL**  
NOT TO SCALE

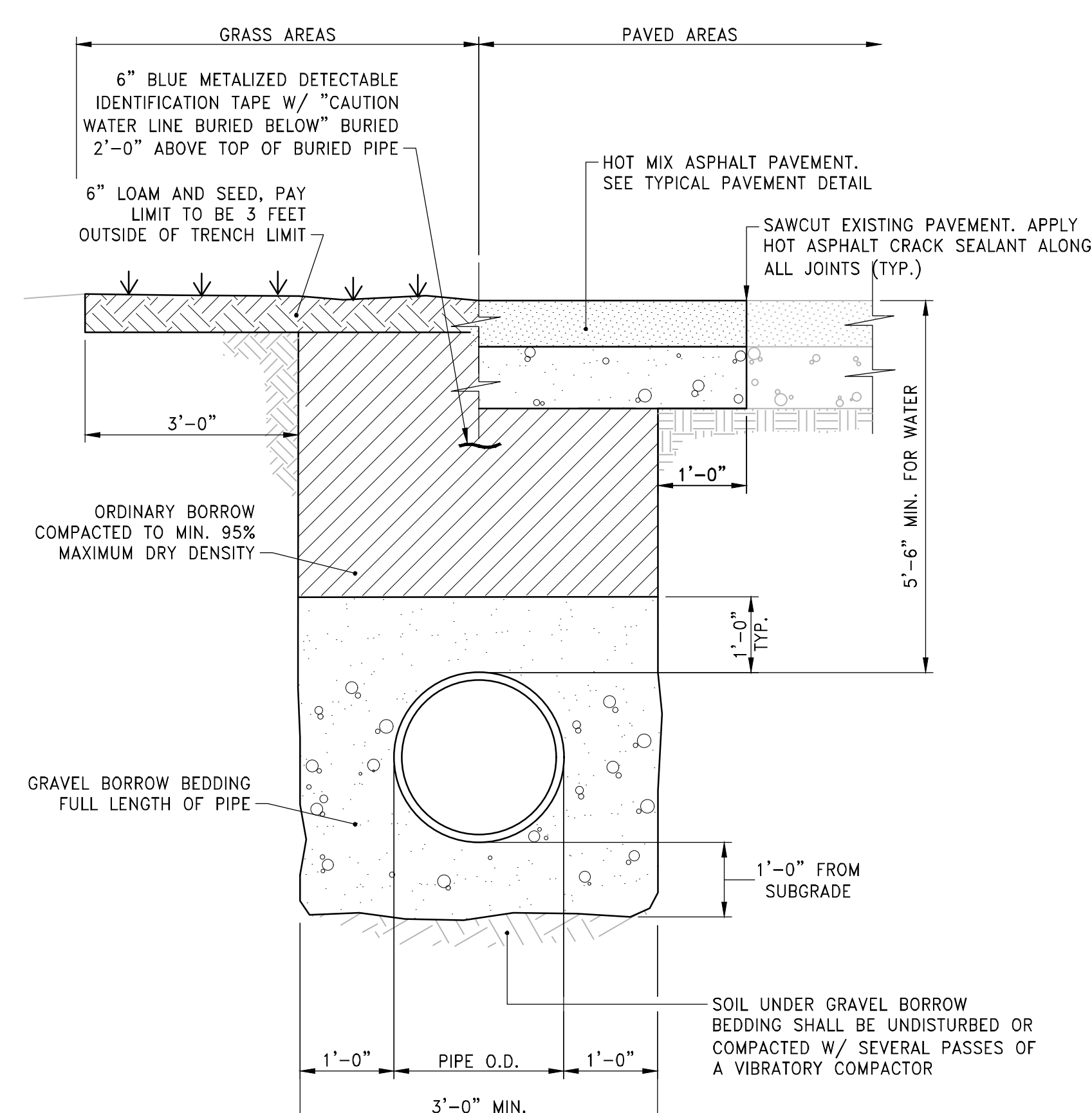
NOT FOR CONSTRUCTION



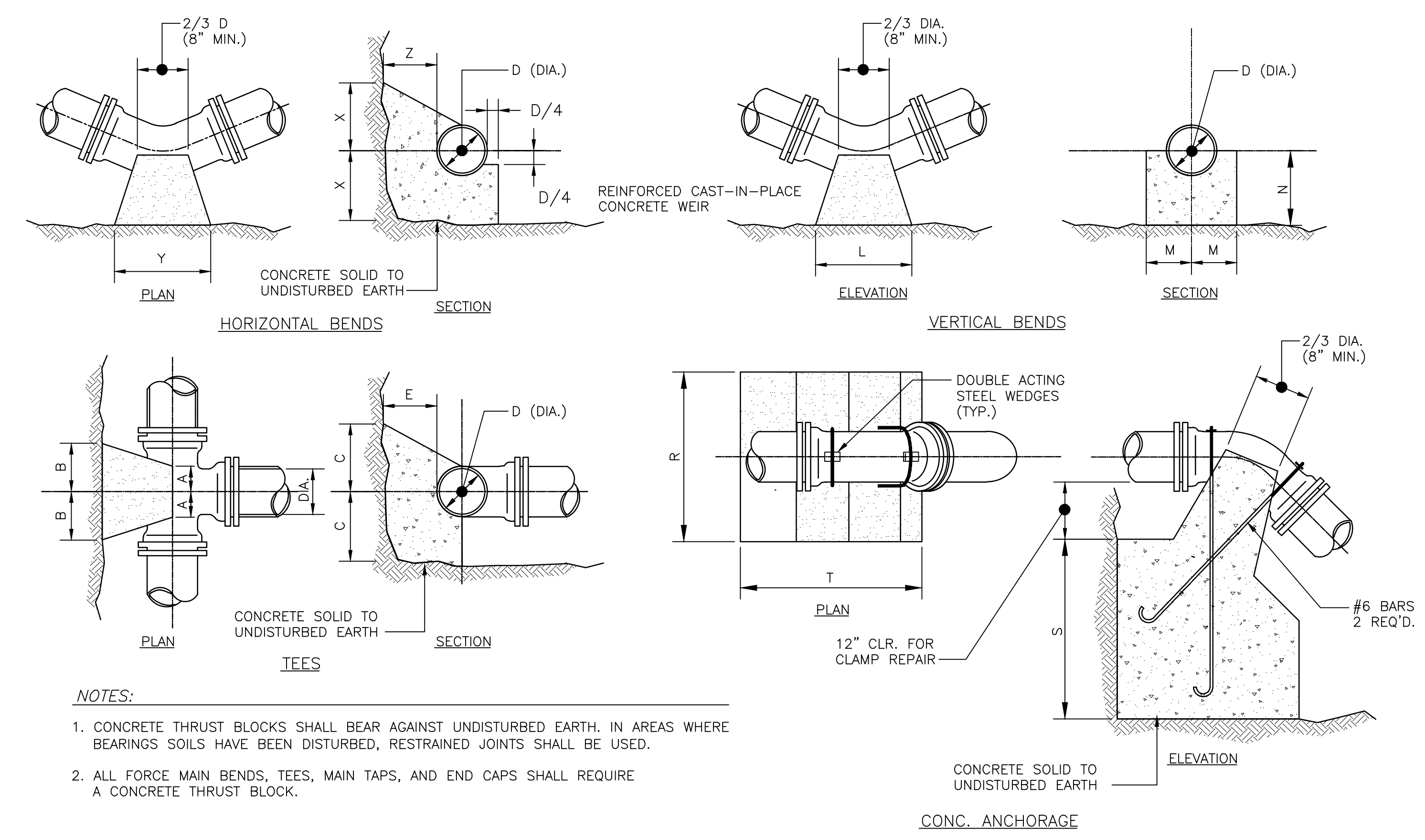
**HYD HYDRANT DETAIL**  
NOT TO SCALE



**VALVE BOX DETAIL**  
NOT TO SCALE



**WATER MAIN TRENCH DETAIL**  
NOT TO SCALE

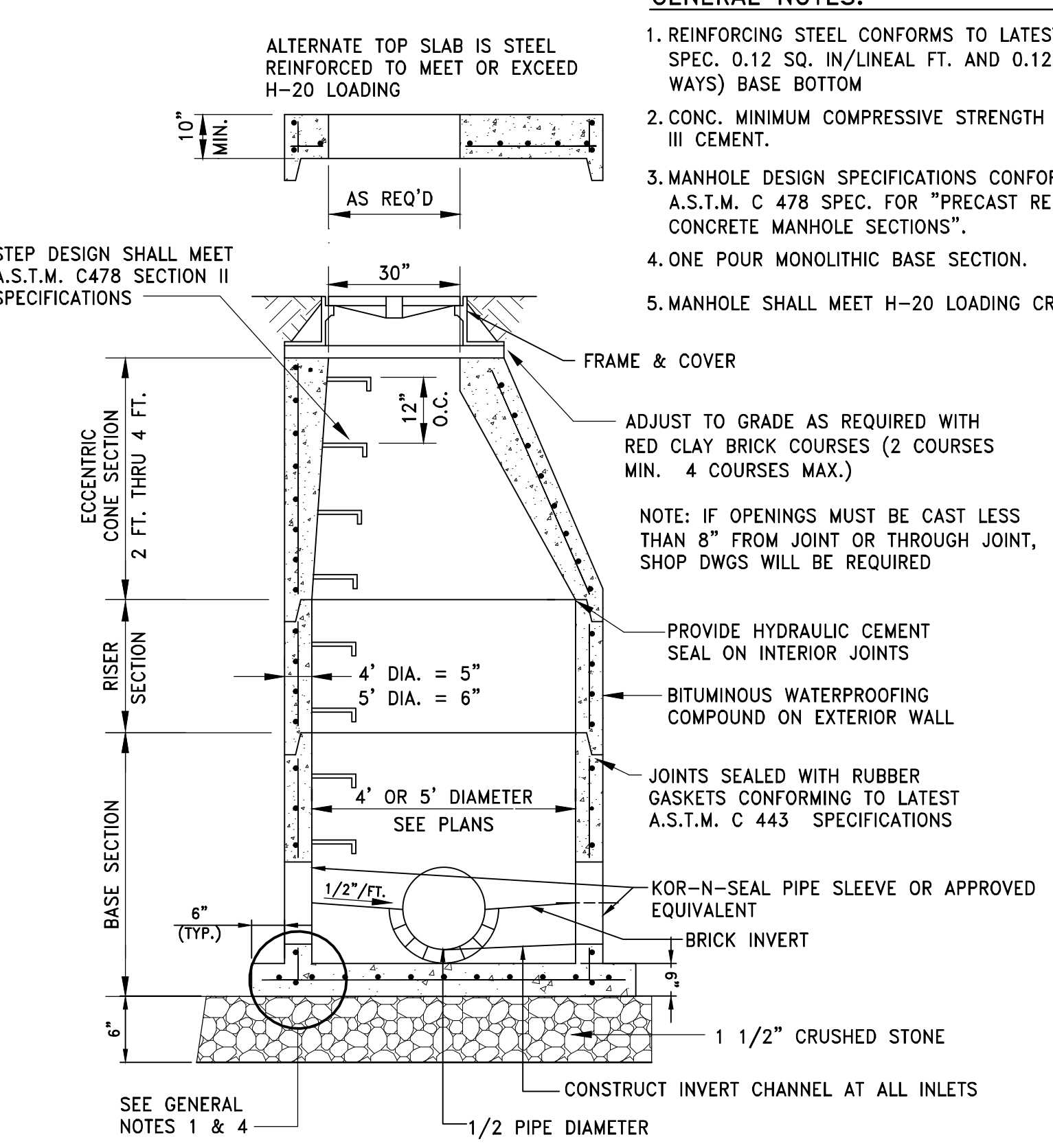


- NOTES:**
1. CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED EARTH. IN AREAS WHERE BEARINGS SOILS HAVE BEEN DISTURBED, RESTRAINED JOINTS SHALL BE USED.
  2. ALL FORCE MAIN BENDS, TEES, MAIN TAPS, AND END CAPS SHALL REQUIRE A CONCRETE THRUST BLOCK.

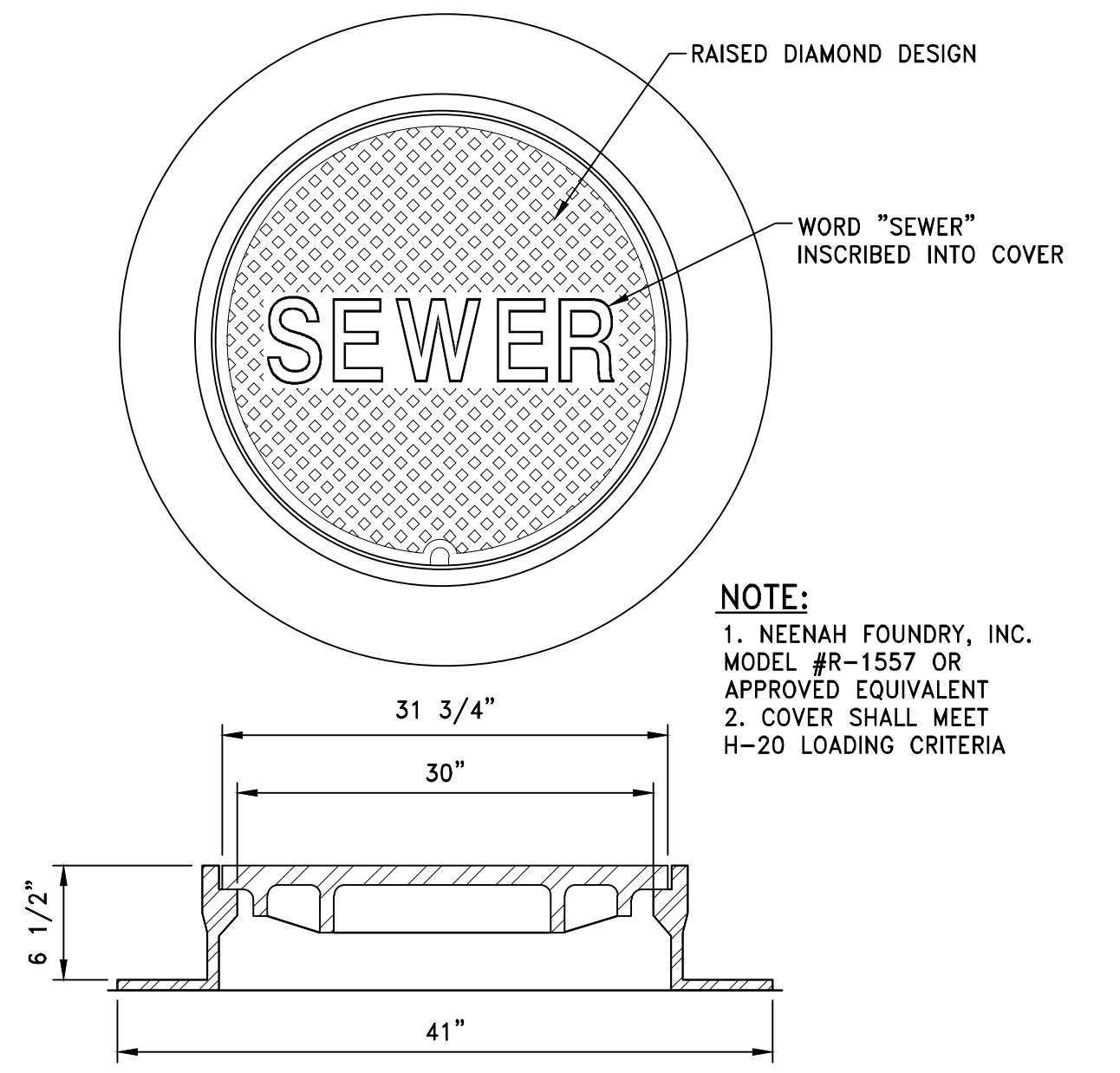
TEES		HORIZONTAL BENDS		VERTICAL BENDS		ANCHORAGES	
PIPE SIZE-D (DIA.)		PIPE SIZE-D (DIA.)		PIPE SIZE-D (DIA.)		PIPE SIZE-D (DIA.)	
	6" 8" 12" 16" 20"	BEND	6" 8" 12" 16" 20"	BEND	6" 8" 12" 16" 20"	BEND	6" 8" 12" 16" 20"
A	8" 10" 11'-0" 11'-3" 11'-6"	1/8	X 1'-0" 1'-0" 1'-0" 1'-3" 1'-6"	1/8	L 1'-3" 1'-8" 2'-6" 3'-6" 4'-8"	1/8	R 2'-6" 3'-0" 4'-6" 5'-4" 6'-0"
B	8" 10" 11'-0" 11'-3" 11'-6"		Y 1'-0" 1'-0" 2'-0" 2'-6" 3'-0"		M 7" 8" 11" 11'-4" 11'-8"		S 2'-6" 2'-0" 3'-6" 4'-6" 5'-6"
C	10" 11'-0" 11'-3" 11'-6" 11'-8"		Z 8" 10" 11'-2" 11'-4" 11'-6"		N 7" 8" 11" 11'-4" 11'-8"		T 3'-0" 4'-0" 4'-8" 7'-0" 9'-6"
E	8" 10" 11'-2" 11'-6" 11'-10"		X 1'-0" 1'-0" 1'-0" 1'-3" 1'-6"		L 9" 11'-0" 11'-9" 2'-6" 3'-0"		R 2'-0" 2'-8" 4'-0" 4'-6" 5'-0"
			Y 1'-0" 1'-4" 1'-6" 1'-9" 2'-6"		M 7" 7" 10" 11'-0" 11'-2"		S 1'-9" 2'-3" 2'-6" 3'-2" 3'-8"
			Z 8" 10" 11'-2" 11'-4" 11'-6"		N 7" 8" 10" 11'-0"		T 2'-6" 3'-4" 4'-0" 6'-0" 8'-6"
			X 11'-0" 11'-0" 11'-0" 11'-2" 11'-4"		L 8" 8" 11'-0" 11'-4" 11'-8"		R 1'-6" 2'-0" 3'-0" 3'-8" 4'-3"
			Y 1'-0" 1'-0" 1'-2" 1'-4" 1'-6"		M 7" 7" 10" 11'-0" 11'-2"		S 1'-3" 1'-9" 2'-0" 2'-4" 2'-6"
			Z 8" 10" 11'-2" 11'-4" 11'-6"		N 7" 7" 10" 11'-0" 11'-0"		T 2'-0" 2'-6" 3'-0" 4'-6" 5'-9"

**CONCRETE THRUST BLOCKS**  
NOT TO SCALE

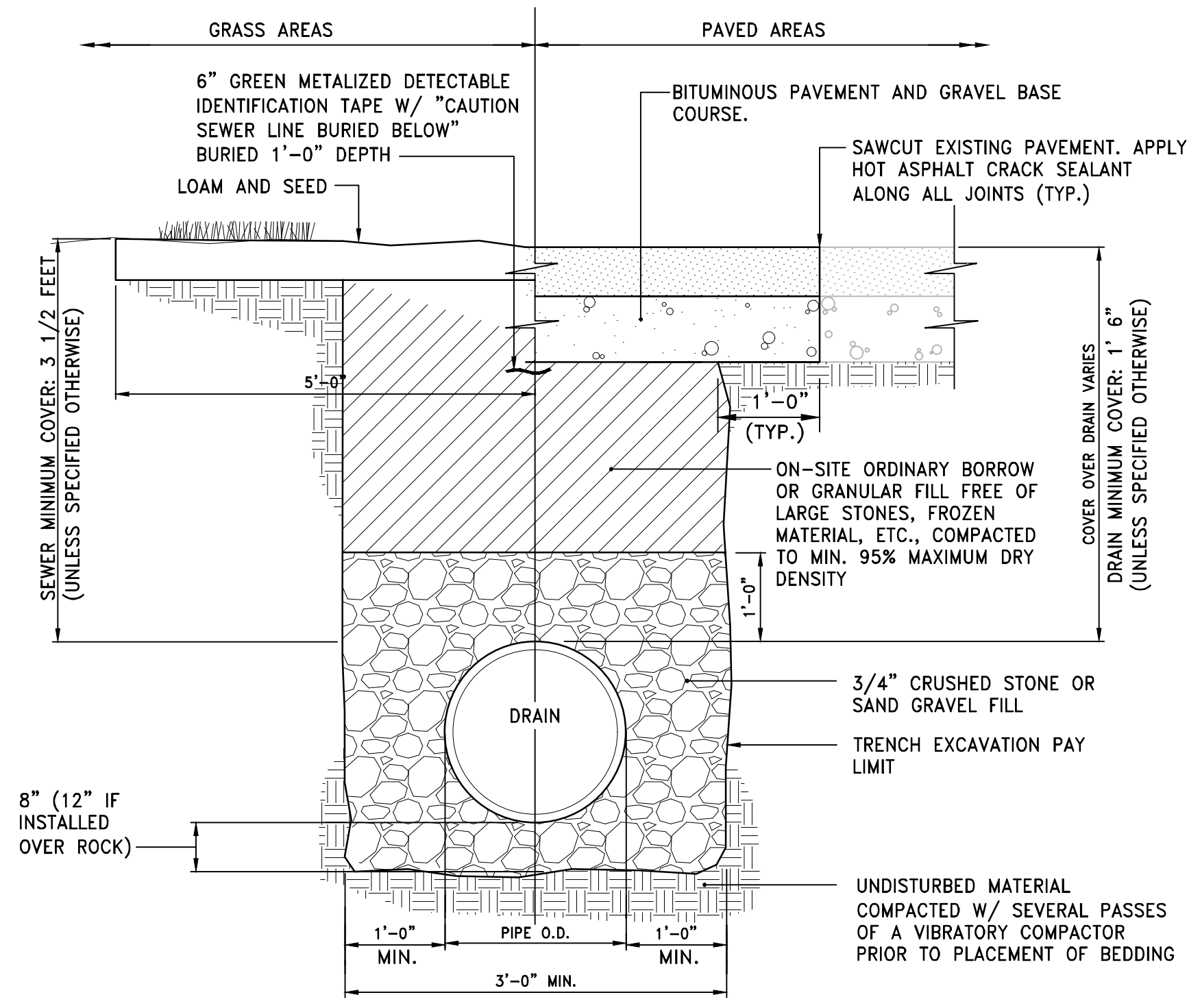
- GENERAL NOTES:**
1. REINFORCING STEEL CONFORMS TO LATEST A.S.T.M. A 185 SPEC. 0.12 SQ. IN./LINEAL FT. AND 0.12 SQ. IN. (BOTH WAYS) BASE BOTTOM
  2. CONC. MINIMUM COMPRESSIVE STRENGTH = 4000 PSI TYPE III CEMENT.
  3. MANHOLE DESIGN SPECIFICATIONS CONFORM TO LATEST A.S.T.M. C 478 SPEC. FOR "PRECAST REINFORCED CONCRETE MANHOLE SECTIONS".
  4. ONE FOUR MONOLITHIC BASE SECTION.
  5. MANHOLE SHALL MEET H-20 LOADING CRITERIA.



**TYPICAL SEWER MANHOLE DETAIL**  
NOT TO SCALE

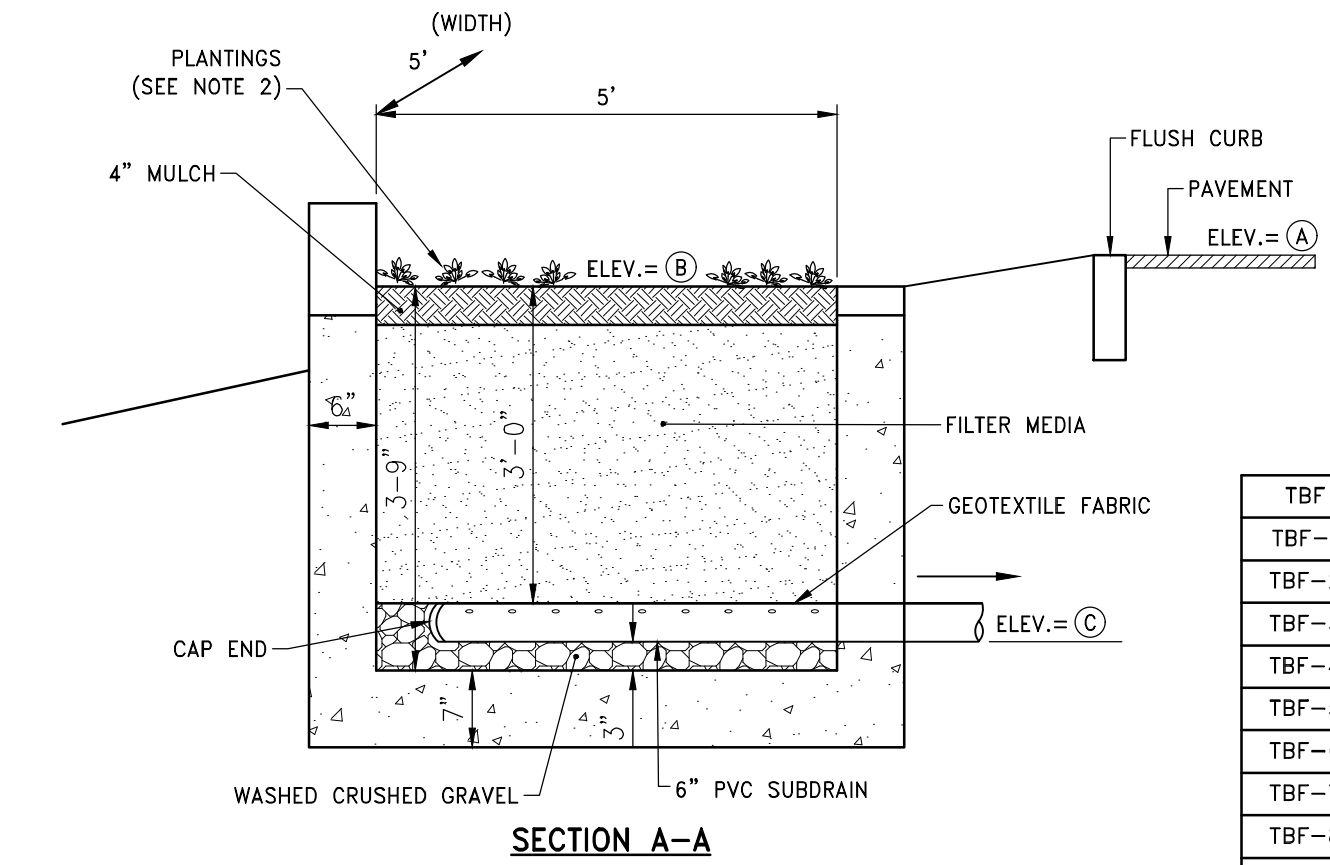


**SANITARY MANHOLE FRAME & COVER**  
NOT TO SCALE



- NOTES:**
1. WHERE THE DISTANCE BETWEEN THE SAWCUT AND EDGE OF PAVEMENT IS 3' OR LESS, THE CONTRACTOR SHALL REPLACE THE PAVEMENT FROM THE TRENCH EDGE TO THE EXISTING EDGE OF PAVEMENT.
  2. 3/4" DIA. CRUSHED STONE SHALL BE USED AS BEDDING WHERE TRENCH IS BELOW THE GROUND WATER TABLE.

