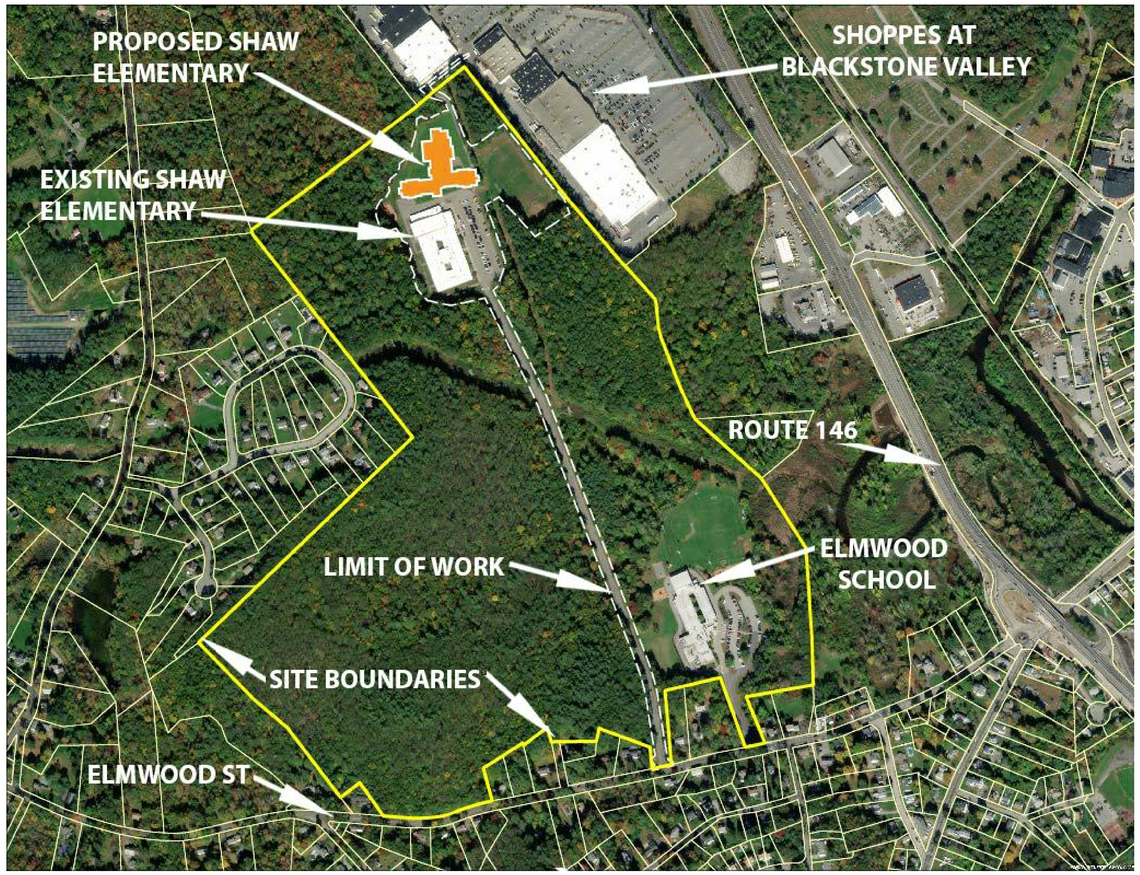

LOCUS/SITE BOUNDAREIS/LIMIT OF WORK

BIRDS EYE VIEW FROM THE SOUTH

ZONING ANALYSIS

Section 22 – Residential Districts

Section 22.12 - Public School is permitted use

Section 22.22 - Residential II District

Section 22.3 - Dimensional Requirements
- 100’ Frontage
- 25’ Front Yard
- 10’ Side Yard
- 10’ Rear Yard
- 30% Gross Coverage
- 30’ Height

Section 34.6.01 - Signage Size and Height Requirements
- Wall Maximum Height = 6'
- Wall Maximum Size = 4 sf
- Freestanding Size / Height = 6sf/6'

Section 48 – Route 146 Highway Corridor Overlay District

Section 48.31 – Node Classification I – Min. lot area of 16 contiguous acres

Section 48.4 – Open Space
Environmental features should be protected by large expanses
Greenways shall abut open spaces with bicycle paths, hiking trails, wildlife corridors and scenic vistas

Section 48.5 – Buffers
Structure or parking area shall be located at least 50’ from property line of the lot containing an existing residence