**DRAIN/SEWER TRENCH DETAIL**  
NOT TO SCALE



- NOTES:**
1. FILTER MEDIA SHALL BE 80% SAND AND 20% COMPOST.
  2. REFER TO LANDSCAPE PLANS FOR VEGETATION.

**TREE BOX FILTER**  
NOT TO SCALE

TBF	(A)	(B)	(C)
TBF-1	205.00	204.50	201.00
TBF-2	204.95	204.45	200.95
TBF-3	204.95	204.45	200.95
TBF-4	205.00	204.50	201.00
TBF-5	193.95	193.45	189.95
TBF-6	193.90	193.40	189.90
TBF-7	190.25	189.75	186.25
TBF-8	188.10	187.60	184.10
TBF-9	187.30	186.80	183.30
TBF-10	188.45	187.95	184.45

Revision Schedule

Number	Revision	Date

Registrations

Consultants

**PARE**  
PARE CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 01935  
508-943-1755

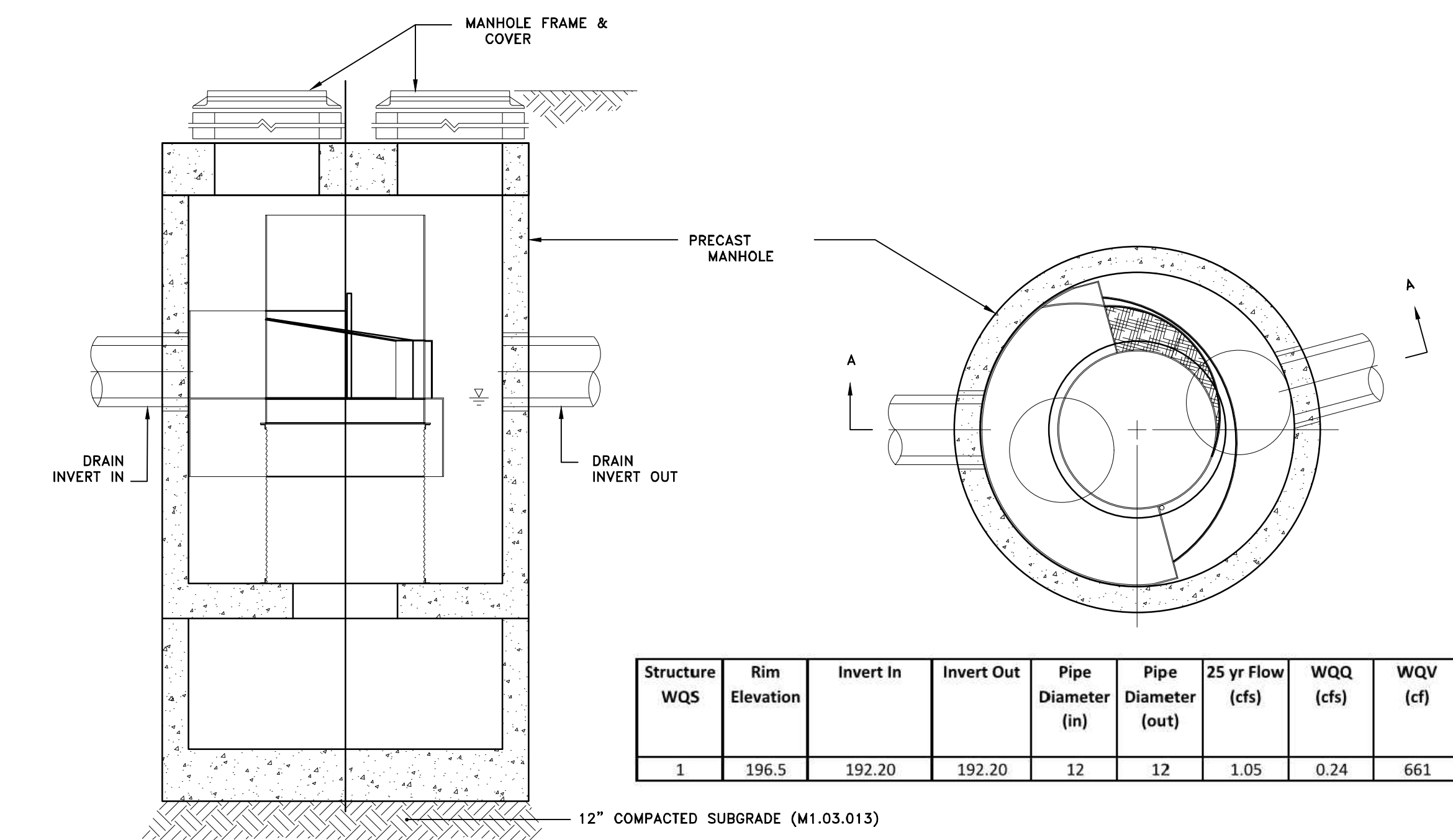
Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

SITE DETAILS - 5

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Drawn by LM  
Checked by AUGUST 2020 AS NOTED  
Date 17044.03  
Job number PERMITTING  
Drawing set  
Drawing number

C-605

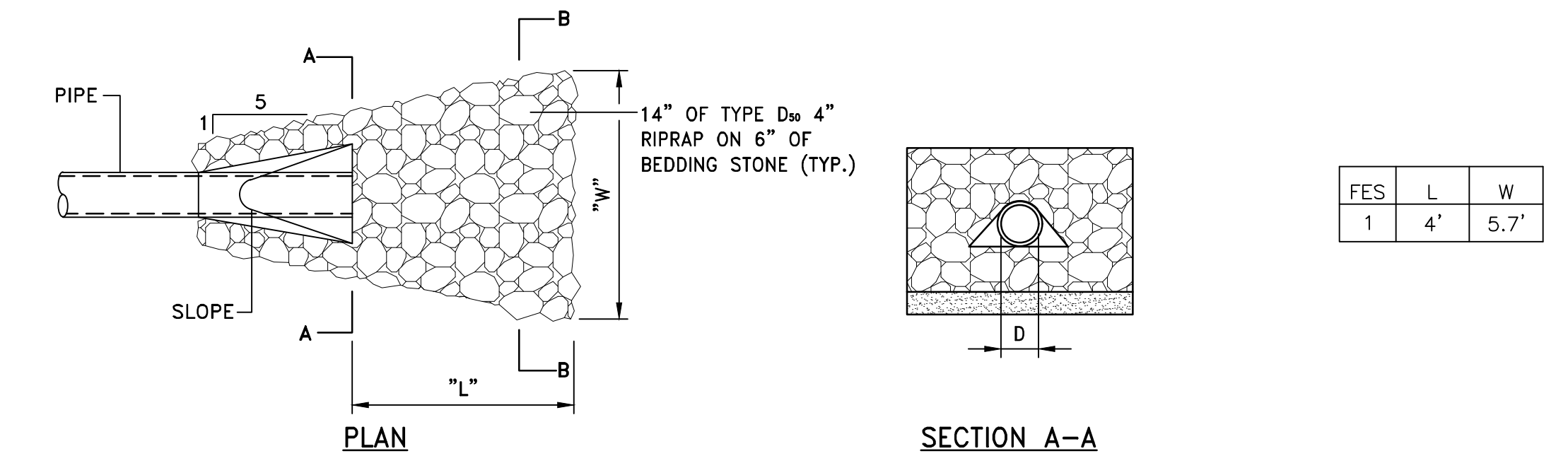
NOT FOR CONSTRUCTION



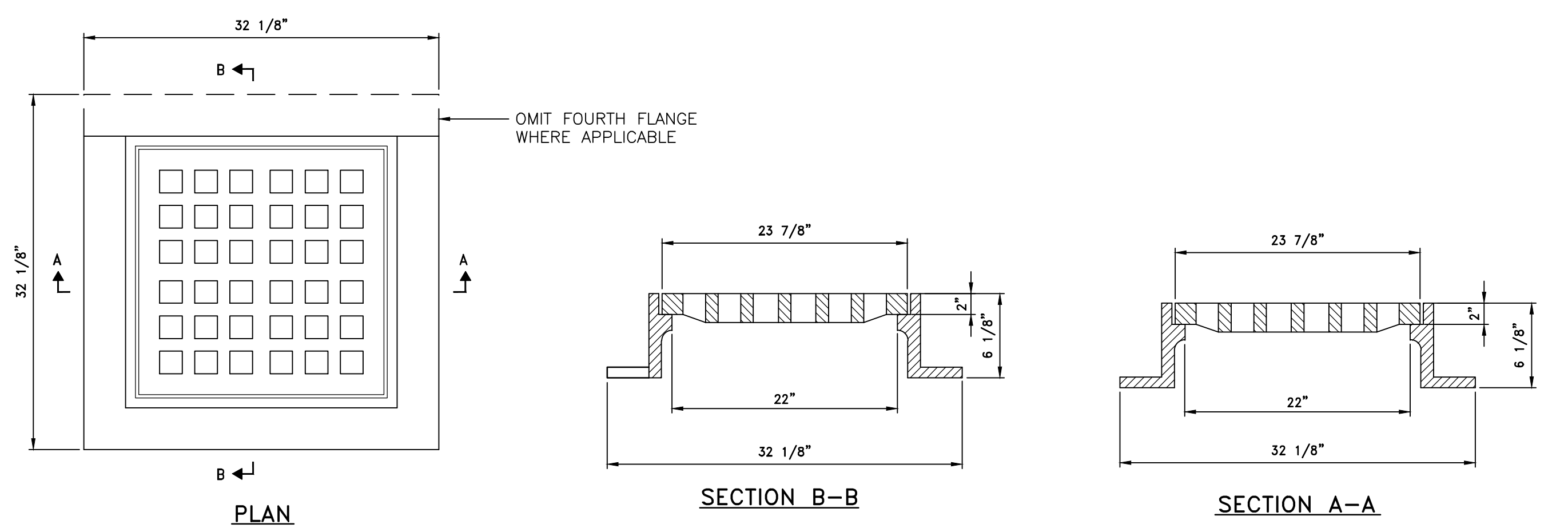
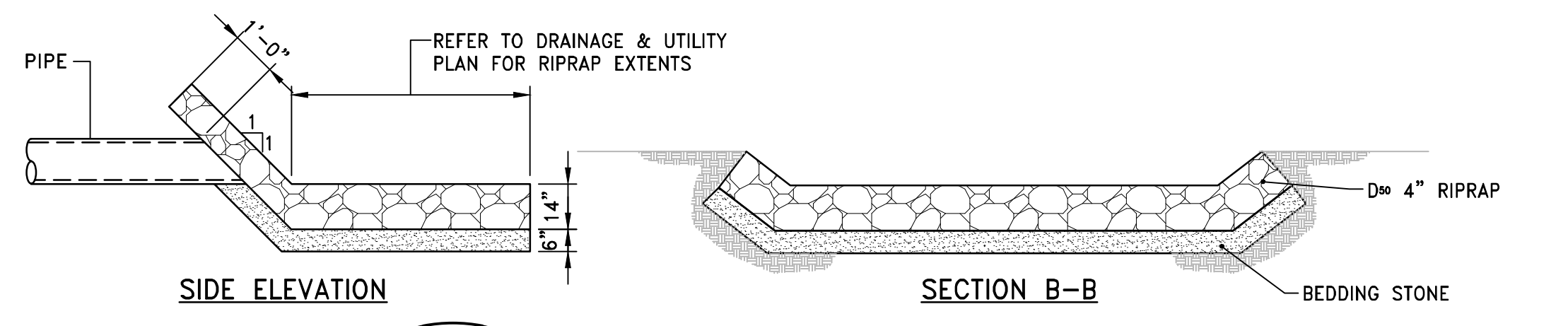
Structure	WQ5	Rim Elevation	Invert In	Invert Out	Pipe Diameter (in)	Pipe Diameter (out)	25 yr Flow (cfs)	WQ5 (cfs)	WQV (cf)
1		196.5	192.20	192.20	12	12	1.05	0.24	661

- NOTES:
1. MANUFACTURER TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
  2. DIMENSIONS ARE SCHEMATIC DIMENSIONS. ACTUAL DIMENSIONS MAY VARY DEPENDING ON MANUFACTURER, DESIGN, AND STRUCTURE.
  3. CONTRACTOR TO PROVIDE SHOP DRAWING AND CALCULATIONS FROM MANUFACTURER OF EACH HS.
  4. WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL CODES, LAWS, AND REGULATIONS OF MASSDEP, TOWN OF ASHLAND, AND ALL OTHER GOVERNING AGENCIES.
  5. STRUCTURE AND CASTINGS SHALL MEET AASHTO HS20 LOAD RATING.
  6. SEE TABLE FOR SIZING AND BASIS OF DESIGN DATA.

**WQS-X WATER QUALITY STRUCTURE (HYDRODYNAMIC SEPARATOR)**  
NOT TO SCALE

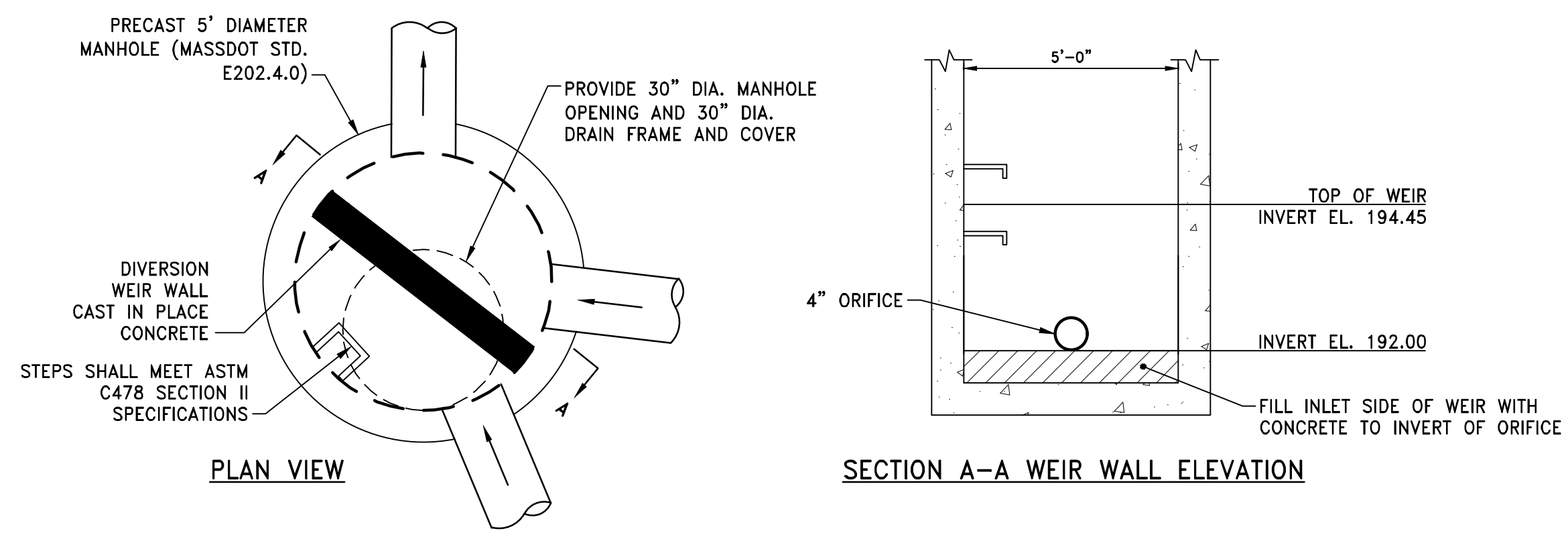


**RLS RIPRAP LEVEL SPREADER**  
NOT TO SCALE

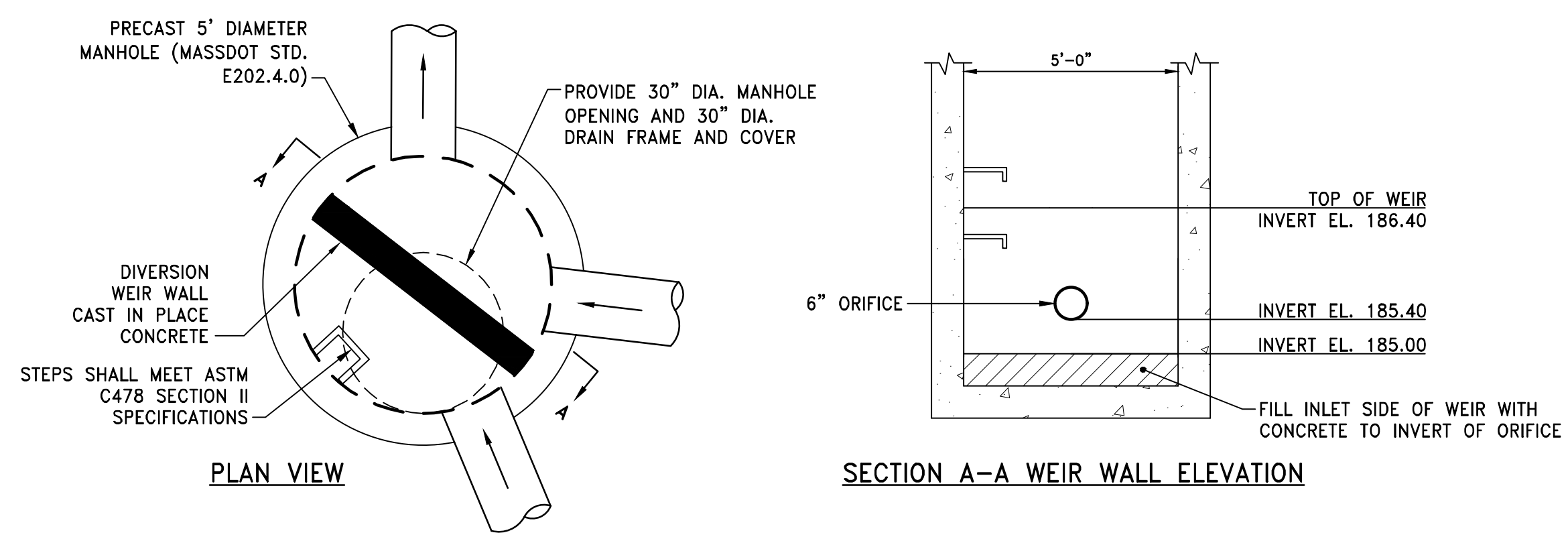


- NOTES:
1. NEENAH FOUNDRY R-3405-A OR APPROVED EQUIVALENT.
  2. FRAME AND GRATE SHALL MEET H-20 LOADING CRITERIA.

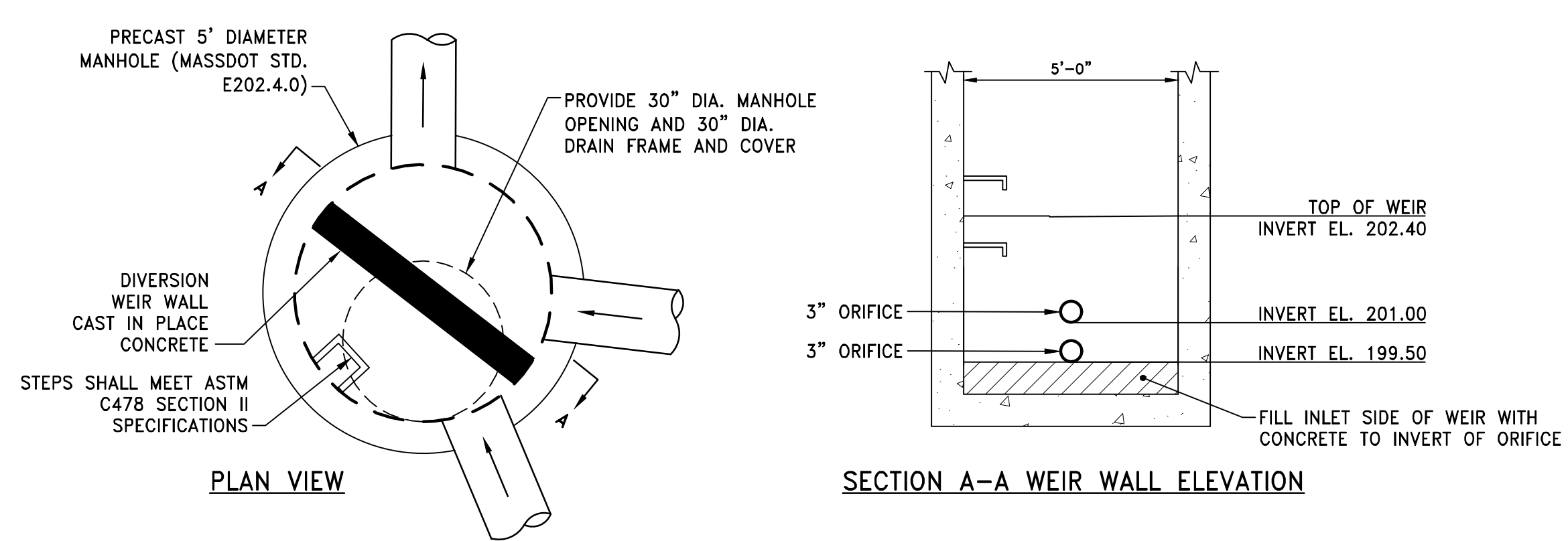
**SQUARE CATCH BASIN FRAME & GRATE**  
NOT TO SCALE



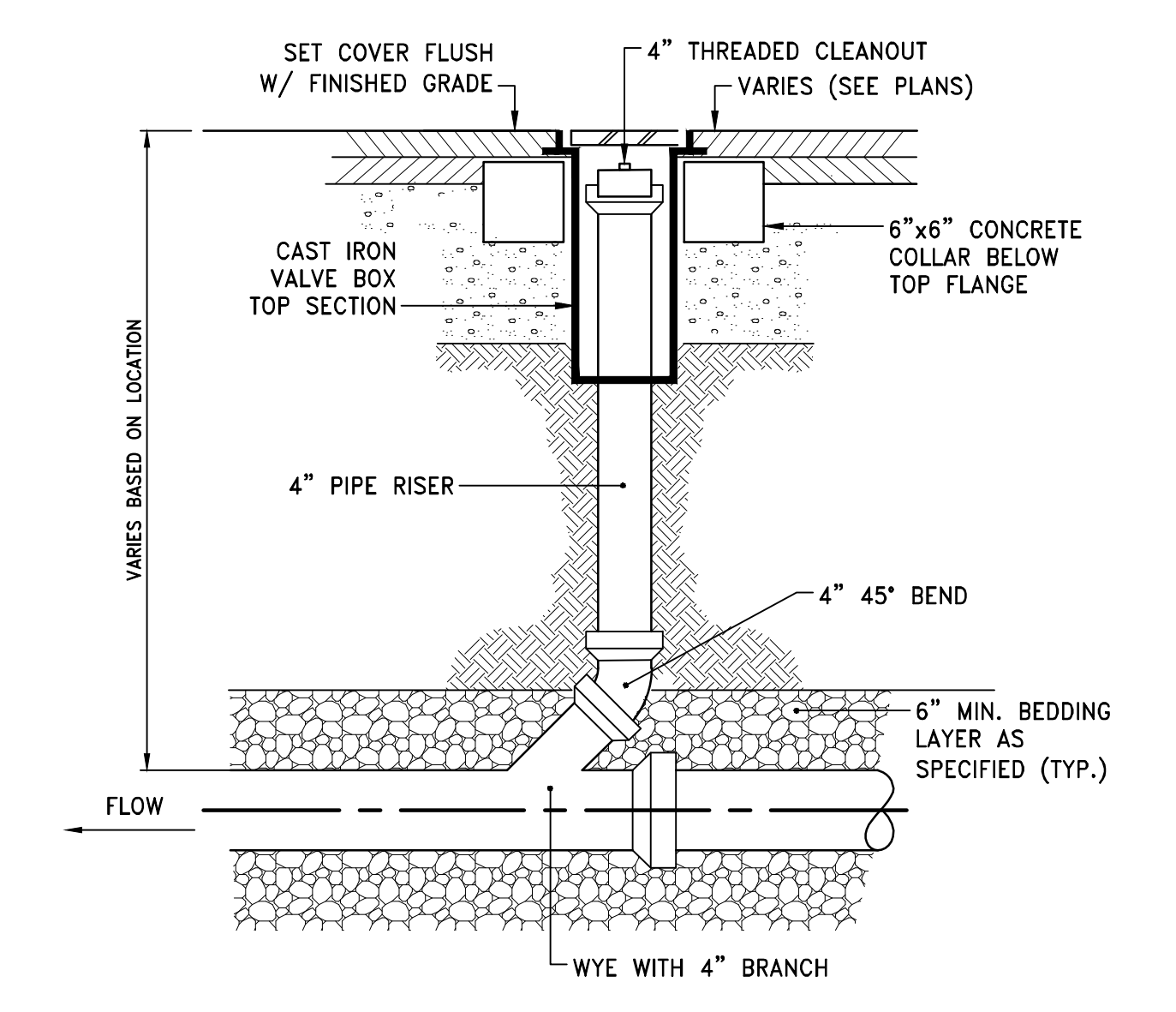
**OUTLET CONTROL STRUCTURE (OCS-1)**  
NOT TO SCALE



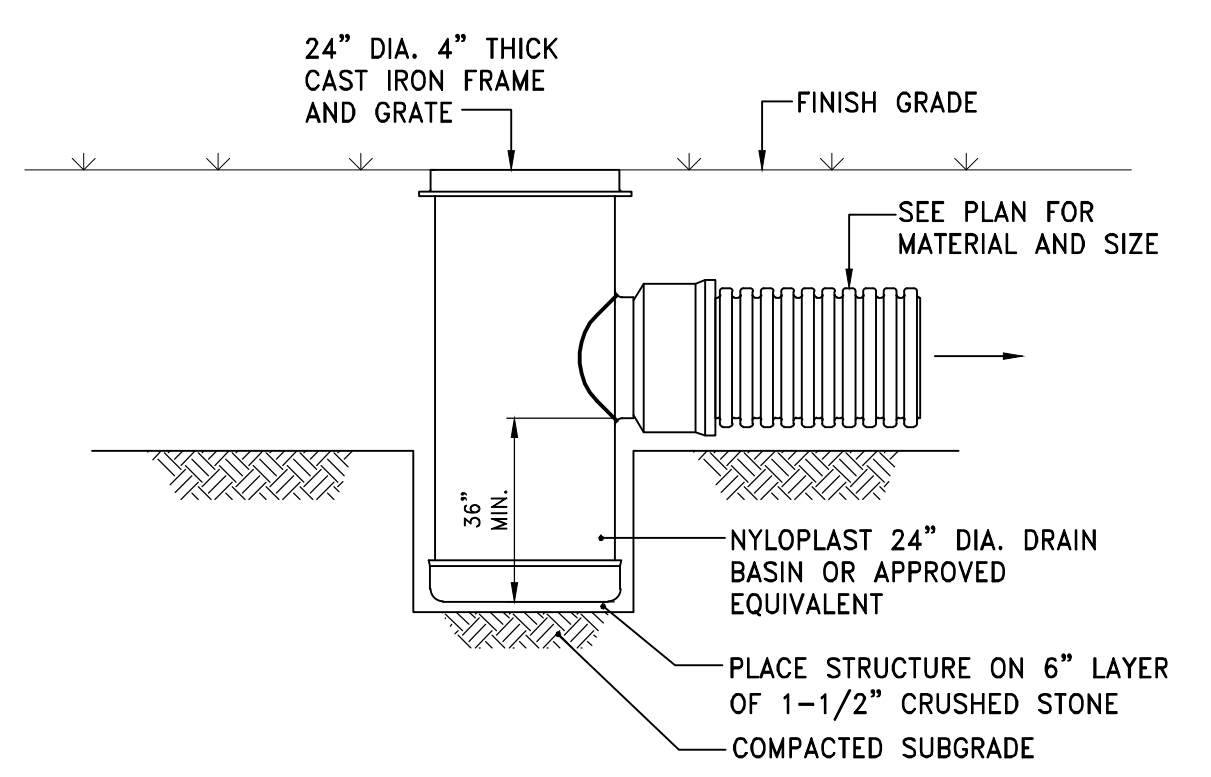
**OUTLET CONTROL STRUCTURE (OCS-2)**  
NOT TO SCALE



**OUTLET CONTROL STRUCTURE (OCS-3)**  
NOT TO SCALE



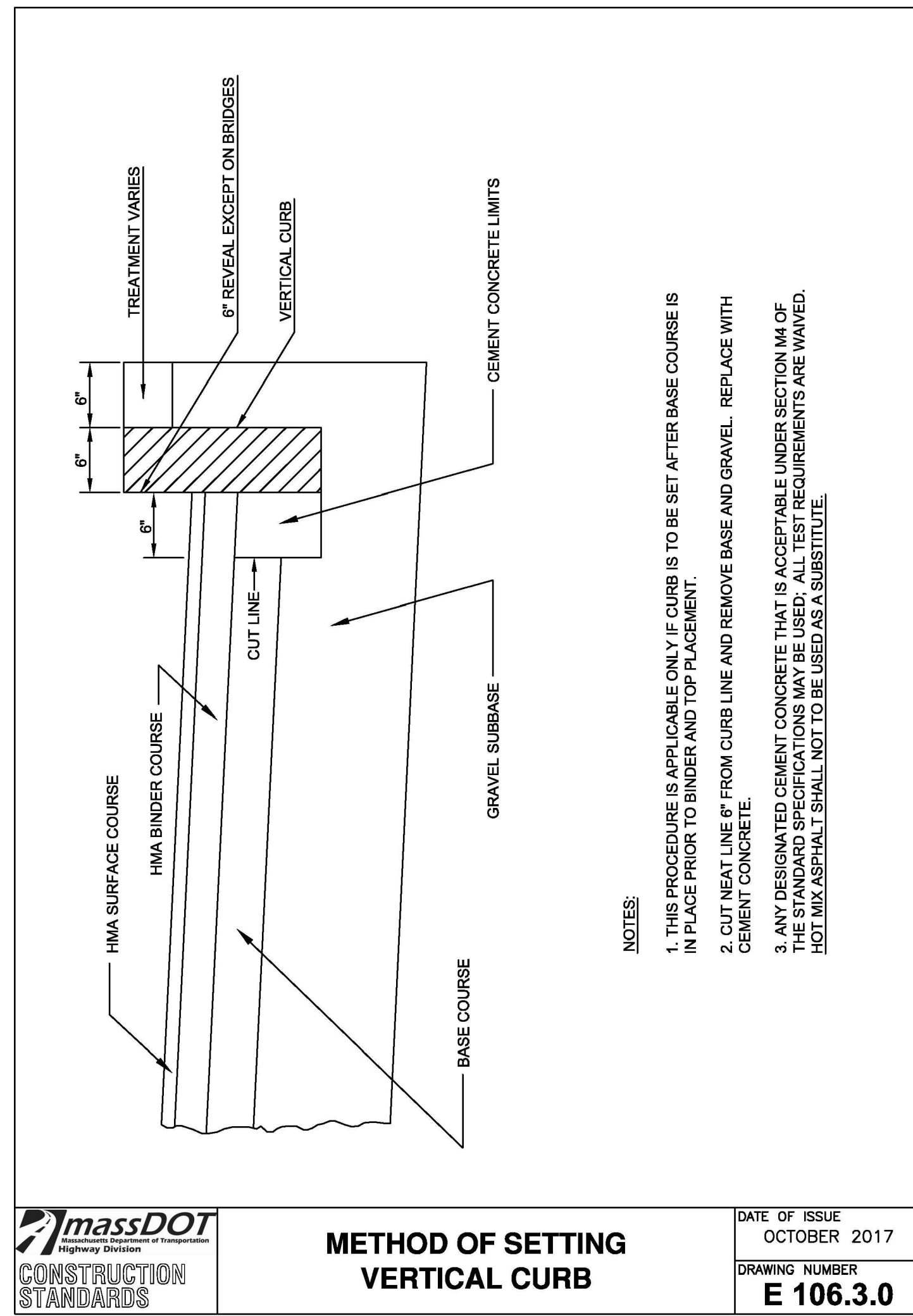
**CLEANOUT DETAIL**  
NOT TO SCALE



- NOTES:
1. DRAIN BASIN SHALL BE CUSTOM MANUFACTURED FOR THE PROJECT WITH THE INLETS AND OUTLETS REQUIRED.
  2. STRUCTURES SHALL BE CONSTRUCTED TO WITHSTAND LOADS IMPOSED BY CONSTRUCTION VEHICLES.
  3. DRAIN BASIN SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE.
  4. FRAME AND GRATE SHALL BE CONSTRUCTED OF DUCTILE IRON AND CONFORM TO ASTM A536 GRADE 70-50-05. PROVIDE NYLOPLAST 2499CCS OR APPROVED EQUIVALENT.

**AREA DRAIN DETAIL**  
NOT TO SCALE

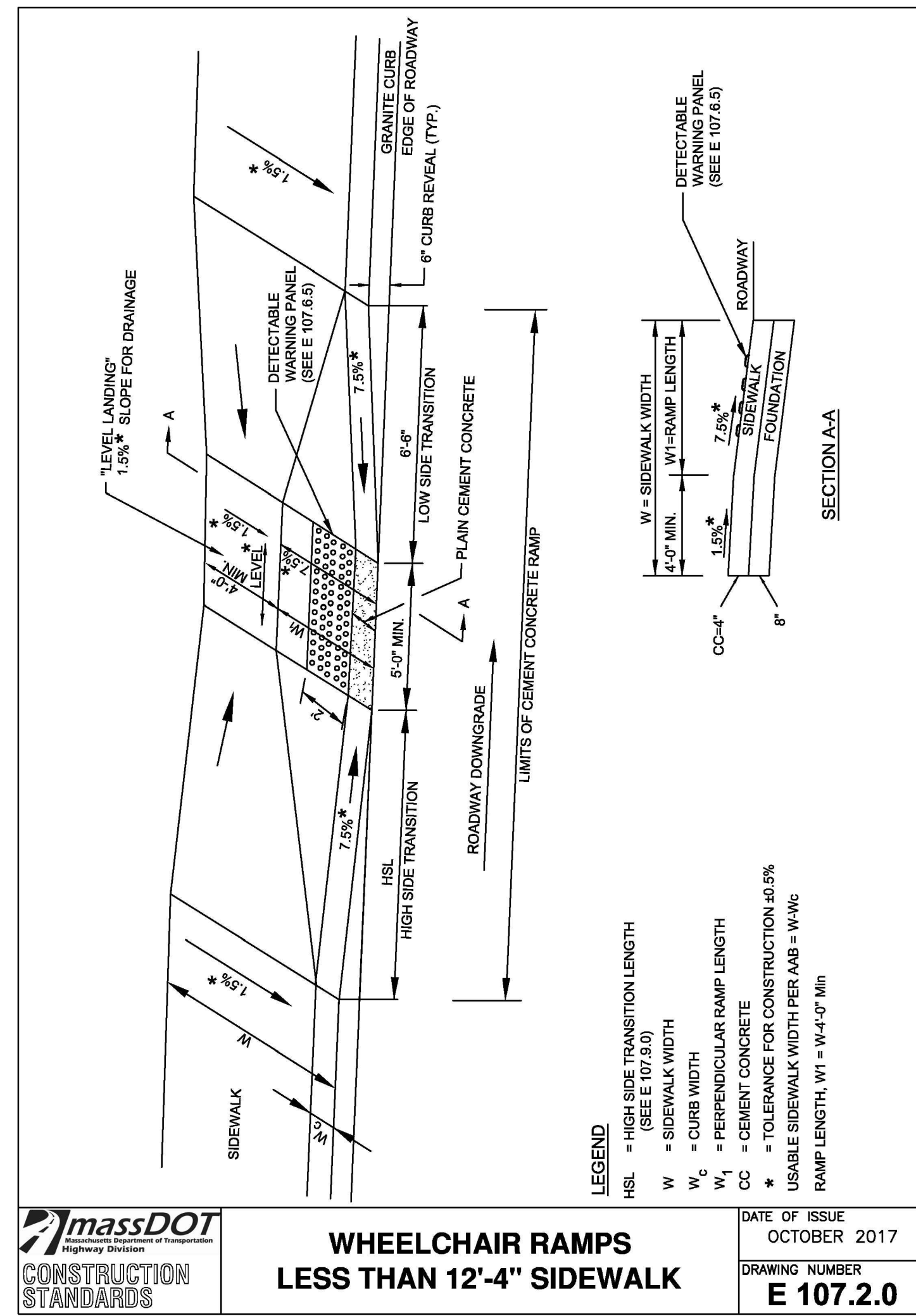
1/17/2020 12:30:11 PM C:\Users\jgarcia\OneDrive\Documents\Drawings\2020\17044\17044-03.dwg



**METHOD OF SETTING VERTICAL CURB**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 106.3.0**

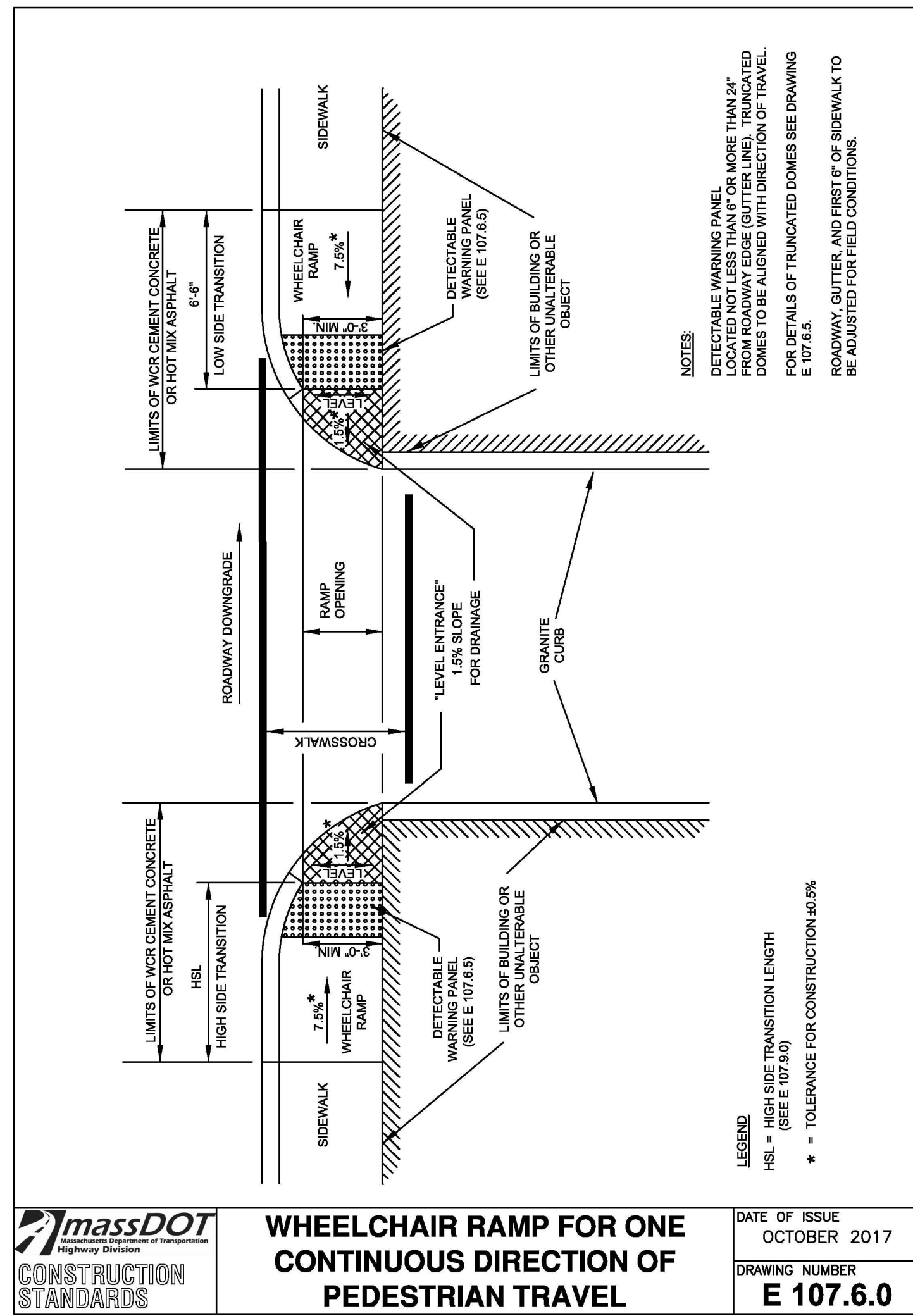
- NOTES:**
1. THIS PROCEDURE IS APPLICABLE ONLY IF CURB IS TO BE SET AFTER BASE COURSE IS IN PLACE PRIOR TO BINDER AND TOP PLACEMENT.
  2. CUT NEAT LINE 6" FROM CURB LINE AND REMOVE BASE AND GRAVEL. REPLACE WITH CEMENT CONCRETE.
  3. ANY DESIGNATED CEMENT CONCRETE THAT IS ACCEPTABLE UNDER SECTION M OF THE STANDARD SPECIFICATIONS MAY BE USED. ALL TEST REQUIREMENTS ARE WAIVED. HOT MIX ASPHALT SHALL NOT BE USED AS A SUBSTITUTE.



**WHEELCHAIR RAMPS LESS THAN 12'-4" SIDEWALK**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 107.2.0**

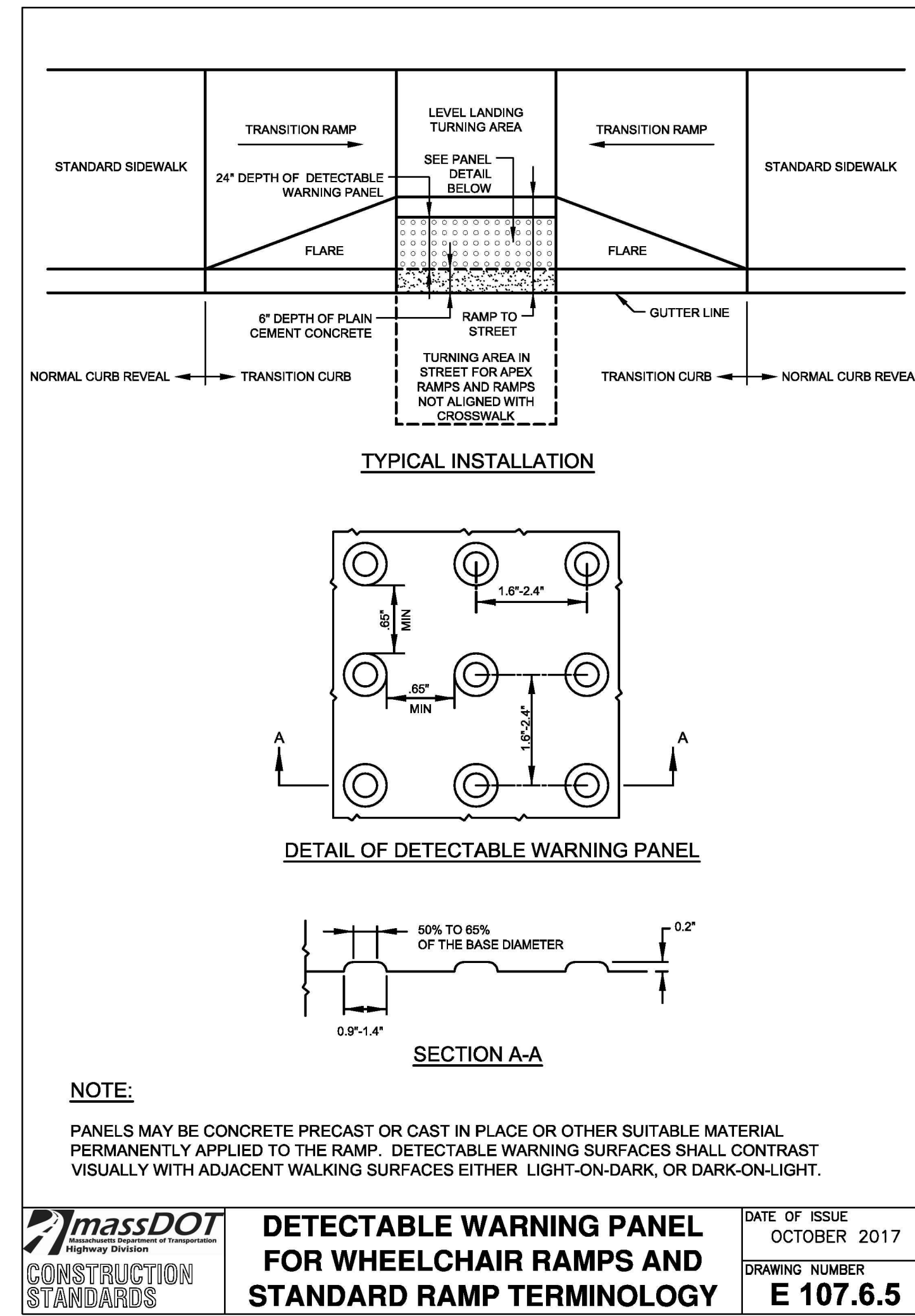
- LEGEND:**
- HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.3.0)
  - W = SIDEWALK WIDTH
  - W<sub>C</sub> = CURB WIDTH
  - CC = CEMENT CONCRETE
  - \* = TOLERANCE FOR CONSTRUCTION 40.0%
  - USABLE SIDEWALK WIDTH PER AASHTO = W-W<sub>C</sub>
  - RAMP LENGTH, W<sub>R</sub> = W-4'-0" MIN



**WHEELCHAIR RAMP FOR ONE CONTINUOUS DIRECTION OF PEDESTRIAN TRAVEL**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 107.6.0**

- LEGEND:**
- HSL = HIGH SIDE TRANSITION LENGTH (SEE E 107.3.0)
  - \* = TOLERANCE FOR CONSTRUCTION 40.0%



**DETECTABLE WARNING PANEL FOR WHEELCHAIR RAMPS AND STANDARD RAMP TERMINOLOGY**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 107.6.5**

- NOTE:**
- PANELS MAY BE CONCRETE PRECAST OR CAST IN PLACE OR OTHER SUITABLE MATERIAL PERMANENTLY APPLIED TO THE RAMP. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH ADJACENT WALKING SURFACES EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT.

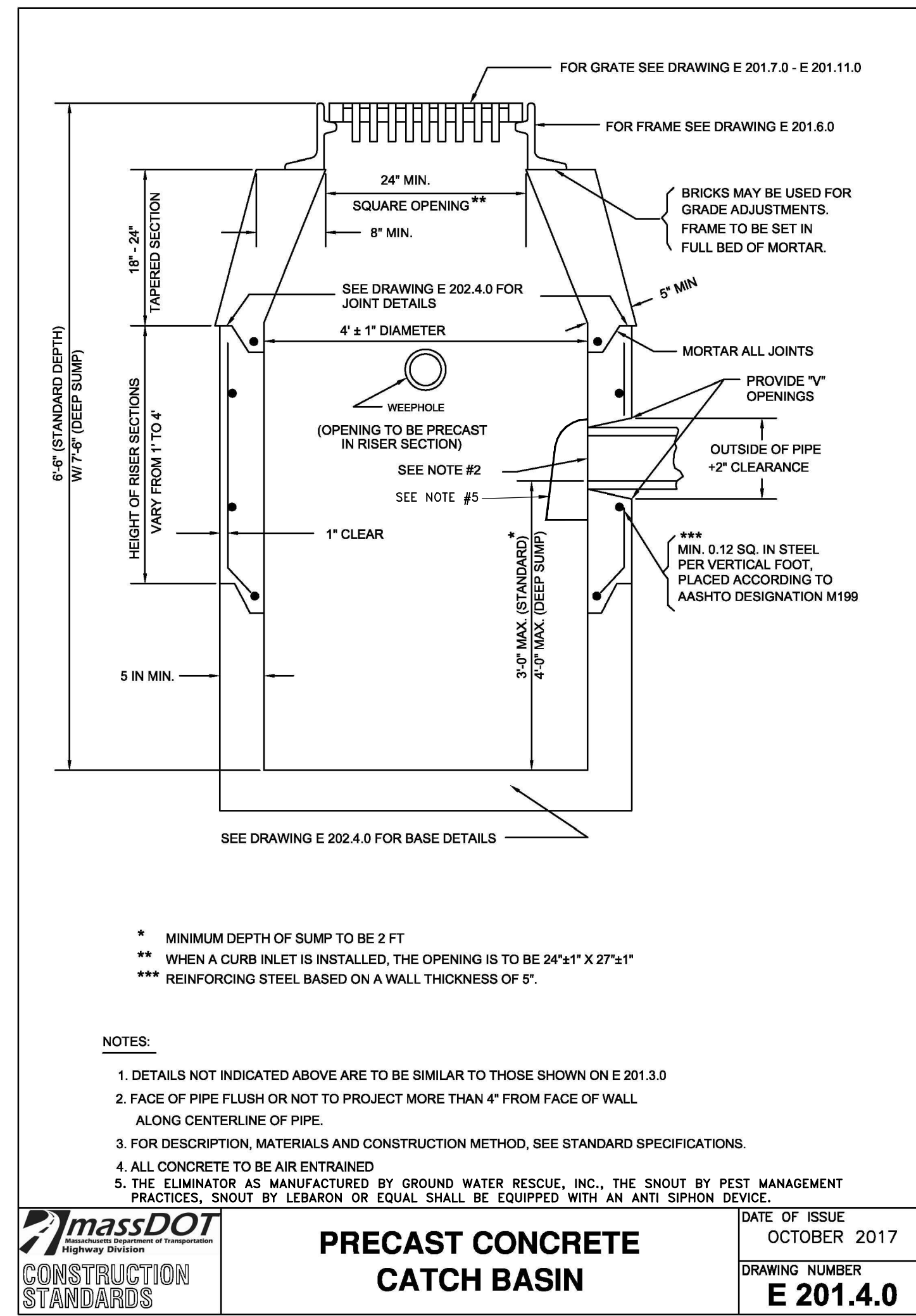
ROADWAY PROFILE GRADE	%	ENGLISH UNITS
* HIGH SIDE TRANSITION LENGTH		
	=0%	6'-6"
	>0% TO 1%	7'-8"
	>1% TO 2%	9'-0"
	>2% TO 3%	11'-0"
	>3% TO 4%	14'-0"
	>4% TO 5%	15'-0" Max

**NOTE:**

- \* BASED ON A DESIGN SLOPE OF 7.5% AND A REVEAL OF 6".