Section 48.6 – Parking
The guidelines that we are using: 6 spaces per classroom plus 1 space per employee
- Parking Spaces - Max. 8 row fields with 9’ linear island separating each row
- Distance from buildings - Min. 8’ from buildings
- Illumination - Drives and parking shall be illuminated
- Handicapped parking provided in accordance with MA regulations

Section 48.7 - Landscaping
Buffers at least 15’ wide separating parking from highway

Section 48.94 - Dimensional Requirements
- 150’ Frontage
- 50’ Front Yard, excluding access road
- 50’ Side Yard – if abutting existing residential structure
- 50’ Rear Yard – if abutting existing residential structure
- 25% Open excluding parking
- 100’ Height contingent on site location

DESIGN TEAM

OWNER:
MILLBURY PUBLIC SCHOOLS
12 MARTIN STREET
MILLBURY, MA 01527

OWNER’S PROJECT MANAGER:
HILL INTERNATIONAL, INC.
75 SECOND AVENUE, SUITE 300
NEEDHAM, MA 02494
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DAVID BILLINGS, AIA, LEED GA
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PETER@T2ARCHITECTURE.COM

CIVIL ENGINEER:
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LANDSCAPE ARCHITECT:
DODSON & FLINKER
40 MAIN STREET, SUITE 101
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PETER FLINKER, RLA
PETER@DODSONFLINKER.COM

ELECTRICAL ENGINEER:
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370 FAUNCE CORNER ROAD
DARTMOUTH, MA 02747
P. 508.998.5700
DAVID M. PEREIRA, PE
DAVID_PEREIRA@G-G-D.CO

DRAWING LIST

W0.01 COVER SHEET
W0.02 RENDERINGS

A2.00 SOUTH EXTERIOR ELEVATION
A2.01 WEST EXTERIOR ELEVATION
A2.02 NORTH EXTERIOR ELEVATION
A2.03 EAST EXTERIOR ELEVATION

C1.00 CIVIL NOTES
C1.01 ZONING INFORMATION PLAN
EX-1 EXISTING TOPOGRAHIC SURVEY
EX-2 EXISTING TOPOGRAHIC SURVEY
EX-3 EXISTING TOPOGRAHIC SURVEY
EX-4 EXISTING TOPOGRAHIC SURVEY
EX-5 EXISTING TOPOGRAHIC SURVEY
EX-6 EXISTING TOPOGRAHIC SURVEY
EX-7 EXISTING TOPOGRAHIC SURVEY
EX-8 EXISTING TOPOGRAHIC SURVEY
EX-9 EXISTING TOPOGRAHIC SURVEY
EX-10 EXISTING TOPOGRAHIC SURVEY
C3.00 OVERALL SITE PREPERATION PLAN
C3.01 SITE PREPERATION PLAN
C3.02 SITE PREPERATION PLAN
C3.10 OVERALL DRIVEWAY PREPERATION PLAN
C3.11 DRIVEWAY PREPERATION PLAN
C3.12 DRIVEWAY PREPERATION PLAN
C3.13 DRIVEWAY PREPERATION PLAN
C4.00 OVERALL SITE DRIVEWAY LAYOUT PLAN
C4.01 SITE DRIVEWAY LAYOUT PLAN
C4.02 SITE DRIVEWAY LAYOUT PLAN
C4.10 OVERALL DRIVEWAY LAYOUT PLAN
C4.11 DRIVEWAY LAYOUT PLAN
C4.12 DRIVEWAY LAYOUT PLAN
C4.13 DRIVEWAY LAYOUT PLAN
C5.00 OVERALL SITE GRADING PLAN
C5.01 SITE GRADING PLAN
C5.02 SITE GRADING PLAN
C5.03 SITE DETAIL GRADING PLAN
C6.00 OVERALL SITE DRAINAGE & UTILITY PLAN
C6.01 SITE DRAINAGE PLAN
C6.02 SITE DRAINAGE PLAN
C7.01 SITE UTILITY PLAN
C7.02 SITE UTILITY PLAN
C11.00 CIVIL DETAILS
C11.01 CIVIL DETAILS
C11.02 CIVIL DETAILS
C11.03 CIVIL DETAILS
C11.04 CIVIL DETAILS
DA-EX EXISTING DRAINAGE AREAS
DA-PR PROPOSED DRAINAGE AREA