**CURB TRANSITION LENGTH FOR WHEELCHAIR RAMPS**

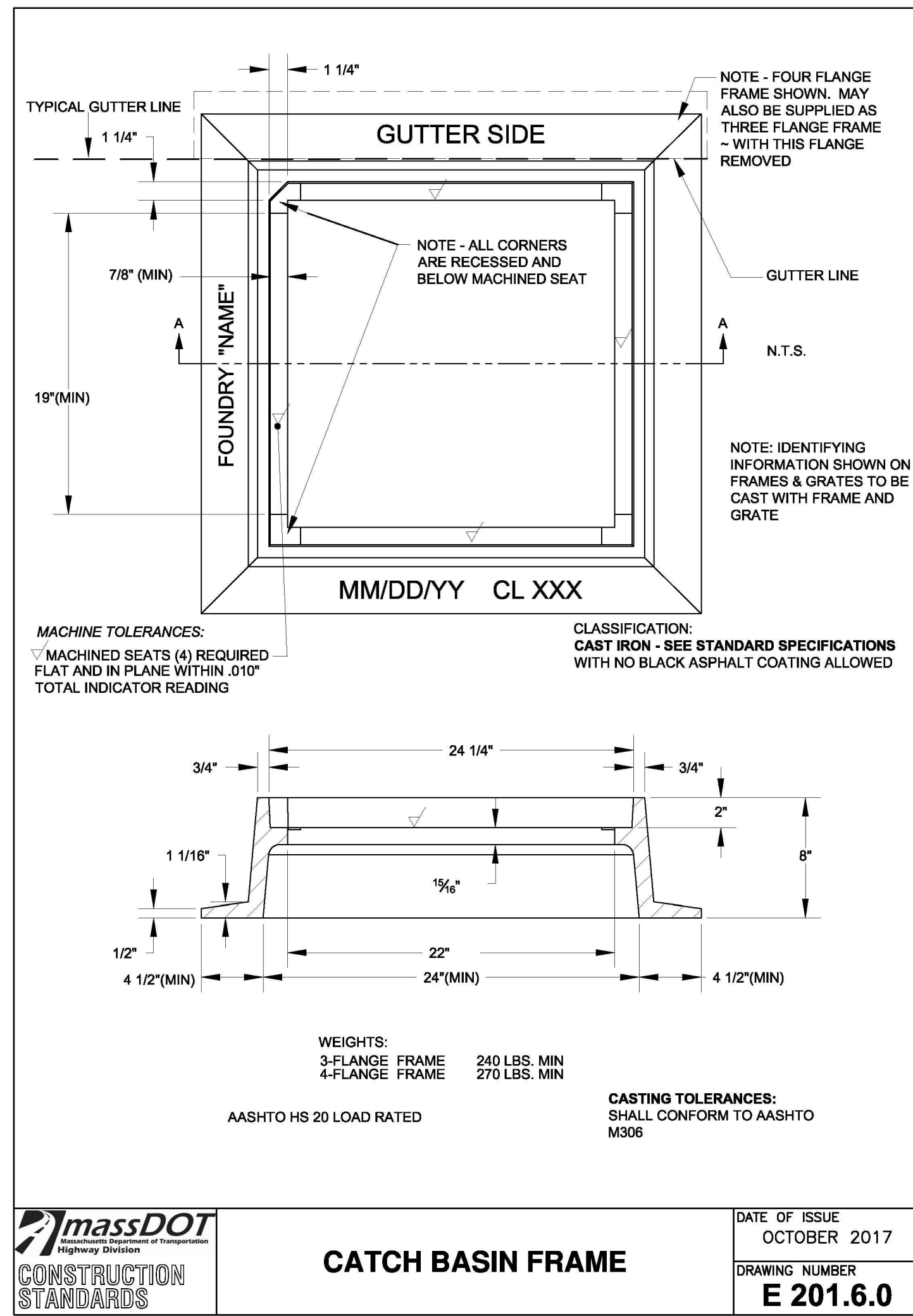
DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 107.9.0**



**PRECAST CONCRETE CATCH BASIN**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 201.4.0**

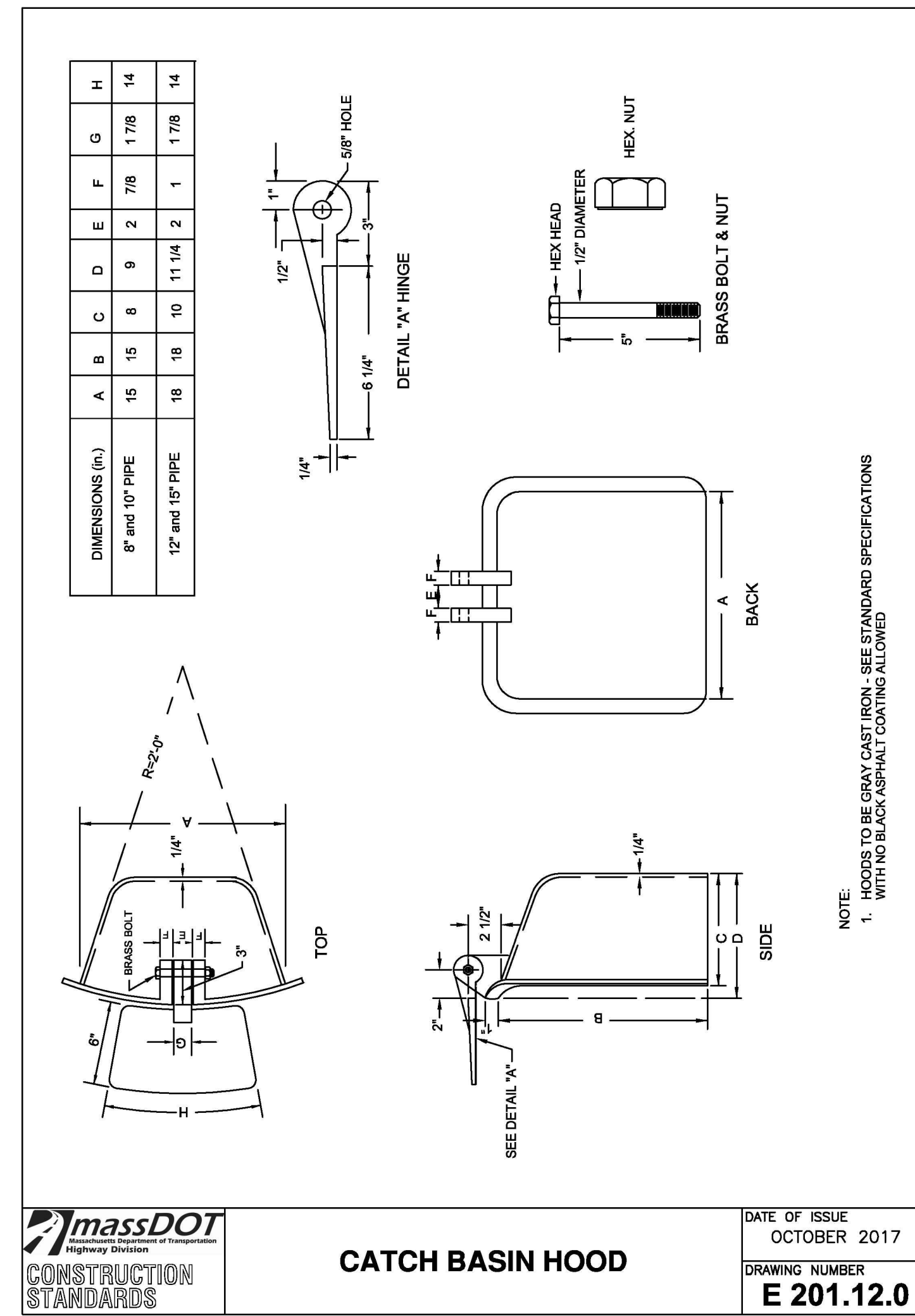
- NOTES:**
1. DETAILS NOT INDICATED ABOVE ARE TO BE SIMILAR TO THOSE SHOWN ON E 201.3.0
  2. FACE OF PIPE FLUSH OR NOT TO PROJECT MORE THAN 4" FROM FACE OF WALL ALONG CENTERLINE OF PIPE.
  3. FOR DESCRIPTION, MATERIALS AND CONSTRUCTION METHOD, SEE STANDARD SPECIFICATIONS.
  4. ALL CONCRETE TO BE AIR ENTRAINED.
  5. THE ELIMINATOR AS MANUFACTURED BY GROUND WATER RESCUE, INC., THE SNOT BY PEST MANAGEMENT PRACTICES, SNOT BY LEBARON OR EQUAL SHALL BE EQUIPPED WITH AN ANTI SIPHON DEVICE.



**CATCH BASIN FRAME**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 201.6.0**

- MACHINE TOLERANCES:**
- ∇ MACHINED SEATS (4) REQUIRED FLAT AND IN PLANE WITHIN .010" TOTAL INDICATOR READING
- CLASSIFICATION:**
- CAST IRON - SEE STANDARD SPECIFICATIONS WITH NO BLACK ASPHALT COATING ALLOWED
- WEIGHTS:**
- 3-FLANGE FRAME 240 LBS. MIN
  - 4-FLANGE FRAME 270 LBS. MIN
- CASTING TOLERANCES:**
- SHALL CONFORM TO AASHTO M306



**CATCH BASIN HOOD**

DATE OF ISSUE: OCTOBER 2017  
DRAWING NUMBER: **E 201.12.0**

massDOT  
CONSTRUCTION STANDARDS

massDOT  
CONSTRUCTION STANDARDS

massDOT  
CONSTRUCTION STANDARDS

massDOT  
CONSTRUCTION STANDARDS

Revision Schedule	Number	Revision	Date

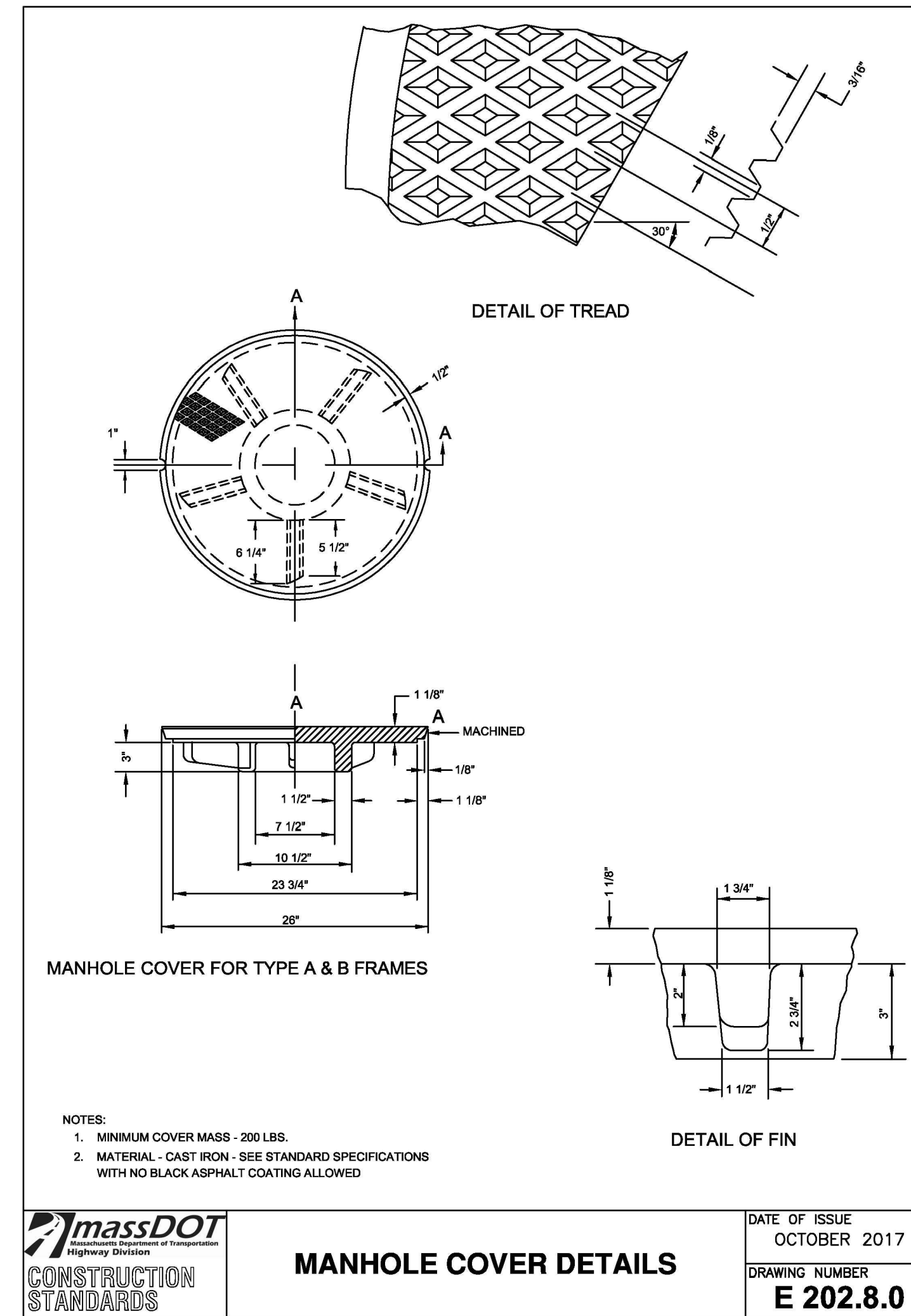
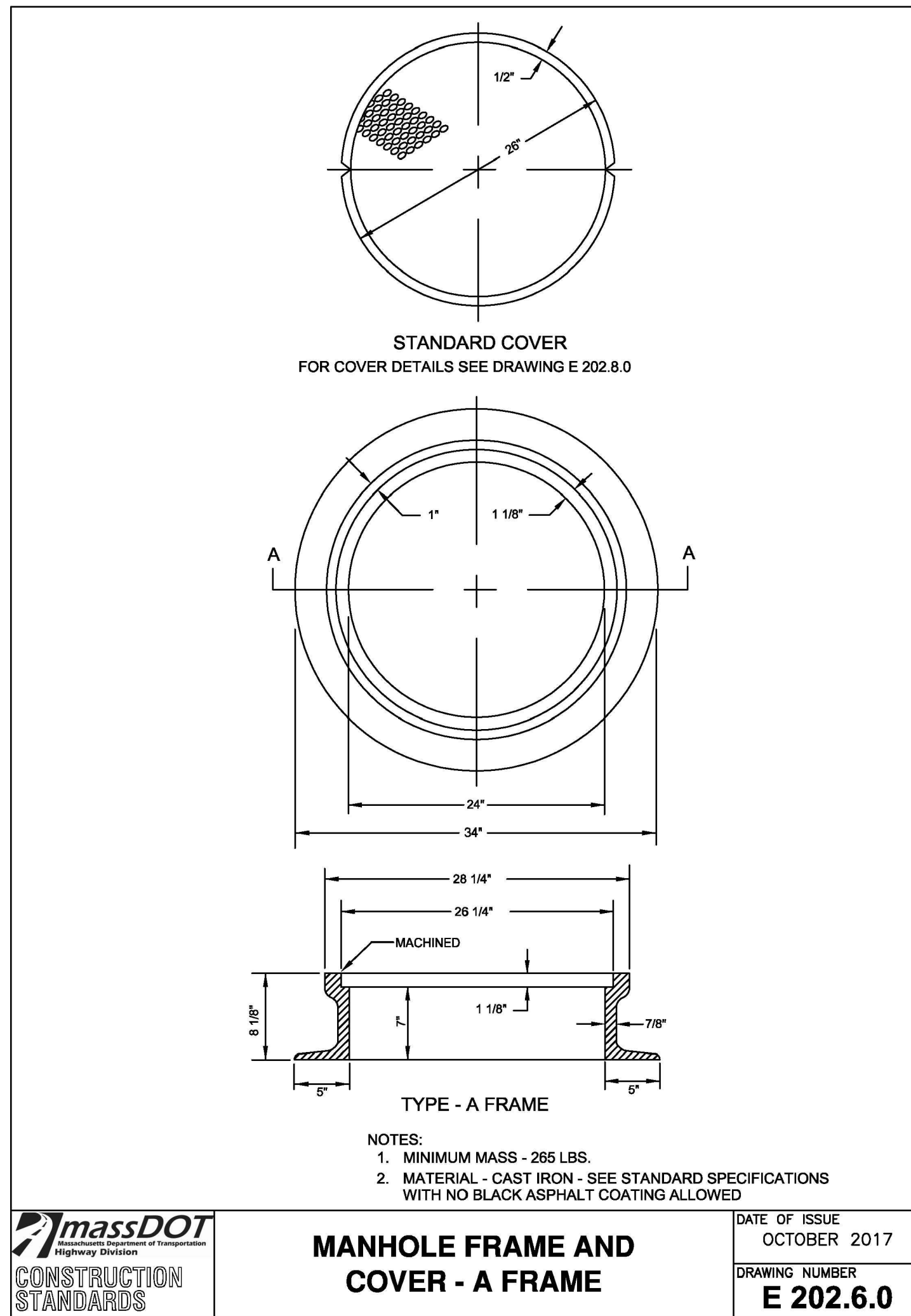
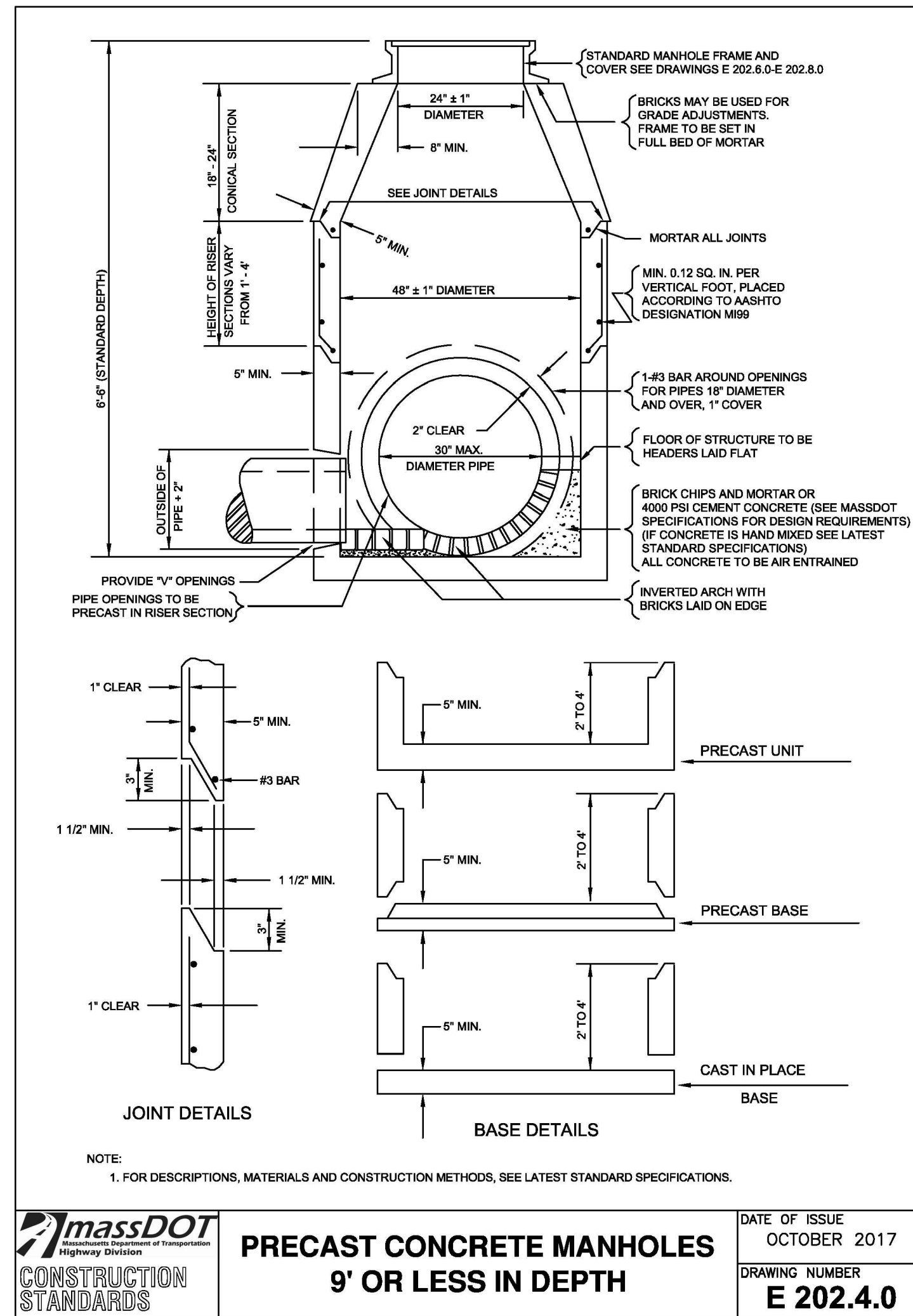
Registrations

Consultants  
**PARE**  
PARE CORPORATION  
ENGINEERS - SCIENTISTS - PLANNERS  
10 LINCOLN ROAD, SUITE 210  
FOXBORO, MA 01535  
508-943-1755

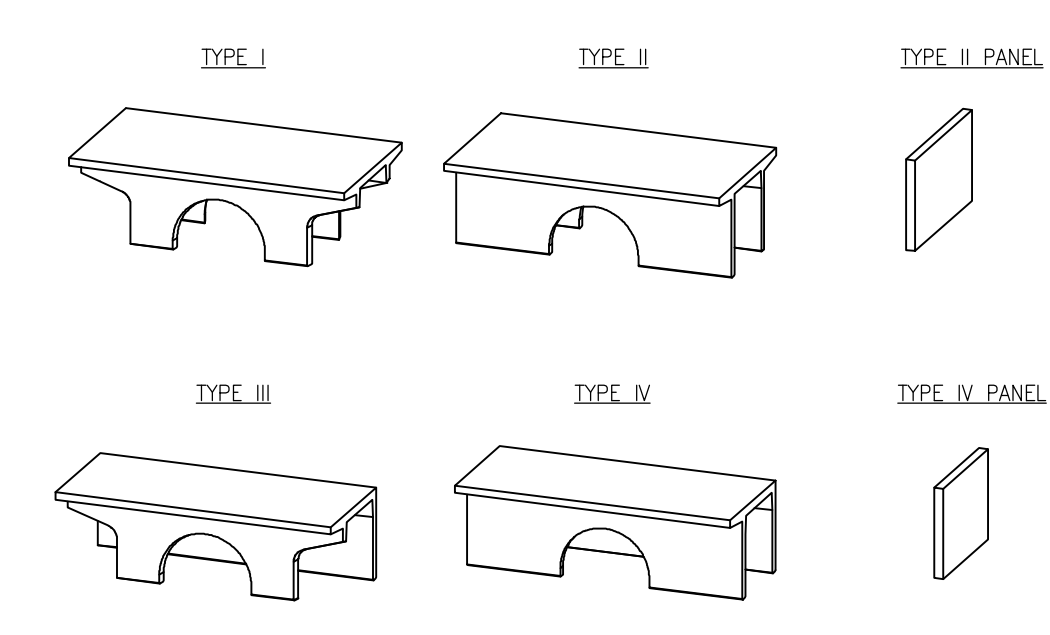
Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

SITE DETAILS - 6

AWB LM  
Drawn by  
Checked by  
AUGUST 2020 AS NOTED  
Date  
17044.03  
Job number  
PERMITTING  
Drawing set  
Drawing number



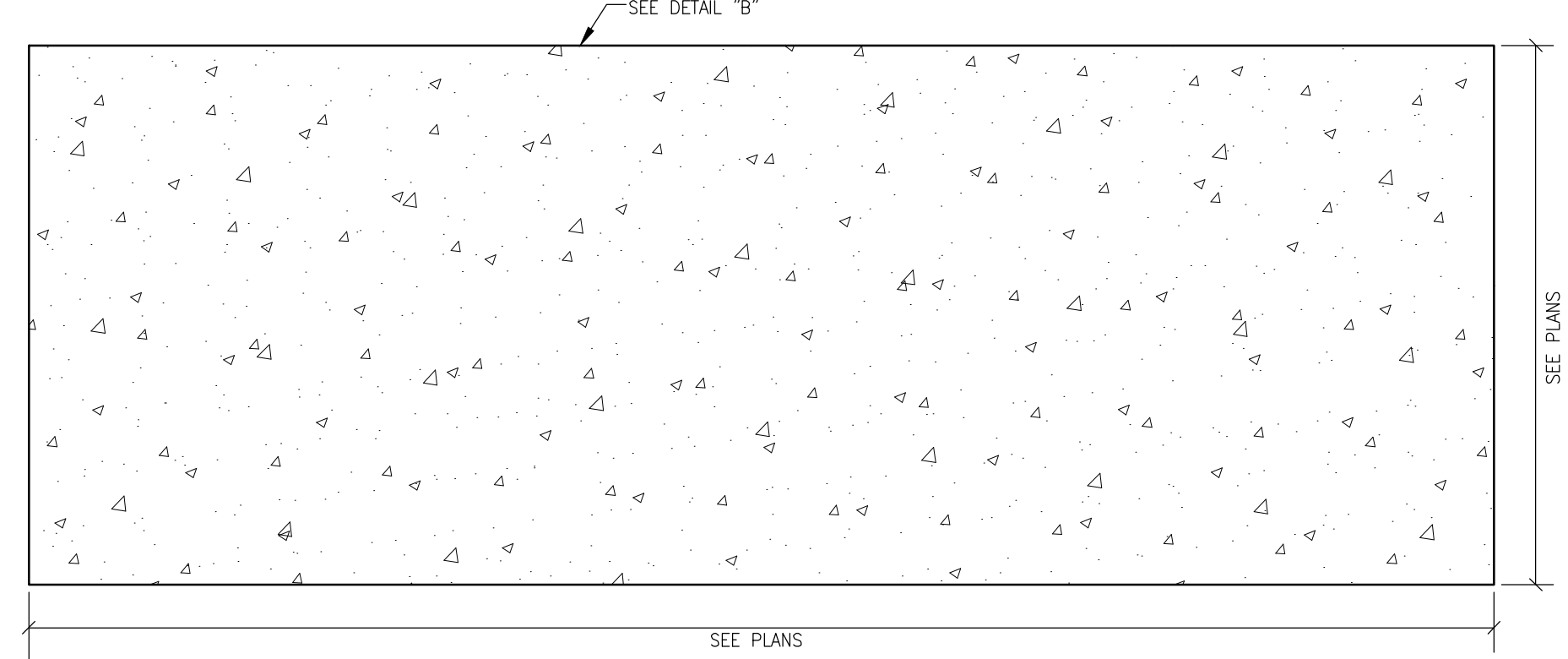
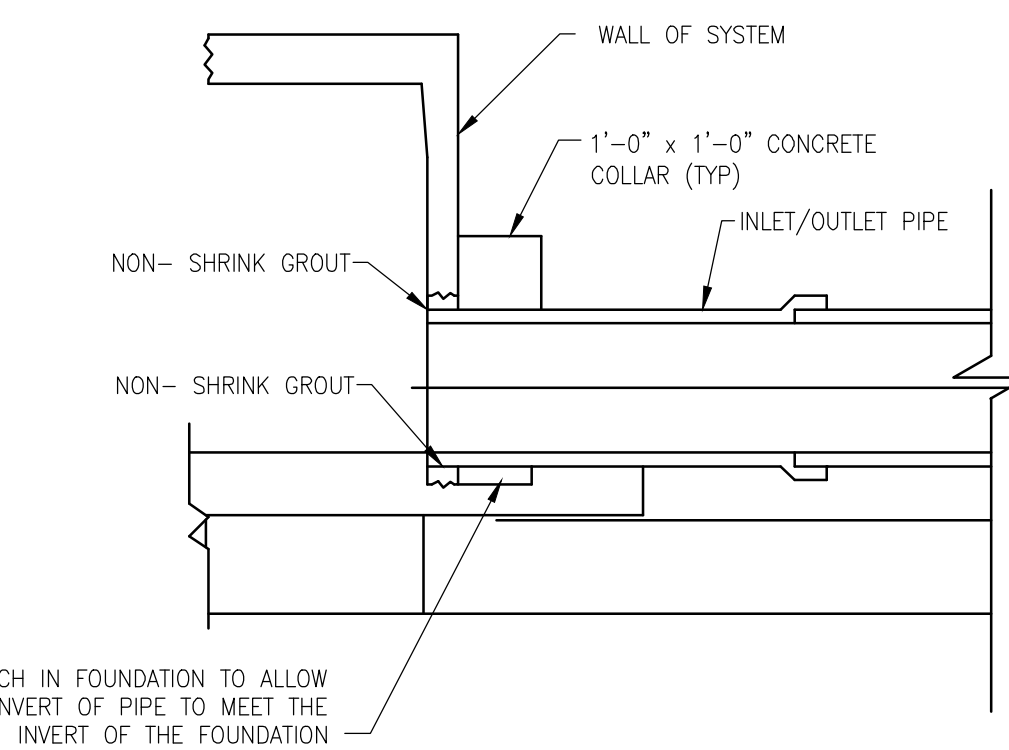
**NOTE:**  
ANY MANUFACTURER'S NAMES AND/OR MODEL NUMBERS IDENTIFIED HEREIN ARE INTENDED TO ASSIST IN ESTABLISHING A GENERAL LEVEL OF QUALITY, CONFIGURATION, FUNCTIONALITY, AND APPEARANCE REQUIRED. THIS IS NOT A PROPRIETARY SPECIFICATION AND IT SHOULD BE NOTED THAT "OR APPROVED EQUIVALENT" APPLIES TO ALL PRODUCTS DENOTED HEREIN. IT IS UNDERSTOOD THAT ALL MANUFACTURERS WILL HAVE MINOR VARIATIONS IN CONFIGURATION, APPEARANCE, AND PRODUCT SPECIFICATION TO ENCOURAGE OPEN AND COMPETITIVE INVOLVEMENT FROM MULTIPLE MANUFACTURERS THAT ARE ABLE TO SUPPLY SIMILAR PRODUCTS.



**INSTALLATION SPECIFICATIONS**

- MODULES SHALL BE MANUFACTURED ACCORDING TO SHOP DRAWINGS APPROVED BY THE INSTALLING CONTRACTOR AND ENGINEER. THE SHOP DRAWINGS SHALL INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET/OUTLET PIPE OPENINGS.
- SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C891-09, STANDARD PRACTICE FOR INSTALLATION OF UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES. THE FOLLOWING ADDITIONS AND/OR EXCEPTIONS SHALL APPLY:
  - THE MODULES SHALL BE PLACED ON LEVEL FOUNDATION WITH A 1'-0" OVERHANG ON ALL SIDES THAT SHALL BE POURED IN PLACE BY INSTALLING CONTRACTOR.
  - THE MODULES SHALL BE PLACED SUCH THAT THE MAXIMUM SPACE BETWEEN ADJACENT MODULES DOES NOT EXCEED 3/4". IF THE SPACE EXCEEDS 3/4", THE MODULES SHALL BE RESET WITH APPROPRIATE ADJUSTMENT MADE TO LINE AND GRADE TO BRING THE SPACE INTO SPECIFICATION.
  - THE PERIMETER HORIZONTAL JOINT OF THE MODULES SHALL BE SEALED TO THE FOUNDATION WITH PREFORMED MASTIC JOINT SEALER ACCORDING TO ASTM C891-09, 8.8 AND 8.12. SEE DETAIL "A".
  - ALL EXTERIOR JOINTS BETWEEN ADJACENT MODULES SHALL BE SEALED WITH PRE-FORMED, COLD-APPLIED, SELF-ADHERING ELASTOMERIC RESIN BONDED TO A WOOD BLOCK/PUNCTURE RESISTANT POLYMER WRAP CONFORMING TO ASTM C891-09 AND SHALL BE 0'-8" INTEGRATED PRIMER SEALANT IS APPROVED BY MANUFACTURER. THE ADHESIVE EXTERIOR JOINT WRAP SHALL BE INSTALLED ACCORDING TO THE FOLLOWING INSTALLATION INSTRUCTIONS:
    - USE A BRUSH OR WET CLOTH TO THOROUGHLY CLEAN THE OUTSIDE SURFACE AT THE POINT WHERE THE JOINT WRAP IS TO BE APPLIED.
    - A RELEASE PAPER PROTECTS THE ADHESIVE SIDE OF THE JOINT WRAP. PLACE THE ADHESIVE TAPE (BUTYL SIDE DOWN) AROUND THE STRUCTURE, REMOVING THE RELEASE PAPER AS YOU GO. PRESS THE JOINT WRAP FIRMLY AGAINST THE MODULE SURFACE WHEN APPLYING.
    - THE FILL PLACED AROUND THE UNITS MUST BE DEPOSITED ON BOTH SIDES AT THE SAME TIME AND TO APPROXIMATELY THE SAME ELEVATION. AT NO TIME SHALL THE FILL BEHIND ONE SIDE WALL BE MORE THAN 2'-0" HIGHER THAN THE FILL ON THE OPPOSITE SIDE. BACKFILL SHALL BE COMPACTED TO 95% STANDARD PROCTOR DENSITY OR OTHERWISE SPECIFIED BY ENGINEER. CARE SHALL BE TAKEN TO PREVENT ANY WEDGING ACTION AGAINST THE STRUCTURE, AND ALL SLOPES BEARING OR WITHIN THE AREA TO BE BACKFILLED MUST BE STEPPED OR SERIATED TO PREVENT WEDGE ACTION. (REFERENCE ARTICLE 502.10 I.D.O.T. S.S.R.B.C.) CARE SHALL ALSO BE TAKEN AS NOT TO DISRUPT THE JOINT WRAP FROM THE JOINT DURING THE BACKFILL PROCESS. BACKFILL MATERIAL SHALL BE CLEAN, CRUSHED, ANGULAR No.5 (ASHTO M43) AGGREGATE.
    - THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE SELECTED WATER TIGHT SOLUTION PERFORMS AS SPECIFIED BY THE MANUFACTURER.
    - CONTRACTOR SHALL SUBMIT BUOYANCY CALCULATIONS INDICATING BUOYANCY FORCES ARE ACCOUNTED FOR AND WILL BE COUNTERACTED BY INSTALLED CONDITIONS FOR THE LINED DETENTION SYSTEMS.

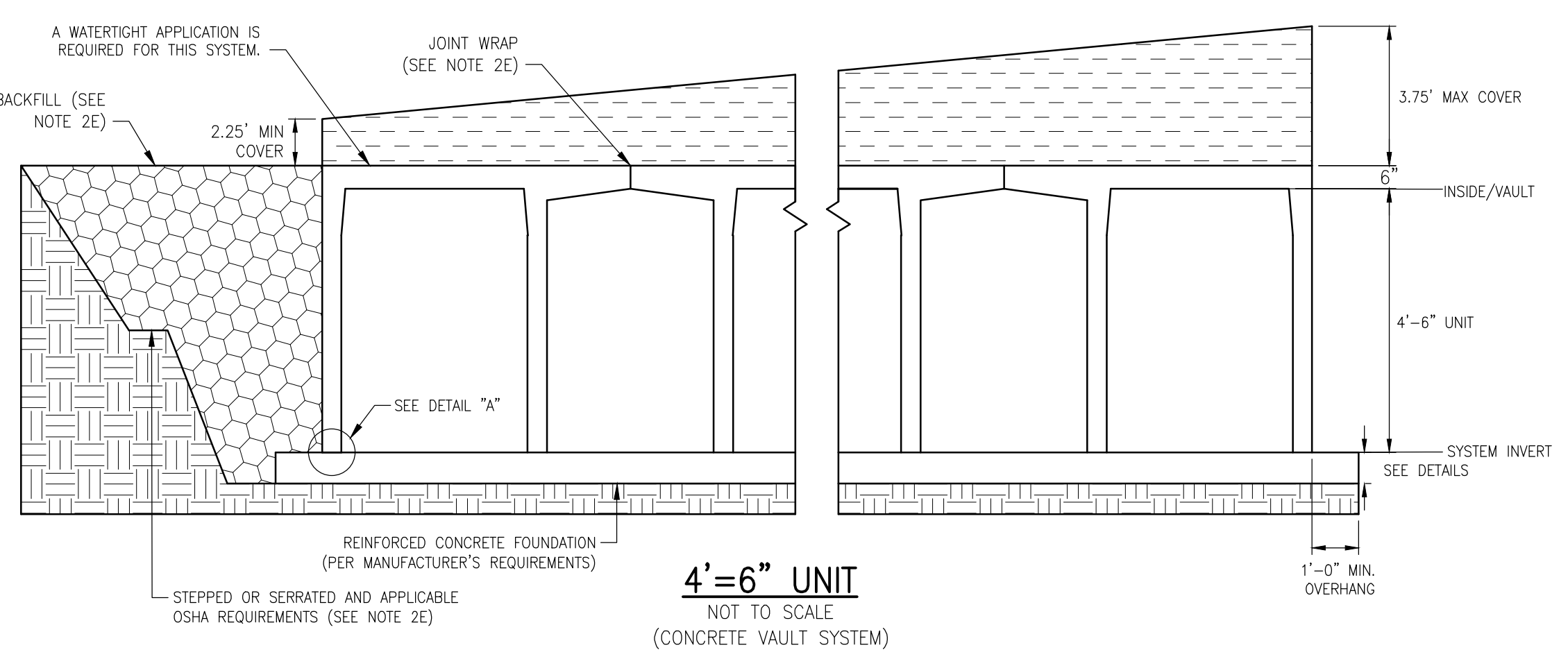
- TYPICAL ACCESS OPENINGS FOR THE SYSTEM ARE 2'-0" IN DIAMETER. ALL OPENINGS MUST RETAIN AT LEAST 1'-0" OF CLEARANCE IN ALL DIRECTIONS FROM THE EDGE OF THE UNITS.
  - THE HIGHEST STEP IN THE UNIT IS TO BE PLACED A DISTANCE OF 1'-0" FROM THE INSIDE EDGE OF THE UNITS. ALL ENDING STEPS SHALL BE PLACED WITH A MAXIMUM DISTANCE OF 1'-4" BETWEEN THEM. STEPS MAY BE MOVED OR ALTERED TO AVOID OPENINGS OR OTHER IRREGULARITIES IN THE UNIT.
  - ACCESS OPENINGS MAY BE RELOCATED TO AVOID INTERFERENCE WITH INLET AND/OR OUTLET PIPE OPENINGS SO LONG AS CLEARANCE IS MAINTAINED.
  - ACCESS OPENINGS SHOULD BE LOCATED IN ORDER MEET THE APPROPRIATE MUNICIPAL REQUIREMENTS. AT LEAST ONE ACCESS SHALL BE PROVIDED PER SYSTEM FOR ACCESS AND INSPECTION.
- PIPE OPENING SPECIFICATION**
- PIPE OPENINGS SHALL MAINTAIN A MINIMUM 1'-0" OF CLEARANCE FROM A VERTICAL EDGE OF THE UNIT.
  - CONNECTING PIPES SHALL BE INSTALLED WITH A 1'-0" CONCRETE COLLAR, AND A AGGREGATE GRADE FOR AT LEAST ONE PIPE LENGTH AS SHOWN. A STRUCTURAL GRADE CONCRETE OR GROUT WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI SHALL BE USED.
  - THE ANGULAR SPACE BETWEEN THE PIPE AND THE HOLE SHALL BE FILLED WITH NON-SHRINK GROUT.
- PIPE INSTALLATION INSTRUCTIONS**
- CLEAN AND LIGHTLY LUBRICATE ALL OF PIPE TO BE INSERTED.
  - IF PIPE IS CUT, CARE SHOULD BE TAKEN TO ALLOW NO SHARP EDGES. BEVEL AND LUBRICATE LEAD END OF PIPE.
  - ALIGN CENTER OF PIPE TO CORRECT ELEVATION AND INSERT INTO OPENING.
- FOUNDATION PIPE CONNECTION**
- NOTCH IN FOUNDATION TO ALLOW INVERT OF PIPE TO MEET THE INVERT OF THE FOUNDATION
- PRECAST CONCRETE ADJUSTING FRINGS, BARREL OR CONE SECTIONS AS NEEDED SEE RECOMMENDED ACCESS OPENING**
- MEETS: OPSS 1351.08.02 (BNQ) ASTM C-478-95a ASTM D-4101-95b ASTM M-199 ASTM A-615 10 1/2"



**NOTES:**

- CONCRETE STRENGTH @ 28 DAYS, 5%-8% ENTRAINED AIR, 4" MAX. SLUMP.
- NET ALLOWABLE SOIL PRESSURE GREATER THAN OR EQUAL TO 4000 PSF.
- SOIL CONDITIONS TO BE VERIFIED ON SITE.
- 1'-0" OVERHANG AROUND OUTSIDE OF SYSTEM.
- REBAR: ASTM A-615 GRADE 60, BLACK BAR.
- DIMENSION OF FOUNDATION MUST HAVE 1'-0" OVERHANG BEYOND EXTERNAL FACE OF UNITS.
- DIMENSION OF SYSTEM ALLOW FOR A 3/4" GAP BETWEEN EACH UNIT.
- ALL DIMENSIONS TO BE VERIFIED IN THE FIELD.
- THE CONTROL JOINTS CAN BE 16'-0" TO 24'-0" MAX APART.

MAXIMUM SYSTEM COVER	SLAB THICKNESS	CONCRETE STRENGTH	REINFORCEMENT (BOTH DIRECTIONS)
6" - 1'-0"	8"	4000 psi	#4 @ 18" o.c.
>1'-0" - 2'-0"	8"	4000 psi	#4 @ 18" o.c.
3'-0" - 4'-0"	8"	4000 psi	#4 @ 12" o.c.
>4'-0" - 5'-0"	8"	4000 psi	#5 @ 18" o.c.
>5'-0" - 6'-0"	8"	4000 psi	#5 @ 18" o.c.
3'-6" - 7'-0"	8"	4000 psi	#5 @ 18" o.c.
3'-7" - 8'-0"	9"	4000 psi	#5 @ 12" o.c.
3'-8" - 9'-0"	10"	4000 psi	#5 @ 12" o.c.
3'-9" - 10'-0"	10"	4500 psi	#5 @ 12" o.c.

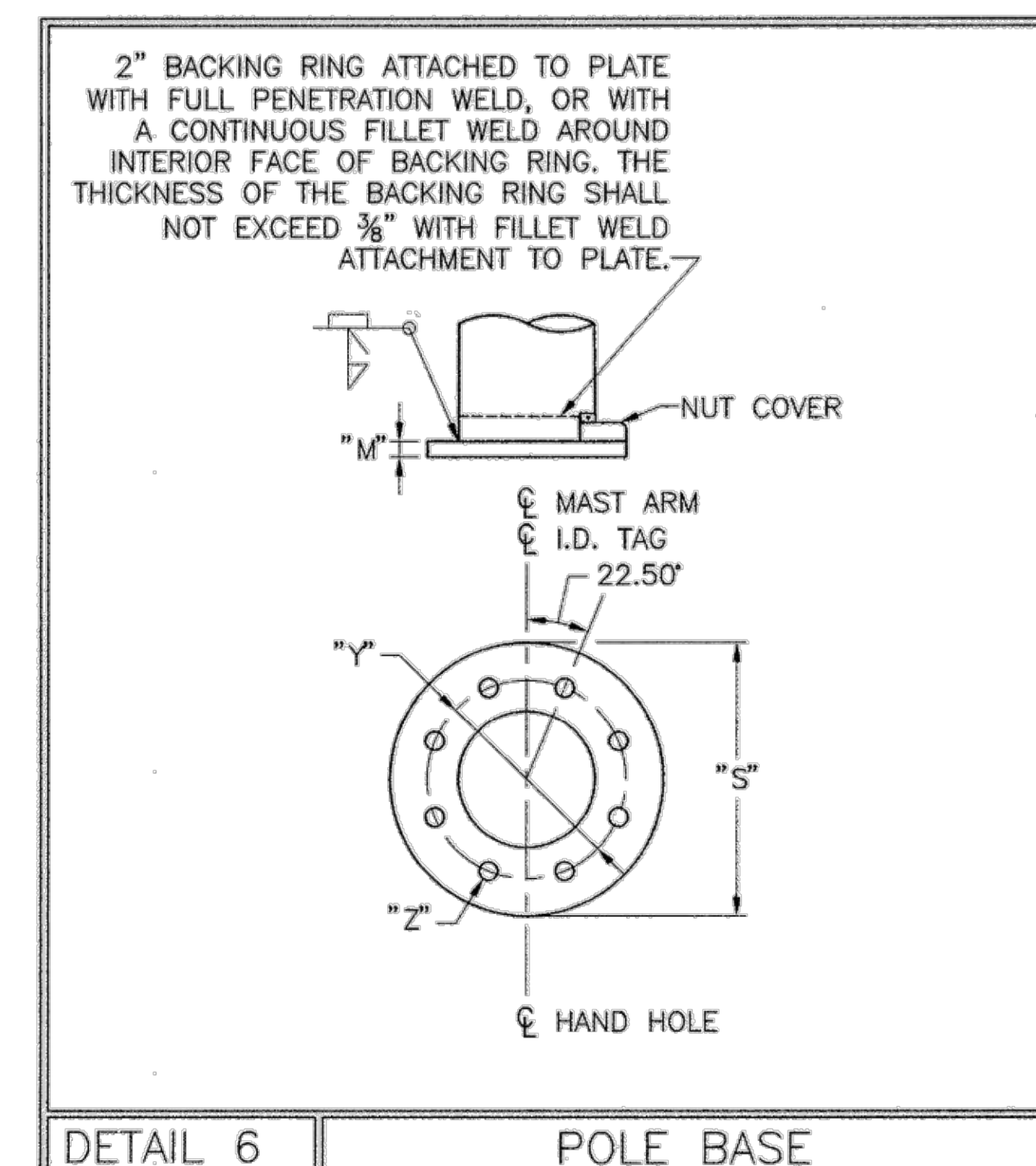
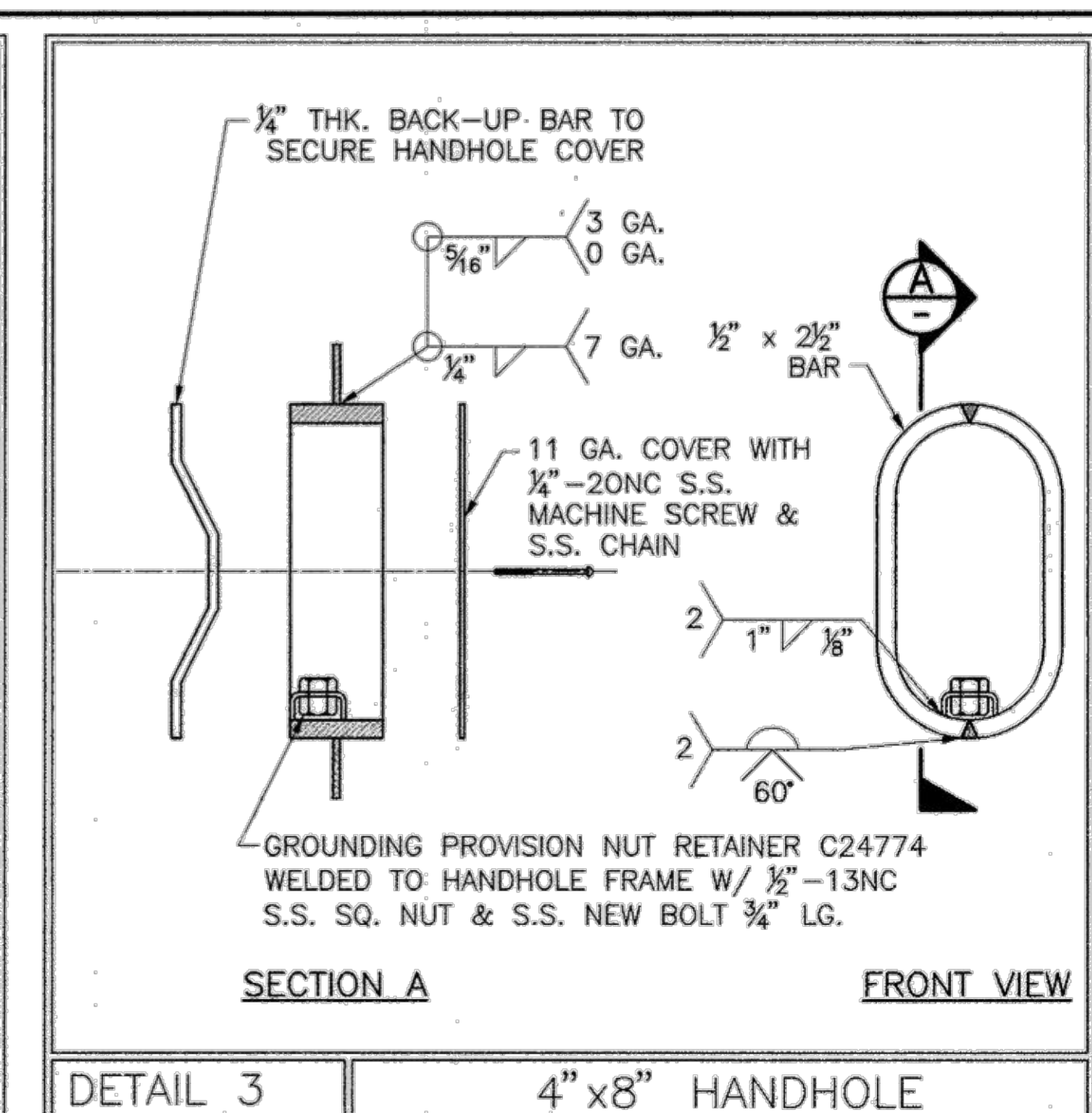
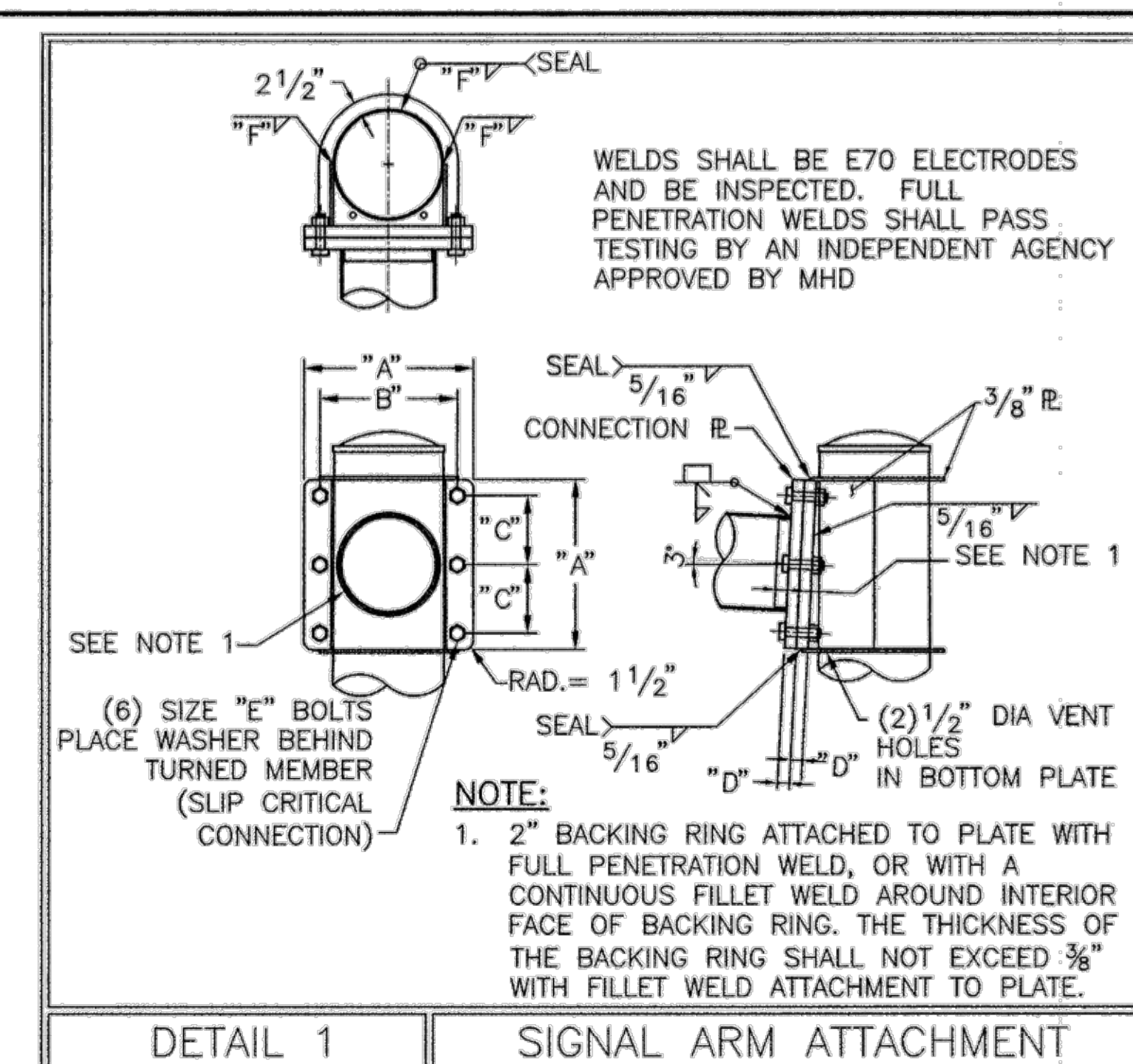
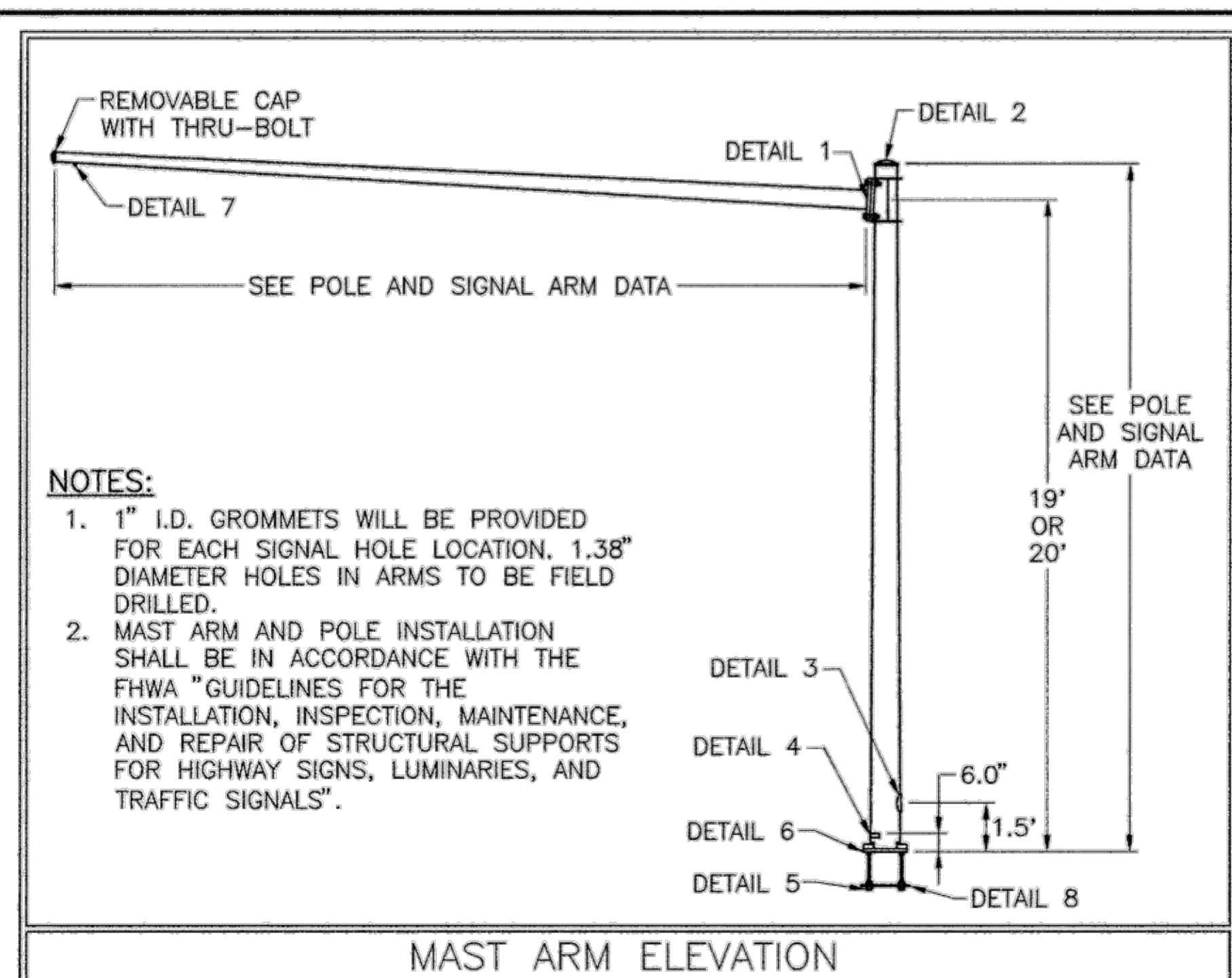