L1-0 LANDSCAPE KEY PLAN
L1-1 LAYOUT PLAN
L1-2 LAYOUT PLAN
L1-3 PLANTING KEY PLAN
L1-4 PLANTING PLAN
L1-5 PLANTING PLAN
L2-1 DETAIL PLANS - OUTDOOR CLASSROOMS
L2-2 DETAIL PLAN - PLAYGROUND
L2-3 DETAIL PLAN - PLANTINGS

LC1.0 SITE LIGHTING CALCULATION

PLANNING BOARD APPROVALS

Turowski2 Architecture
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Marion, MA 02738
508.758.9777 phone
www.t2architecture.com

CONSULTANT:

STAMP:

REVISIONS:

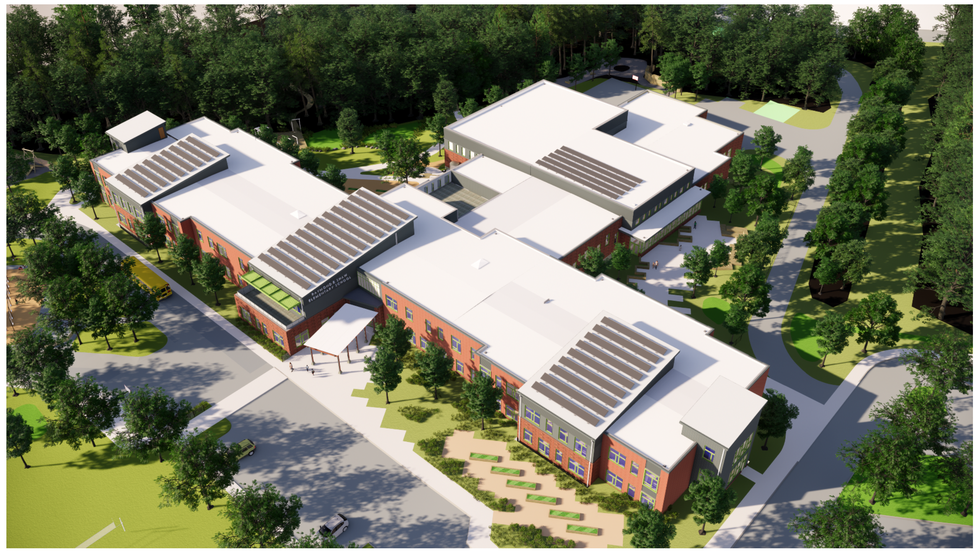
No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST, MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
PLANNING SUBMISSION COVER SHEET

JOB NUMBER: 18-08
DRAWN BY: TB
CHECKED BY: PT
DATE: 5/25/2020
SCALE:
SHEET NO: W0.01

5/21/2020 2:40:54 PM

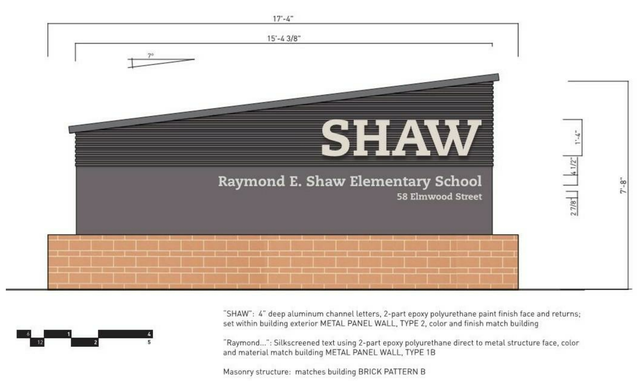


AERIAL VIEW FROM SOUTHEAST

AERIAL VIEW FROM NORTHWEST

MAIN ENTRANCE VIEW

CAFETERIA ENTRANCE VIEW



MONUMENTAL SIGN - RENDERED ELEVATION

SIGN RENDERING - ELMWOOD ENTRANCE

PLANNING BOARD APPROVALS

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RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST, MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
PLANNING SUBMISSION RENDERINGS

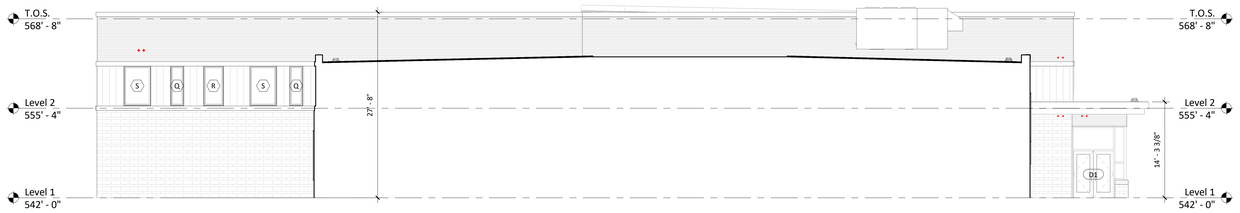
JOB NUMBER: 18-08
DRAWN BY: TB
CHECKED BY: PT
DATE: 5/25/2020
SCALE:
SHEET NO: W0.02