**UNDERGROUND CONCRETE VAULT DETENTION SYSTEM (UGDS)**  
NOT TO SCALE

- SYSTEM SPECIFICATION**
- MANUFACTURER SHALL BE STORMTRAP, LLC, UNITED CONCRETE PRODUCTS, CONCRETE SYSTEMS INC. OR APPROVED EQUIVALENT.
  - CONTRACTOR SHALL SUBMIT MANUFACTURERS SHOP DRAWINGS, INCLUDING PLANS, ELEVATIONS, SECTIONS, AND DETAILS, INDICATING LAYOUT, DIMENSIONS, FOUNDATION, COVER, AND JOINTS. INDICATE SIZE AND LOCATION OF ROOF OPENINGS AND INLET AND OUTLET PIPE OPENINGS.
  - CONTRACTOR SHALL SUBMIT DESIGN CALCULATIONS INCLUDING STORMWATER VOLUME SIZING, STRUCTURAL CALCULATIONS, AND BUOYANCY CALCULATIONS.
  - TOTAL COVER: MIN. 2.25' MAX. 3.75' CONSULT MANUFACTURER FOR ADDITIONAL COVER OPTIONS.
  - THE SYSTEM SHALL BE WATER TIGHT.
  - CONCRETE CHAMBER SHALL BE DESIGNED FOR ASHTO HS-20 HIGHWAY LOADING. MIN. SOIL PRESSURE 4000 PSF.
  - ALL DIMENSIONS AND SOIL CONDITIONS, INCLUDING BUT NOT LIMITED TO GROUNDWATER AND SOIL BEARING CAPACITY ARE TO BE VERIFIED IN THE FIELD BY OTHERS PRIOR TO UNIT INSTALLATION.
  - FOR STRUCTURAL CALCULATIONS THE GROUND WATER TABLE SHALL BE ASSUMED TO BE AT ELEVATION ---.
  - FOR STRUCTURAL CALCULATIONS THE SOIL DENSITY IS ASSUMED TO BE ---.
  - FOR FLOTATION CALCULATIONS THE GROUND WATER TABLE SHALL BE ASSUMED TO BE AT ELEVATION ---.
  - SYSTEM VOLUME ---.

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		PROJECT FILE NO. XXXXXX	

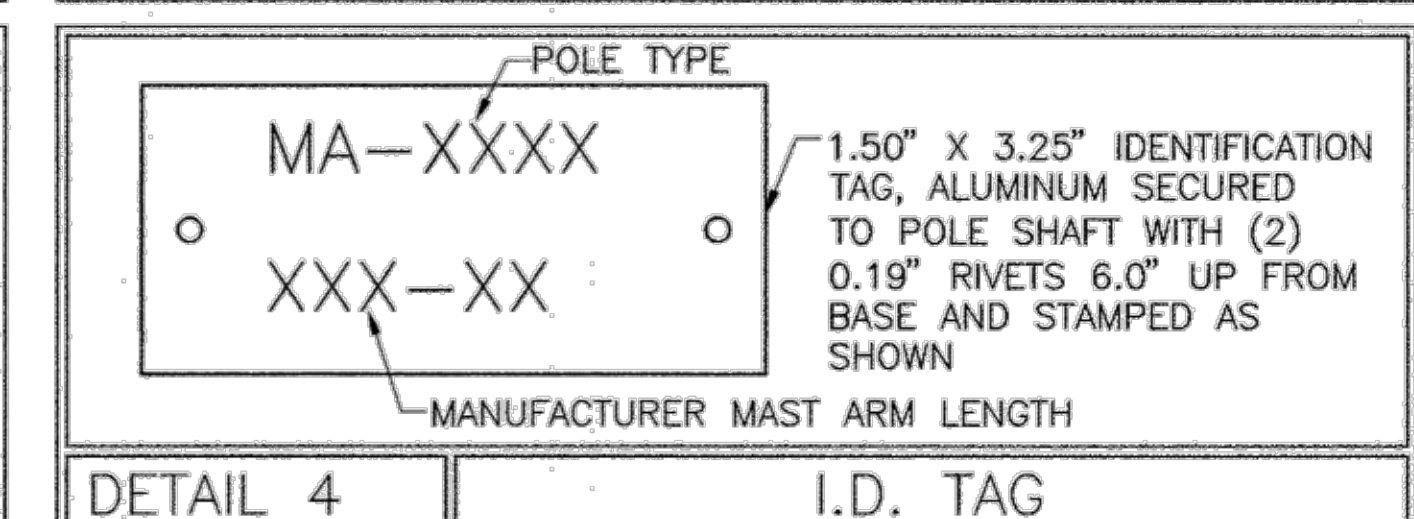
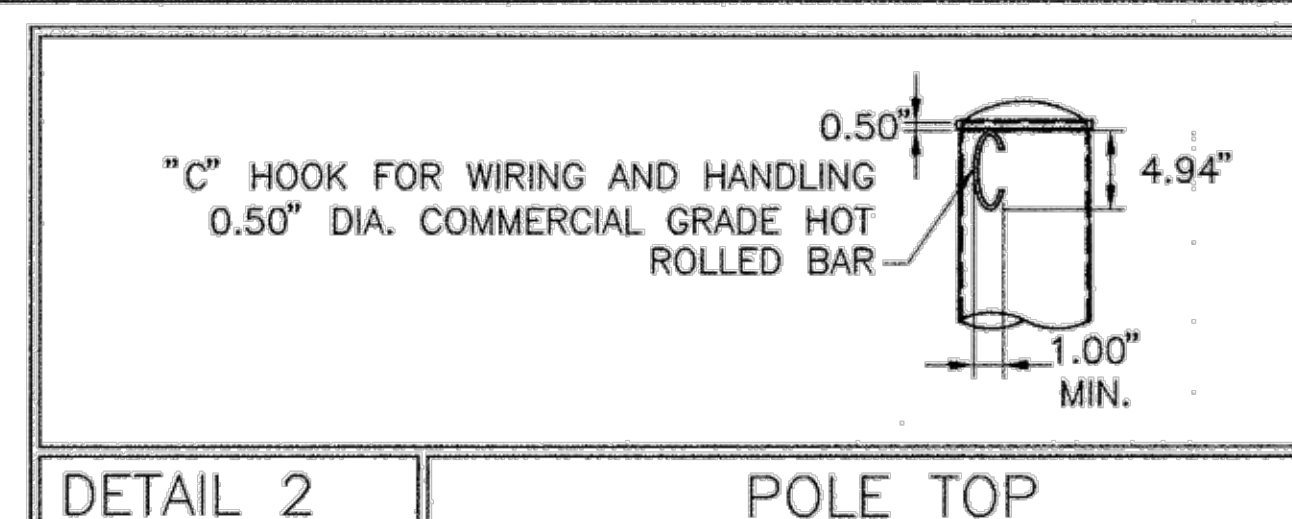
**STANDARD DRAWINGS**  
**TYPE II MAST ARMS**



**MATERIAL DATA**

COMPONENT	DESIGNATION	YIELD (KSI)	COMPONENT	DESIGNATION	YIELD (KSI)
POLE TUBE	ASTM A595 GR. A	55	ARM TUBE	ASTM A595 GR. A	55
POLE BASE PLATE	AASHTO M270	50	ARM CONNECTION PLATE	AASHTO M270	50
ANCHOR BOLTS	AASHTO M314	55	ARM CONNECTING BOLTS	AASHTO M164 **	
GALVANIZING	AASHTO M111 OR M232				

\*\* BOLTS WHICH ACCUMULATE RUST OR DIRT SHALL BE DISCARDED.



**POLE AND SIGNAL ARM DATA - LIGHT LOADS**

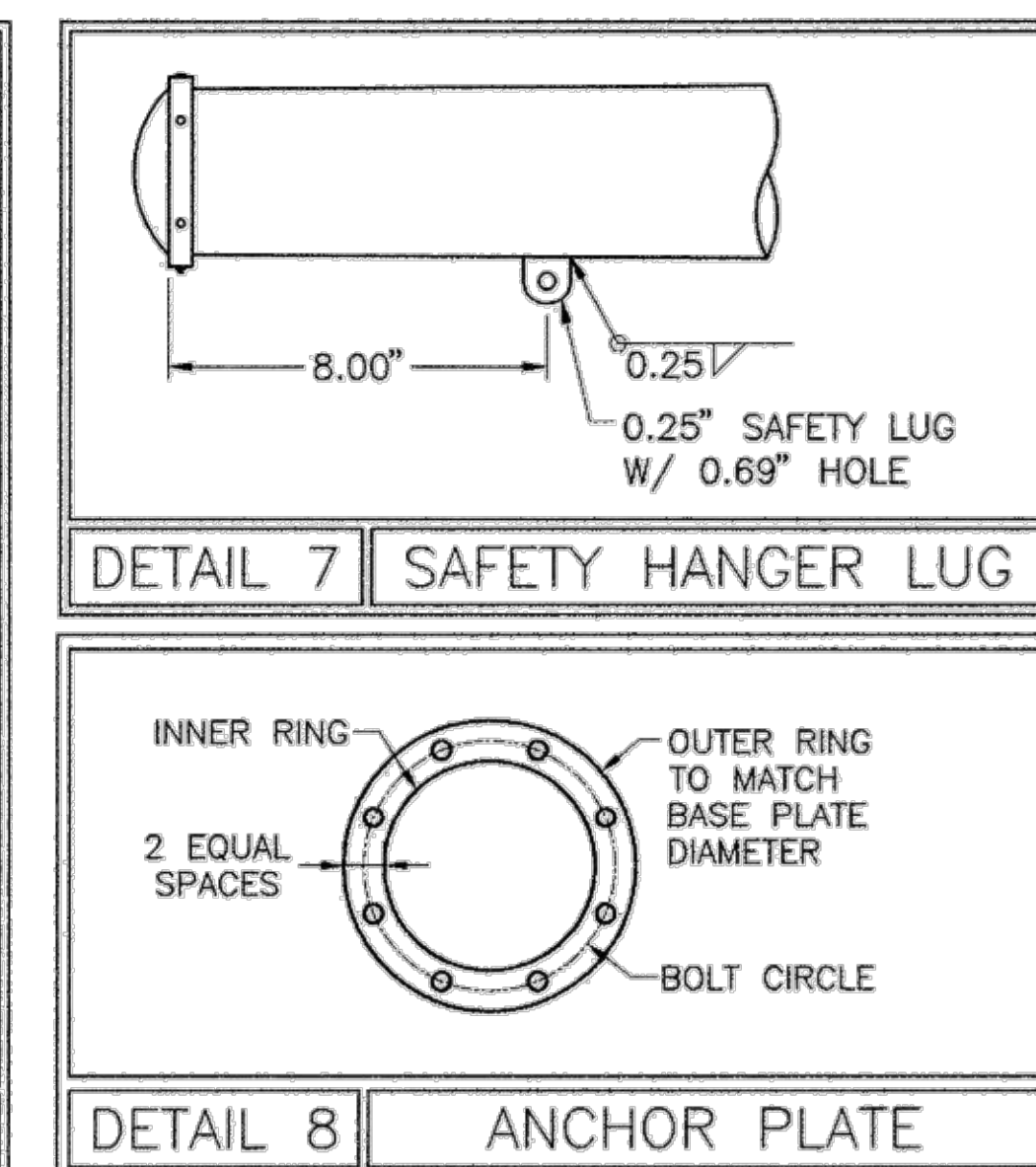
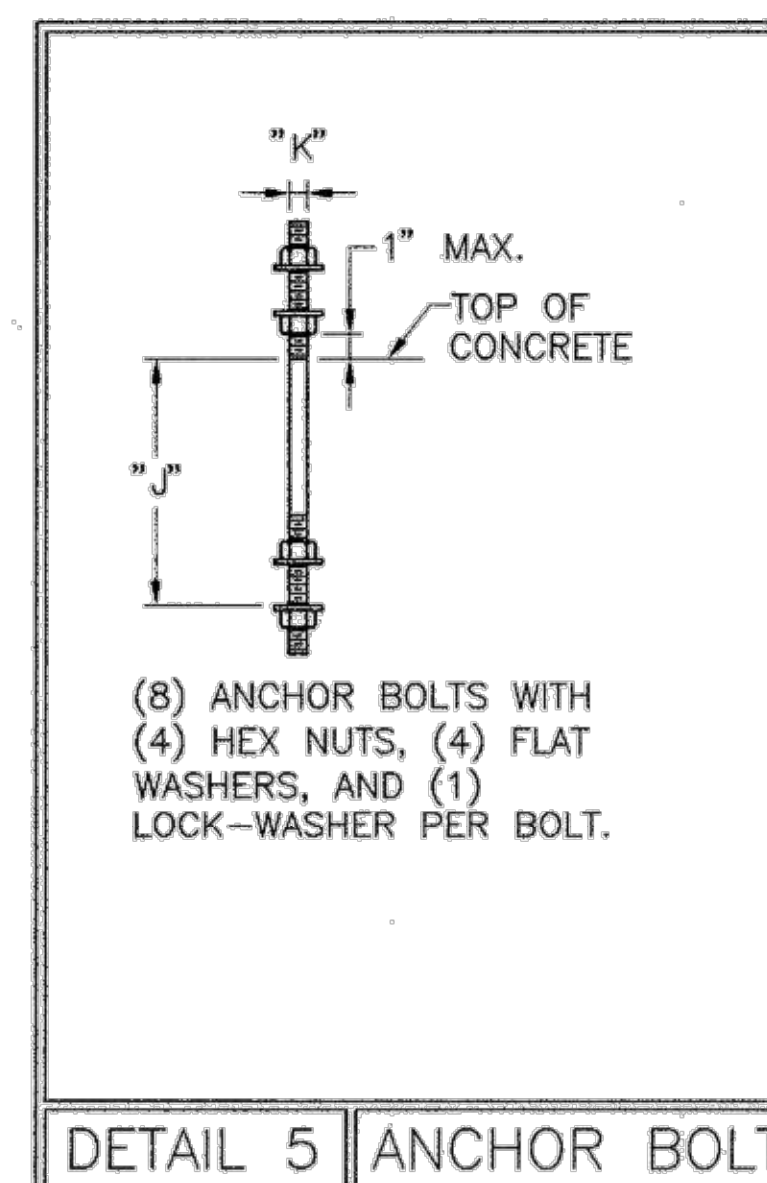
LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE				ANCHOR BOLT		SIGNAL ARM ATTACHMENT DATA					
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	EMBED. LENGTH "J" (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
	15.00	9.00	6.90	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
	20.00	9.00	6.20	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
	25.00	10.00	6.50	7 GA.	13.00	10.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	20.00	16.00	8.00	1.00	1.00	0.188
	30.00	12.50	8.30	3 GA.	15.50	12.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	23.50	19.00	9.50	1.25	1.25	0.250
	35.00	13.00	8.10	3 GA.	16.00	13.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	24.50	20.00	10.00	1.25	1.25	0.250
	40.00	13.00	7.40	3 GA.	16.00	13.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	24.50	20.00	10.00	1.25	1.25	0.250
	45.00	13.50	7.20	3 GA.	16.50	13.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.313

**POLE AND SIGNAL ARM DATA - MEDIUM LOADS**

LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE				ANCHOR BOLT		SIGNAL ARM ATTACHMENT DATA					
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	EMBED. LENGTH "J" (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
	15.00	9.00	6.90	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
	20.00	10.00	7.20	3 GA.	13.00	10.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	20.00	16.00	8.00	1.00	1.00	0.250
	25.00	11.00	7.50	3 GA.	14.00	11.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	23.50	19.00	9.50	1.25	1.25	0.250
	30.00	13.00	8.80	3 GA.	16.00	13.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	23.50	19.00	9.50	1.25	1.25	0.250
	35.00	14.00	9.10	3 GA.	17.00	14.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	40.00	15.00	9.40	3 GA.	18.00	15.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	45.00	16.00	9.70	0 GA.	19.00	16.06	21.00	0 GA.	29.50	24.00	1.50	1.813	1.50	36.00	29.50	24.00	12.00	1.75	1.50	0.313

**POLE AND SIGNAL ARM DATA - HEAVY LOADS**

LOCATIONS	SIGNAL ARM TUBE				POLE TUBE				POLE BASE				ANCHOR BOLT		SIGNAL ARM ATTACHMENT DATA					
	SPAN (FT)	FIXED END DIA. (IN)	FREE END DIA. (IN)	WALL THK.	BASE DIA. (IN)	TOP DIA. (IN)	LENGTH (FT)	WALL THK.	PLATE CIRCLE "S" (IN)	BOLT CIRCLE "Y" (IN)	THK. "M" (IN)	HOLE "Z" (IN)	DIA. "K" (IN)	EMBED. LENGTH "J" (IN)	"A" (IN)	"B" (IN)	"C" (IN)	"D" (IN)	"E" (IN)	"F" (IN)
	15.00	9.00	6.90	7 GA.	12.00	9.06	21.00	7 GA.	29.50	24.00	1.50	1.813	1.50	36.00	19.00	15.00	7.50	1.00	1.00	0.188
	20.00	12.50	9.70	3 GA.	15.50	12.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	24.00	19.00	9.50	1.25	1.25	0.250
	25.00	14.00	10.50	3 GA.	17.00	14.06	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	30.00	15.50	11.30	3 GA.	18.50	15.56	21.00	3 GA.	29.50	24.00	1.50	1.813	1.50	36.00	27.50	22.00	11.00	1.50	1.50	0.250
	35.00	16.50	11.60	0 GA.	19.50	16.56	21.00	0 GA.	34.50	28.00	1.75	2.063	1.75	36.00	29.50	24.00	12.00	1.75	1.50	0.313
	40.00	17.50	11.90	0 GA.	20.50	17.56	21.00	0 GA.	34.50	28.00	1.75	2.063	1.75	36.00	29.50	24.00	12.00	1.75	1.50	0.313
	45.00	18.50	12.20	0 GA.	21.50	18.56	21.00	0 GA.	34.50	28.00	1.75	2.063	1.75	36.00	31.50	26.00	13.00	2.00	1.50	0.313



MONTH\_DD\_YYYY ISSUED FOR CONSTRUCTION

**massDOT**  
Massachusetts Department of Transportation  
Highway  
STANDARD DRAWINGS  
TYPE II MAST ARMS  
DETAILS

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION  
10 PARK PLAZA BOSTON, MASS

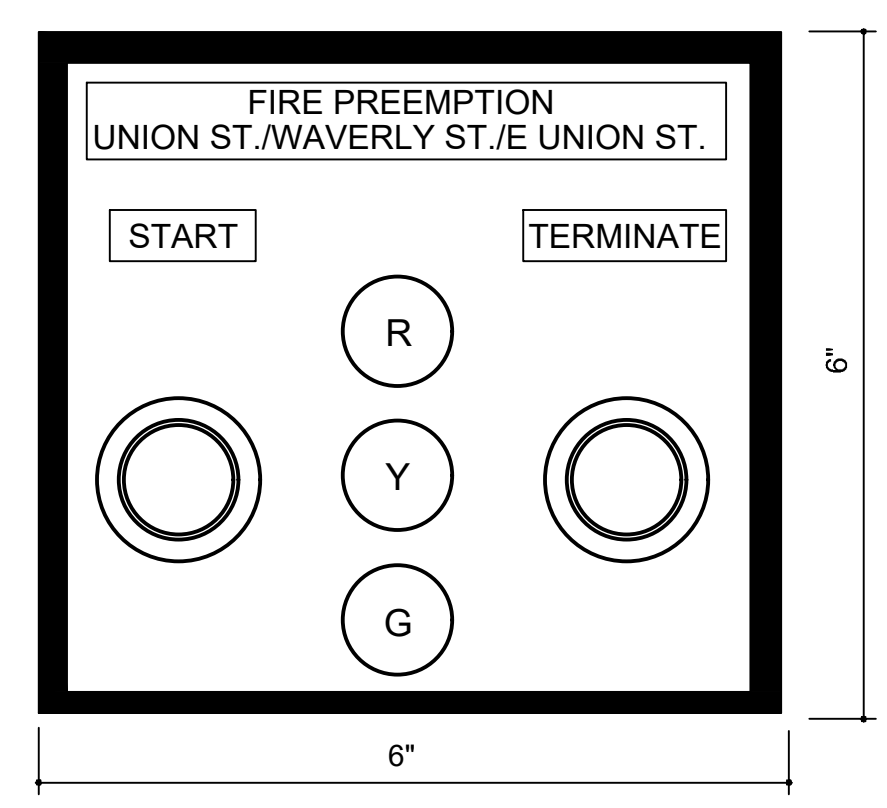
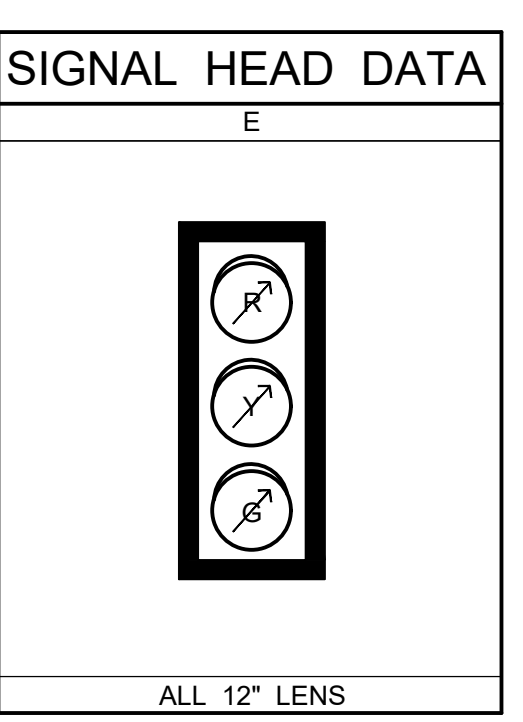
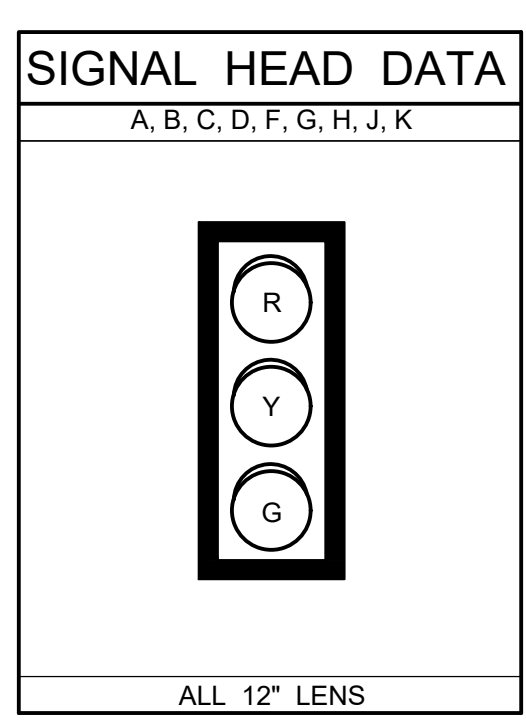
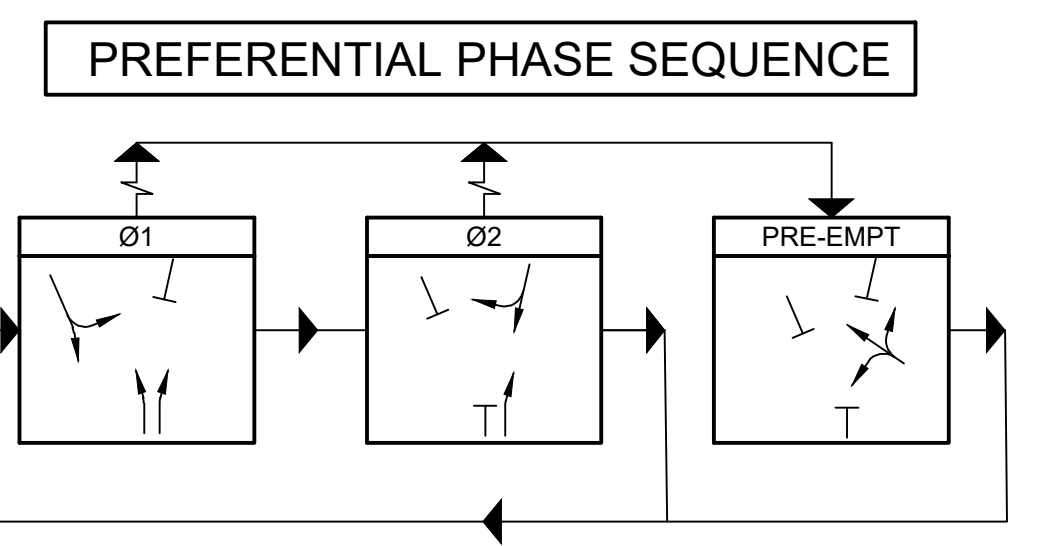
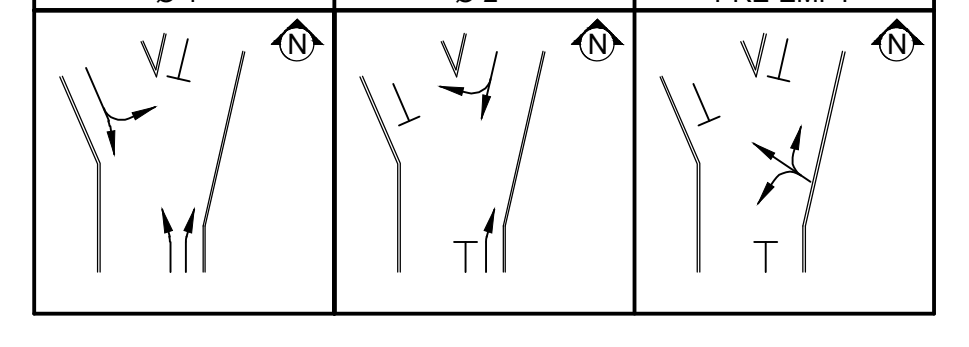
*Frank A. Tommaso* 2/21/2011  
CHIEF ENGINEER

*Neil E. Brennan*  
TRAFFIC ENGINEER

SHEET 4 OF 5 SHEETS

SIGNAL SEQUENCE AND TIMING										
APPROACH	DIRECTION	HOUSING	PHASE 1		PHASE 2		PRE-EMPT	FLASHING OPERATION		
MINIMUM INTERVAL			5		5		15			
VEHICLE EXTENSION			3		3					
MAXIMUM 1			29		21		40			
MAXIMUM 2										
YELLOW CLEARANCE			4		4		3			
RED CLEARANCE				1		1		2		
UNION STREET	NB	C,D	G	Y	R	R	R	R	R	FY
UNION STREET	NB	E	Ø	Y	Ø	Y	Ø	Y	Ø	FY
WAVERLY STREET	SB	A,B	G	Y	R	R	R	R	R	FY
E UNION STREET	SWB	F,G,H	R	R	R	G	Y	R	R	FR
FIRE STATION	NWB	J,K	R	R	R	R	R	G	Y	FR

NOTE:  
SIGNAL E SHALL REMAIN GREEN UNTIL A PRE-EMPTION CALL.



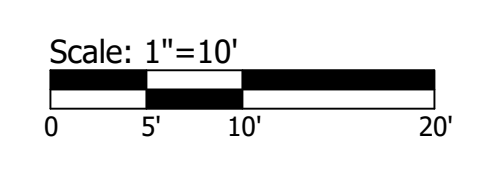
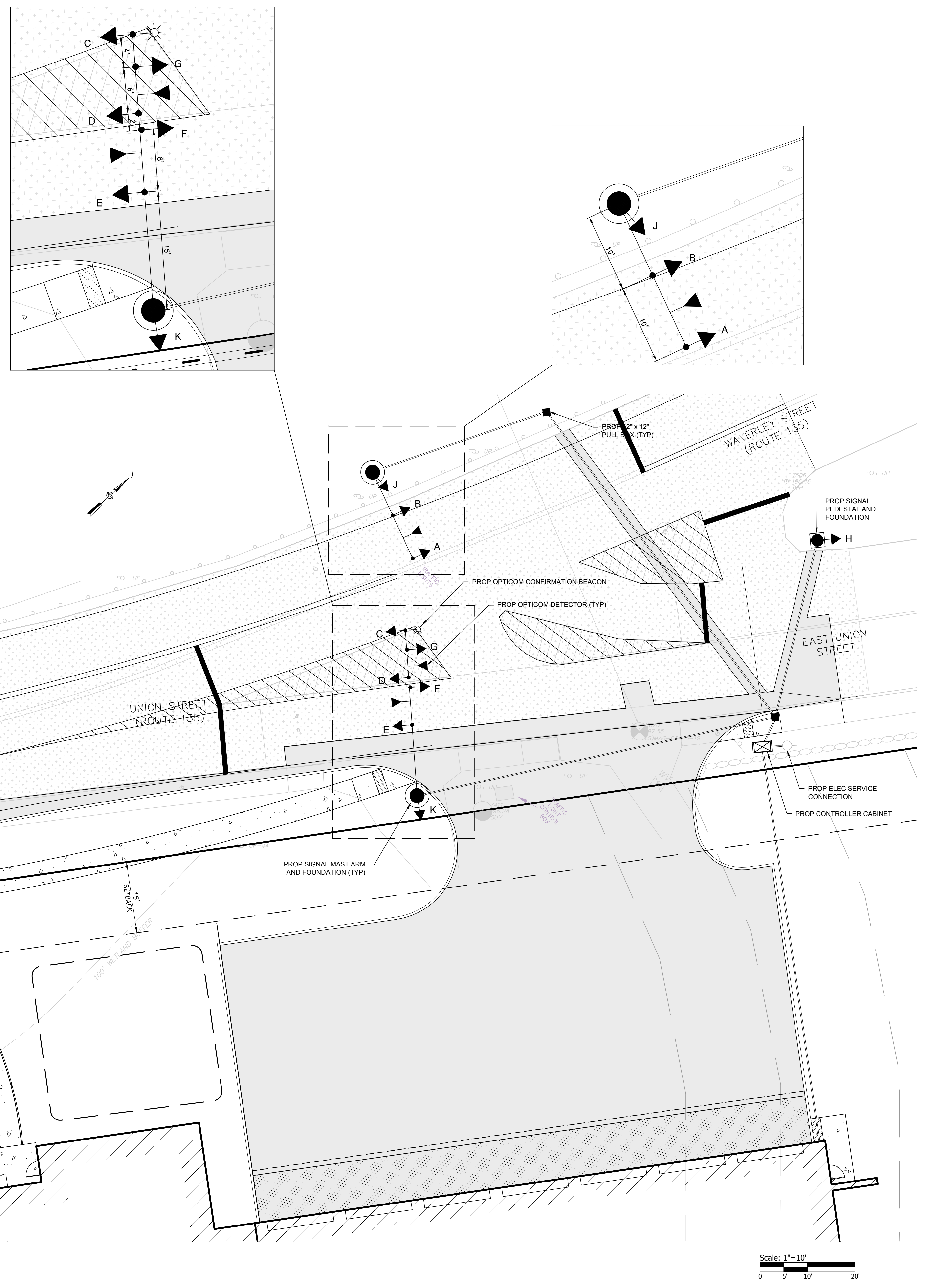
CONSTRUCTION NOTES:

- TRAFFIC SIGNAL WORK SHALL BE IN ACCORDANCE WITH THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES SECTION 800 - TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL MAINTAIN ACCESS AT ALL TIMES.
- ALL TRAFFIC CONTROL SIGNAL EQUIPMENT USED SHALL BE ON THE MASSDOT TRAFFIC SIGNAL APPROVED PRODUCTS LIST.
- ALL RED, YELLOW, AND GREEN SIGNAL DISPLAYS SHALL BE EQUIPPED WITH LED MODULES.
- ALL TRAFFIC SIGNAL HEADS SHALL BE BLACK IN COLOR AND FURNISHED WITH LOUVERED BACK PLATES AND SIGNAL VISORS AS SHOWN. BACK PLATES SHALL BE EQUIPPED WITH A 3" YELLOW RETROREFLECTIVE STRIP IN ACCORDANCE WITH SECTION 4D.12 OF THE MUTCD 2009 EDITION.
- CONTRACTOR SHALL ADJUST PREEMPTION RECEIVERS AND PREEMPTION TIMINGS AS REQUESTED BY THE TOWN OF ASHLAND TO ALLOW FOR OPTIMAL RECEPTION OF THE PREEMPTION SIGNALS.

EMERGENCY VEHICLE PREEMPTION OPERATION:

- EMERGENCY VEHICLE PREEMPTION SHALL BE ACTUATED BY AN OPTICAL SIGNAL FROM AN OPTICAL EMITTER MOUNTED ON AN EMERGENCY VEHICLE AND RECEIVED BY AN OPTICAL DETECTOR LOCATED AT INTERSECTION. A SEPARATE RECEIVING DETECTOR IS REQUIRED FOR EACH DETECTED APPROACH.
- PREEMPTION SIGNALS FROM MULTIPLE APPROACHES SHALL BE SERVICED ON A FIRST DETECTED FIRST SERVED BASIS.
- IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR, THE CONTROLLER SHALL TIME THE CLEARANCE INTERVALS OF THE ACTIVE PHASE (IF DIFFERENT THAT TO BE SERVICED) AND ADVANCE TO AND/OR HOLD IN EMERGENCY VEHICLE PREEMPTION PHASE UNTIL PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME CLEARANCES AND SIMILARLY SERVICE OTHER EMERGENCY VEHICLE PREEMPTION SEQUENCES IN THE ORDER RECEIVED (IF RECEIVED) OTHERWISE, RESUME NORMAL PREFERENTIAL PHASE SEQUENCE.
- PREEMPTION MINIMUM GREENS SHALL BE SIX SECONDS.
- NORMAL CLEARANCES SHALL BE PROVIDED ON PHASES THAT ARE TERMINATED BY PREEMPTION DEMAND.
- ACTUAL TIMING FOR PREEMPTION SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FIRE DEPARTMENT AND SHALL BE APPROVED BY MASSDOT PRIOR TO OPERATION.

MAJOR ITEMS REQUIRED	
QUANTITY	DESCRIPTION
1	20 FOOT GALV. STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION
1	35 FOOT GALV. STEEL MAST ARM TRAFFIC SIGNAL POST AND FOUNDATION
10	SIGNAL HEAD 1 WAY - 3 SECTION
1	PEDESTAL FOUNDATION
1	SIGNAL POST AND BASE STANDARD - 10 FOOT
3	OPTICOM DETECTOR
1	OPTICOM CONFIRMATION BEACON
200'	3 INCH SCHEDULE 80 ELECTRICAL CONDUIT
130'	3 INCH SCHEDULE 40 ELECTRICAL CONDUIT
2	PULL BOX 12" X 12"
1	TRAFFIC SIGNAL CABINET AND CONTROLLER
2	FOUR CHANNEL DETECTOR AMPLIFIER
1	OPTICOM PROCESSOR
1	SERVICE CONNECTION
	PLUS ALL WIRE, CABLE, MOUNTING HARDWARE, EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE INSTALLATION OF A COMPLETE OPERATING TRAFFIC CONTROL SIGNAL



NOT FOR CONSTRUCTION



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www.hktarchitects.com

Revision Schedule		
Number	Revision	Date

Registrations



Project  
ASHLAND PUBLIC SAFETY COMPLEX  
12-16 UNION STREET, ASHLAND, MA

SIGNAL PLAN

AWB LM  
Drawn by LM  
Checked by AUGUST 2020 1" = 20'  
Date 17044.03  
Job number PERMITTING  
Drawing set

Drawing number C-700

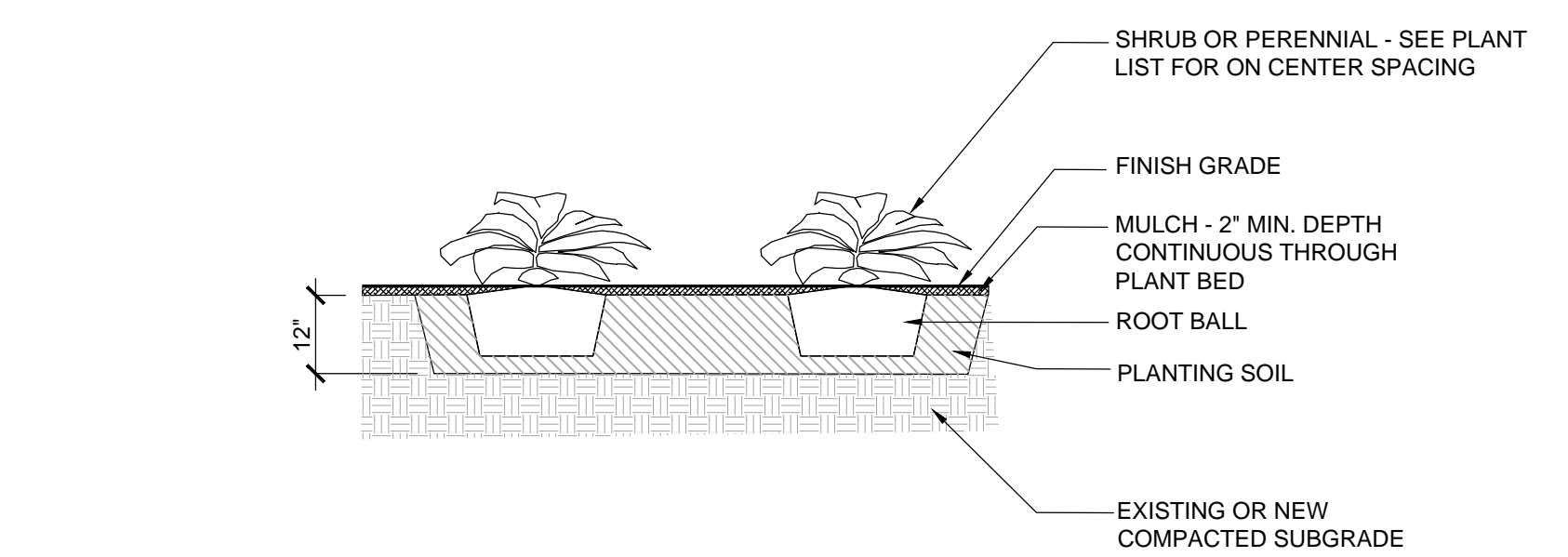
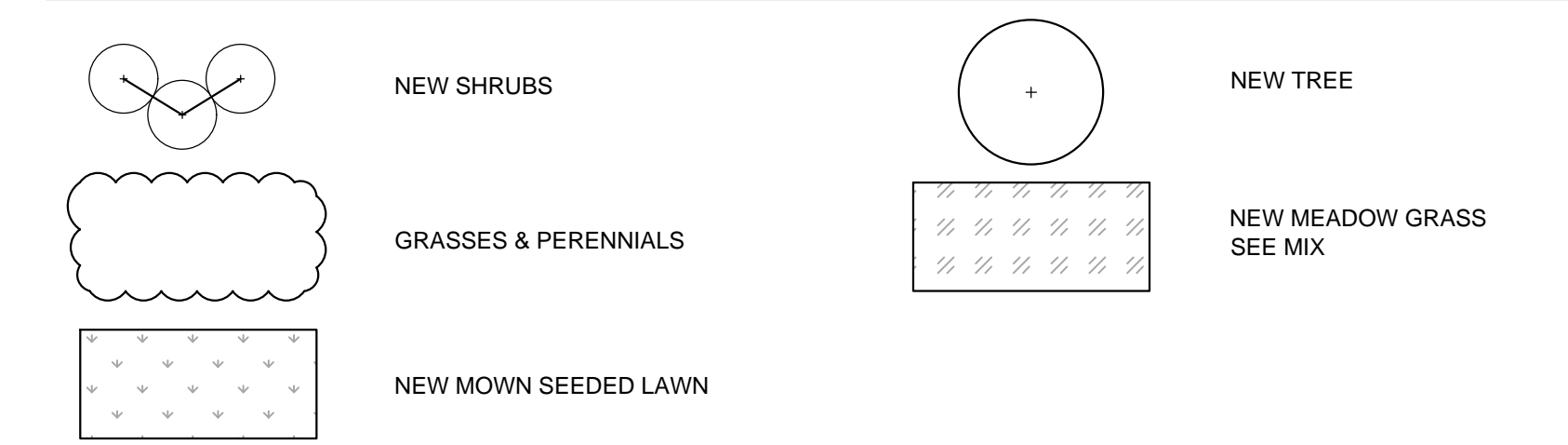
**PLANTING NOTES:**

1. ALL NEW TREES SHALL BE MULCHED WITH SAUCERS OF 2" MIN. DEPTH OF MULCH.
2. SEED ALL DISTURBED AREAS.

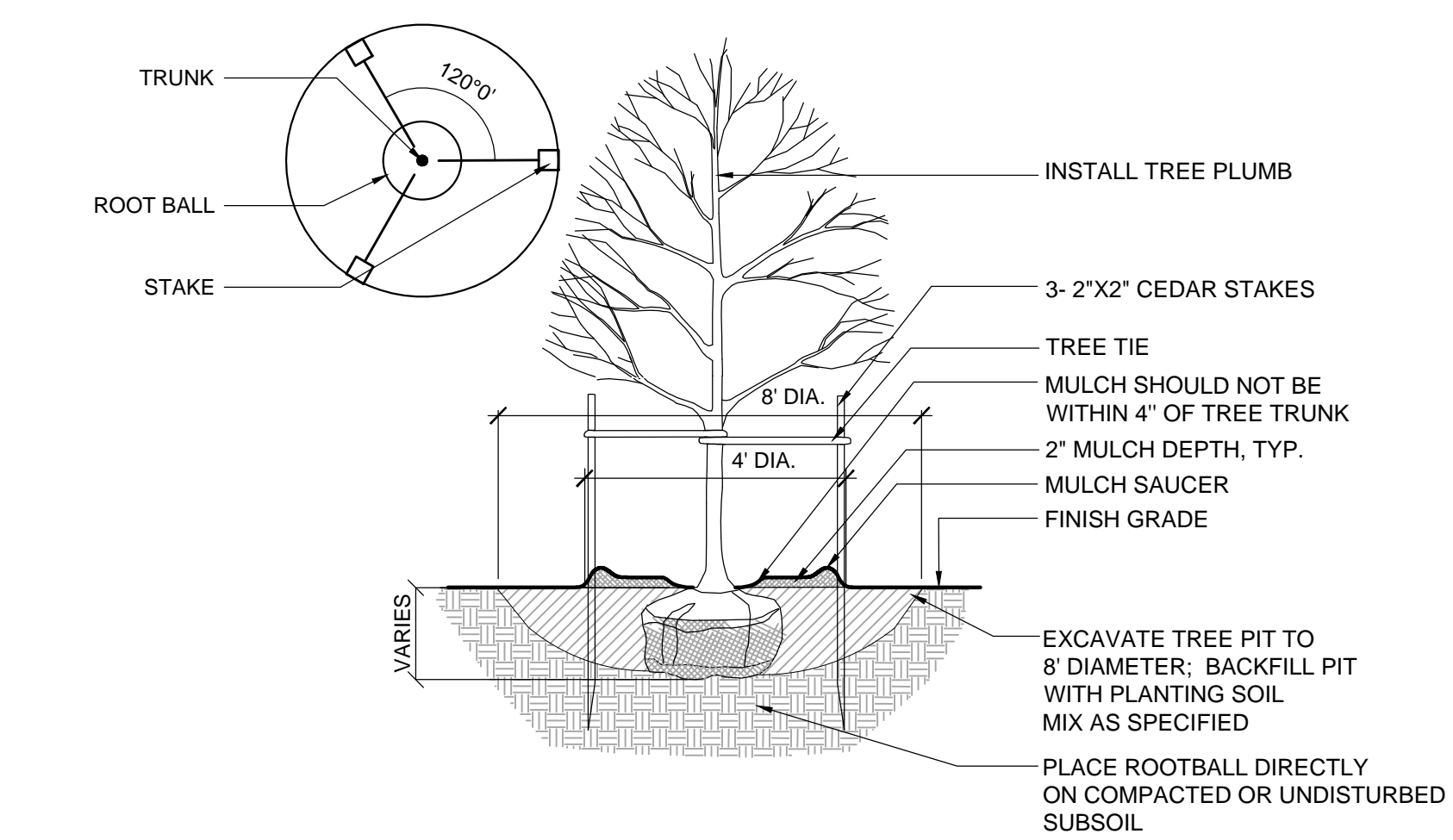
**PLANT LIST**

QTY	KEY	BOTANICAL NAME	COMMON NAME	MIN. SIZE/ SPACING	REMARKS
<b>TREES</b>					
10	AR	ACER RUBRUM 'AUTUMN SPIRE'	AUTUMN SPIRE RED MAPLE	3" CAL	
3	CC	COTINUS COGGYGRIA 'ROYAL PURPLE'	SMOKETREE	10' HT, MULTI-STEM	
2	CT	CORYLUS COLLURNA	TURKISH FILBERT	3" CAL	
5	CV	CRATAEGUS VIRIDIS 'WINTER KING'	WINTER KING HAWTHORNE	3" CAL	
1	LS	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	3" CAL	
5	UP	ULMUS PARVIFOLIA 'ALEE'	ALLEE CHINESE ELM	3" CAL	
3	QP	QUERCUS PALUSTRIS	PIN OAK	3" CAL	
<b>SHRUBS</b>					
3	BM	BUXUS 'GREEN GEM'	GREEN GEM BOXWOOD	18" HT B&B	
36	CA	CLETHRRA ALNIFOLIA 'SIXTEEN CANDLES'	SIXTEEN CANDLES SUMMERSWEET	#3 CONTAINER	
9	CK	CORNUS 'KELSEY'	KELSEY DOGWOOD	#3 CONTAINER	
2	CS	CORNUS SERICEA 'ISANTI'	ISANTI DOGWOOD	#3 CONTAINER	
24	CR	CORNUS RACEMOSA 'EMERALD'	SNOW LACE GRAY DOGWOOD	#7 CONTAINER	
18	DL	DIERVILLA LONICERA	BUSH HONEYSUCKLE	#3 CONTAINER	
3	IG	ILEX GLABRA 'SHAMROCK'	SHAMROCK INKBERRY	#5 CONTAINER	
14	MP	MYRICA PENSYLVANICA	BAYBERRY	#7 CONTAINER	
2	PM	PRUNUS MARITIMA	BEACH PLUM	#5 CONTAINER	
140	RA	RHUS AROMATICA 'GRO LOW'	GRO LOW SUMAC	#2 CONTAINER	
5	RV	ROSA VIRGINIANA	VIRGINIA ROSE	#5 CONTAINER	
10	SP	SYRINGA PATULA 'MISS KIM'	MISS KIM LILAC	#5 CONTAINER	
<b>GRASSES AND PERENNIALS</b>					
22	CF	CALAMAGROSTIS 'KARL FOERSTER'	FEATHER REED GRASS	#3 AT 24" OC	
40	ET	ECHINACEA 'TWILIGHT'	TWILIGHT PURPLE CONEFLOWER	#1 @ 15" OC	
42	HH	HEMEROCALLIS 'HAPPY RETURNS'	HAPPY RETURNS DAYLILY	#2 AT 18" OC	
20	LM	LAMIUM MACULATUM	SPOTTED DEAD NETTLE	4" POT	
50	NF	NEPETA FASS 'WALKERS LOW'	CATMINT	#2 AT 24" OC	
11	PA	PEROVSKIA ATRIP 'BLUE JEAN BABY'	RUSSIAN SAGE	#2 AT 24" OC	
45	PV	PANICUM 'NORTH WIND'	SWITCH GRASS	#3 AT 30" OC	
8	RN	RUDBECKIA NITIDA 'AUTUMN SUN'	AUTUMN SUN CONEFLOWER	#2 @ 24" OC	