5/21/2020 2:40:54 PM

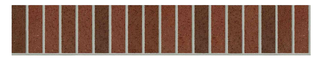
1 SOUTH ELEVATION
1/16" = 1'-0"

1A ENLARGED SOUTH ELEVATION A
1/8" = 1'-0"

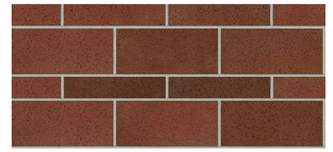
1B ENLARGED SOUTH ELEVATION B
1/8" = 1'-0"



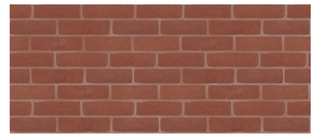
4 ENLARGED SOUTH ELEVATION @ GYM & CAFETERIA
1/8" = 1'-0"



BRICK PATTERN C
SOLDIER COURSE WITH BRICK COLOR 2



BRICK PATTERN B
BIG BRICK MONARCH AND DOUBLE MONARCH STACKED PATTERN WITH BRICK COLOR 2



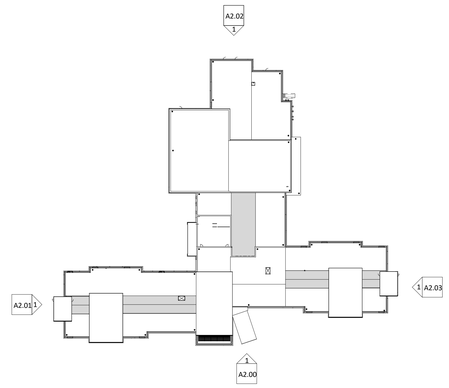
BRICK PATTERN A
RUNNING BOND
BRICK COLOR 1

2 MASONRY WALL TYPE DETAIL A2.00
1/2" = 1'-0"

MATERIALS LEGEND

SYMBOL	DESCRIPTION
	ROOF TYPE R-1 PVC MEMBRANE ROOF
	ROOF TYPE R-3 PAVER SYSTEM OVER PVC MEMBRANE
	METAL PANEL WALL, TYPE 1 - CONCEALED FASTENER STRUCTURAL PANEL WITH RIBBED APPEARANCE
	METAL PANEL WALL, TYPE 1 - CONCEALED FASTENER INTERLOCKING PANEL (HORIZONTAL OR VERTICAL)
	BRICK PATTERN A - RUNNING BOND*
	BRICK PATTERN B - RUNNING BOND WITH ALTERNATING ROWS OF 4" AND 8" ENLARGED BRICK*
	BRICK PATTERN C - SOLDIER COURSE*
X-S	WINDOWS WITH "S" DESIGNATION TO RECEIVE HORIZONTAL EXTERIOR SUN CONTROL DEVICES. SEE DETAIL -/---
SG	SG DENOTES SAFETY GLAZING AT LOCATIONS BELOW 8'. SEE ELEVATIONS FOR LOCATIONS.

*FOR BRICK COLORS AND PATTERNS SEE DETAIL 2/A2.00



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REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST, MILLBURY, MA 01527