**LEGEND**



**2 SHRUB PLANTING- SECTION**  
NOT TO SCALE



**3 TREE PLANTING- SECTION**  
NOT TO SCALE

**1 PLANTING PLAN**  
SCALE: 1" = 20'-0"



Revision Schedule		
Number	Revision	Date

Registrations

Consultants

Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

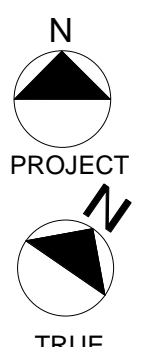
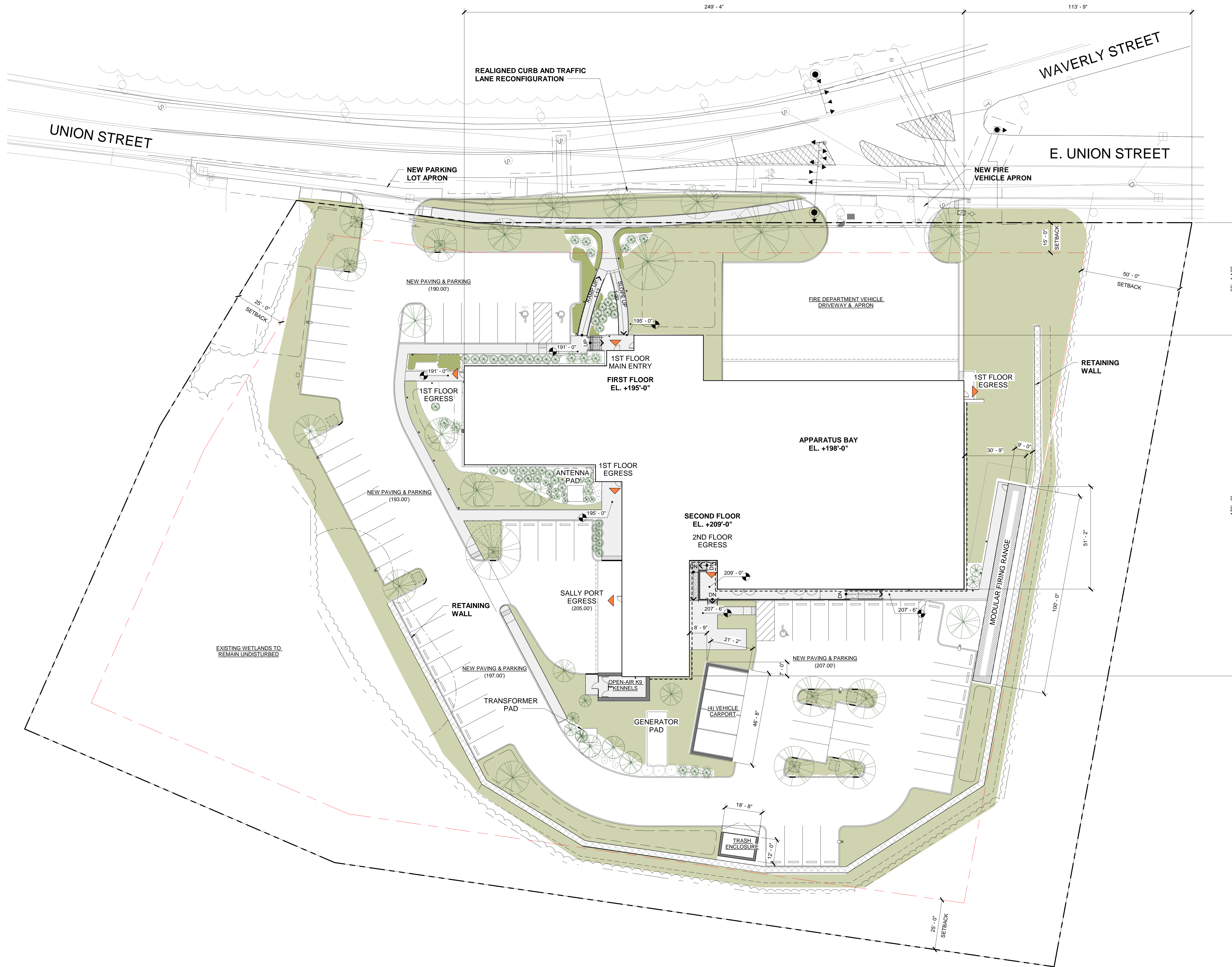
Drawing Title  
ARCHITECTURAL SITE PLAN

PJC PJC  
Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number

**A100**

- LEGEND**
- PROPERTY LINE
  - SETBACK LINE
  - ▲ BUILDING ENTRY/EGRESS
  - CONCRETE PAVING
  - LOCATION OF SUB SURFACE PERFORATED DRAIN
  - EX2 BOLLARD LIGHT FIXTURE
  - EX4 POLE LIGHT FIXTURE (SINGLE HEAD)
  - EX4.2 POLE LIGHT FIXTURE (DOUBLE HEAD)
  - 12" CONCRETE MOW STRIP
  - ▨ RETAINING WALL, SEE CIVIL





Revision Schedule	Number	Revision	Date

Registrations

Consultants

Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

Drawing Title  
LEVEL 2 FLOOR PLAN

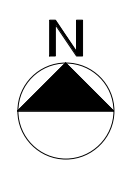
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Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number

A102



1/8" = 1'-0" 1



Revision Schedule	Number	Revision	Date

Registrations

Consultants

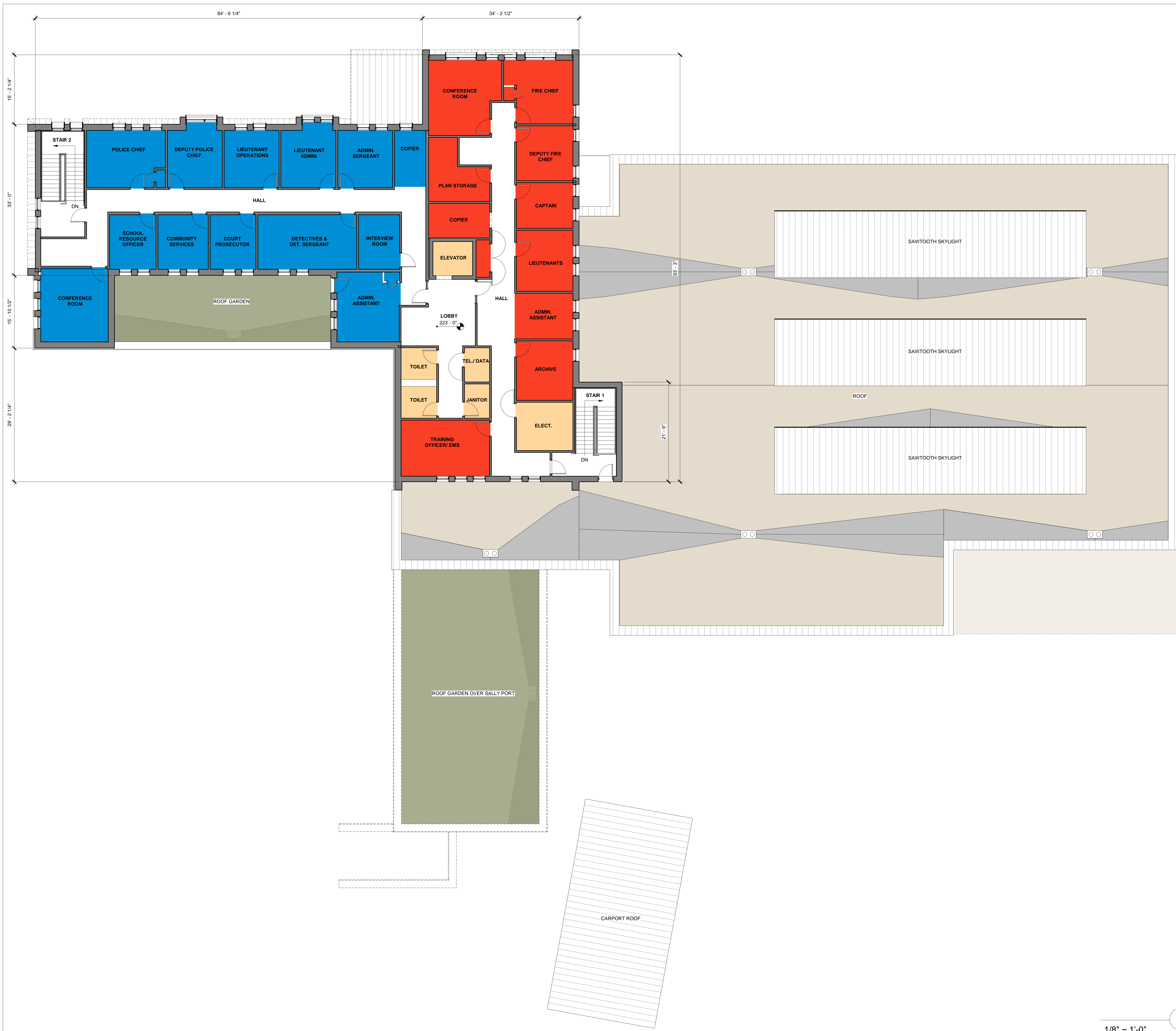
Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

Drawing Title  
LEVEL 3 FLOOR PLAN

PJC PJC  
Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number

A103



Revision Schedule		
Number	Revision	Date

Registrations

Consultants

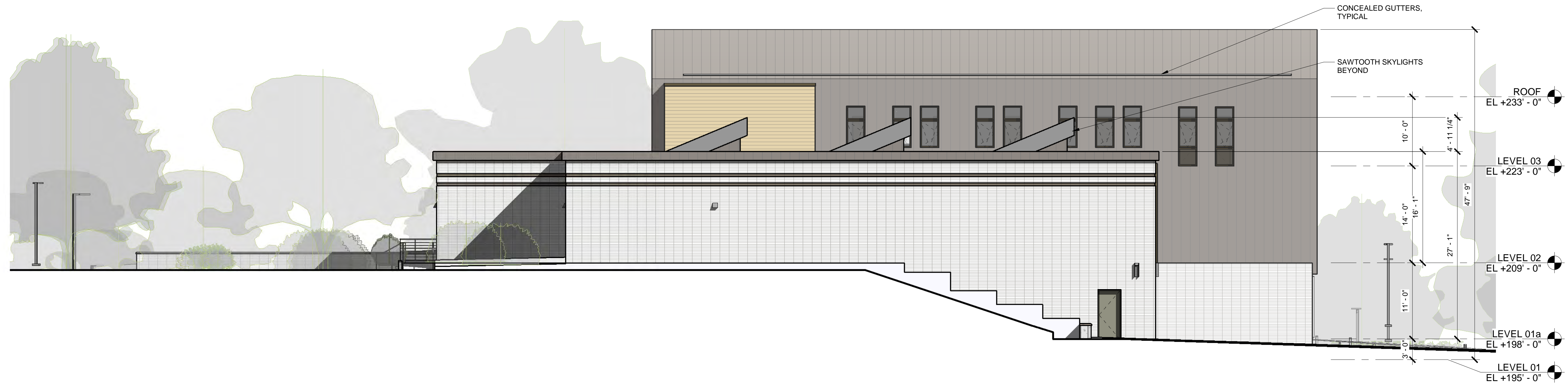
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ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

Drawing Title  
EXTERIOR ELEVATIONS

PJC PJC  
Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number  
**A104**

- LEGEND**
- BRICK, TYPICAL
  - BRICK, ACCENT
  - STANDING SEAM METAL CLADDING
  - FIBER CEMENT PLANKS
  - RESINOUS FIBER ACCENT PANELS
  - EX1 EXTERIOR WALL SCONCE
  - EX2 EXTERIOR BOLLARD FIXTURE
  - EX3 EXTERIOR UTILITY SCONCE



ELEVATION PRES\_EAST ELEVATION

1/8" = 1'-0"

2



ELEVATION NORTH ELEVATION

1/8" = 1'-0"

1

Revision Schedule		
Number	Revision	Date

Registrations

Consultants









Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

Drawing Title  
EXTERIOR ELEVATIONS

PJC PJC  
Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number

**A105**

- LEGEND**
-  BRICK, TYPICAL
  -  BRICK, ACCENT
  -  STANDING SEAM METAL CLADDING
  -  FIBER CEMENT PLANKS
  -  RESINOUS FIBER ACCENT PANELS
  -  EX1 EXTERIOR WALL SCONCE
  -  EX2 EXTERIOR BOLLARD FIXTURE
  -  EX3 EXTERIOR UTILITY SCONCE



ELEVATION PRES\_WEST ELEVATION

1/8" = 1'-0"

2

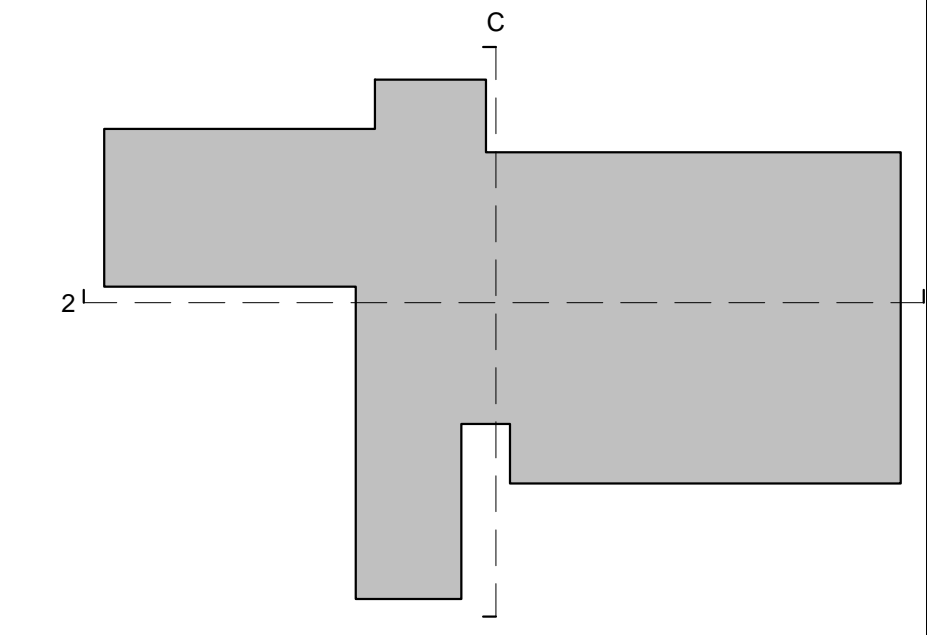


ELEVATION PRES\_SOUTH ELEVATION

1/8" = 1'-0"

1

KEY PLAN

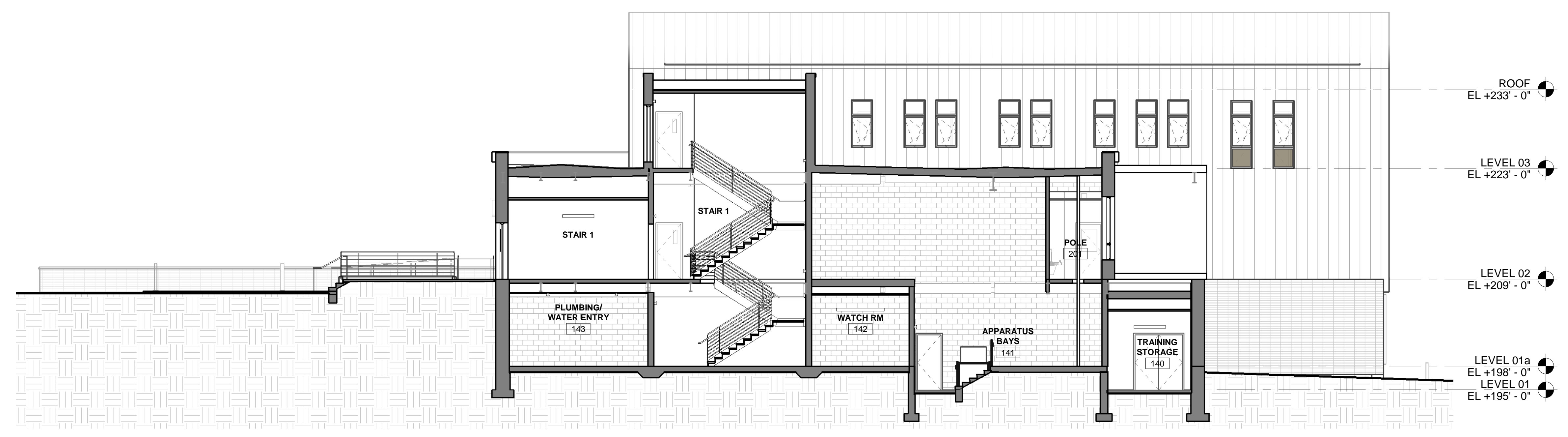


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Revision Schedule		
Number	Revision	Date

Registrations

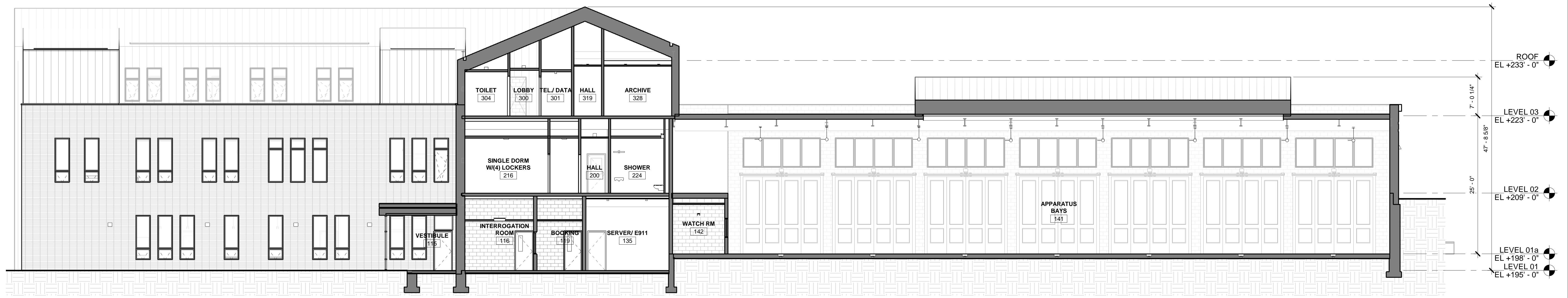
Consultants



SECTION BUILDING SECTION C

1/8" = 1'-0"

2



SECTION BUILDING SECTION 2

1/8" = 1'-0"

1

Project  
ASHLAND PUBLIC SAFETY BUILDING  
12 UNION STREET, ASHLAND, MA  
TOWN OF ASHLAND

Drawing Title  
BUILDING SECTIONS

PJC PJC  
Drawn by Checked by  
AUGUST 18, 2020  
Date  
21917  
Job number  
PLANNING BOARD  
SUBMISSION

Drawing number  
A106

Revision Schedule		
Number	Revision	Date

Registrations

Consultants

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978-998-4700 FAX 978-998-1883 E-MAIL HKT@j-p-e.com

Project  
**ASHLAND PUBLIC SAFETY BUILDING**  
12 UNION STREET, ASHLAND, MA

TOWN OF ASHLAND

Drawing Title  
**SITE LIGHTING PHOTOMETRIC PLAN**

MFM DMP  
Drawn by AUGUST 17, 2020  
Checked by  
Date  
21917  
Job number  
PLANNING SUBMISSION  
Drawing set  
Drawing number

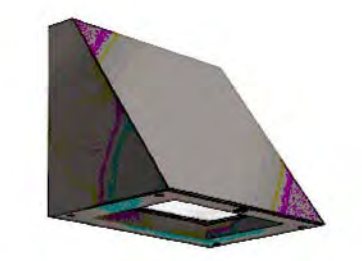
LC001



2 TYPE "EX1"  
LC001 SCALE: NONE



3 TYPE "EX2"  
LC001 SCALE: NONE



4 TYPE "EX3"  
LC001 SCALE: NONE



5 TYPE "EX4, EX4.1"  
LC001 SCALE: NONE



6 TYPE "EX5"  
LC001 SCALE: NONE



1 SITE LIGHTING PHOTOMETRIC PLAN  
LC001 SCALE: 1" = 20'-0"

**LIGHTING FIXTURE SCHEDULE**

TYPE	MANUFACTURER	MODEL / SERIES	MTG.	MOUNTING HEIGHT	LIGHT SOURCE			DESCRIPTION
					LUMENS	WATTS	TYPE	
EX1	TECH LIGHTING	ZUR 12	W	10'	900	11	LED/4000K	DECORATIVE LED WALL MOUNTED AREA LIGHTING FIXTURE WITH FULL CUT-OFF TYPE IV DISTRIBUTION AND REMOTE BATTERY BACK UP.
EX2	LUMENS	SINTRA BOLLARD	B	3.5'	1000	28	LED/4000K	BOLLARD FIXTURE FOR EGRESS PATHWAYS
EX3	LITHONIA	WDGE2-P4-40K-80CRI-VF-MVOLT	W	10'	4500	30	LED/4000K	LED WALL MOUNTED AREA LIGHTING FIXTURE WITH FULL CUT-OFF TYPE III DISTRIBUTION, HOUSE SIDE SHIELD, AND 0-10V DIMMING CAPABILITY.
EX4	GARDCO	ECF-S-32L-530-NW-G2-AR-4-DD-HIS	POLE	16'	6715	56	LED/4000K	LED SINGLE HEAD FIXTURE WITH TYPE IV DISTRIBUTION MOUNTED ON 13.5' TALL ROUND ALUMINUM TAPERED POLE.
EX4.1	GARDCO	ECF-S-32L-530-NW-G2-AR-4-DD-XX	POLE	16'	14,050	56	LED/4000K	LED DOUBLE HEAD FIXTURE WITH TYPE III DISTRIBUTION MOUNTED ON 13.5' TALL ROUND ALUMINUM TAPERED POLE.
EX5	LITHONIA	VAP-4000LM-FST-WD-MVOLT-G210-40K-80CRI-XX	S	10'	3811	32.9	LED/4000K	LED SURFACE MOUNTED VAPORTIGHT FIXTURE WITH FROSTED POLY CARBONATE LENS AND 0-10V DIMMING CAPABILITY.