60% CONSTRUCTION DOCUMENTS - CARTOON SET

TITLE:
SOUTH EXTERIOR ELEVATIONS

JOB NUMBER: 18-08

DRAWN BY: EP, TP, BF

CHECKED BY: PT, LT

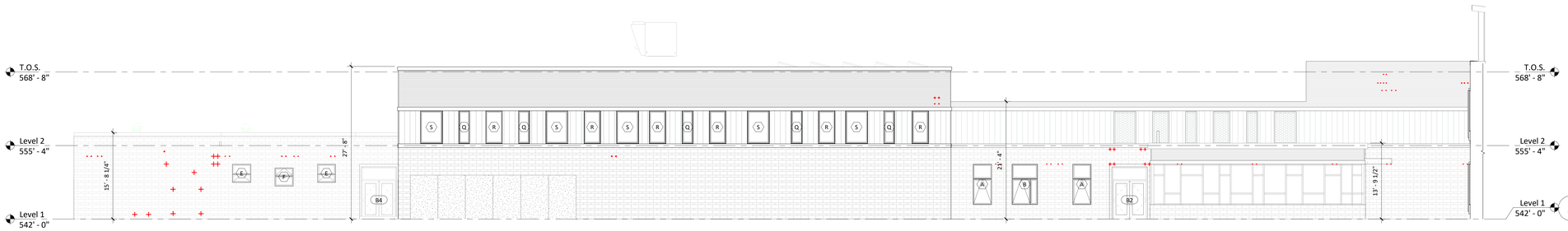
DATE: 5/25/2020

SCALE: As indicated

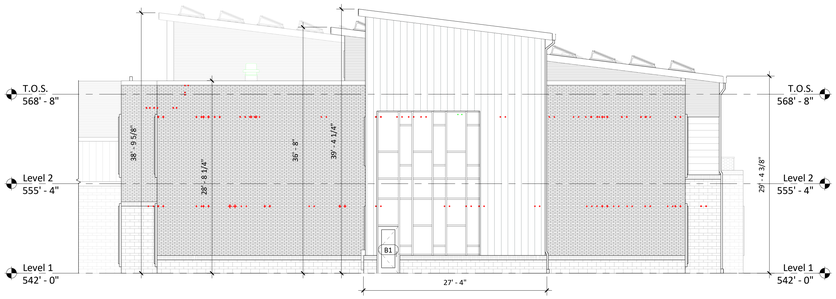
SHEET NO: A2.00

5/21/2020 10:46:47 AM

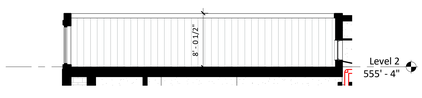
1 WEST ELEVATION
1/16" = 1'-0"



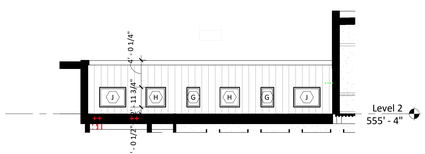
1A ENLARGED WEST ELEVATION A
1/8" = 1'-0"



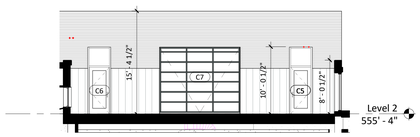
1B ENLARGED WEST ELEVATION B
1/8" = 1'-0"



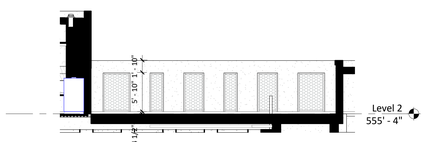
3 ROOFTOP CLASSROOM NORTH
1/8" = 1'-0"



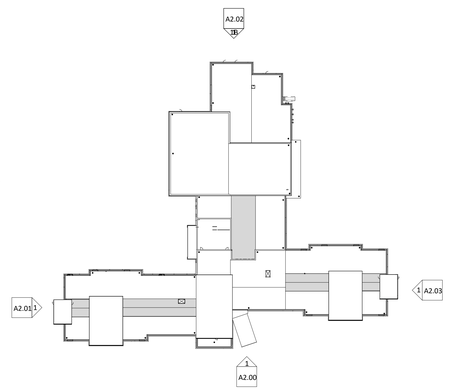
4 ROOFTOP CLASSROOM EAST
1/8" = 1'-0"



5 ROOFTOP CLASSROOM SOUTH
1/8" = 1'-0"

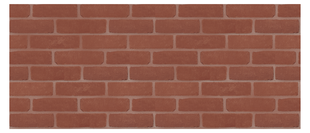


6 ROOFTOP CLASSROM WEST
1/8" = 1'-0"



BRICK PATTERN C
SOLDIER COURSE WITH BRICK COLOR 2

BRICK PATTERN B
BIG BRICK MONARCH AND DOUBLE
MONARCH STACKED PATTERN
WITH BRICK COLOR 2



BRICK PATTERN A
RUNNING BOND
BRICK COLOR 1

2 MASONRY WALL TYPE DETAIL A2.01
1/2" = 1'-0"

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No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST, MILLBURY, MA 01527

60% CONSTRUCTION DOCUMENTS - CARTOON SET

TITLE:
WEST
EXTERIOR
ELEVATIONS

JOB NUMBER:
18-08

DRAWN BY:
EP, TP, BF

CHECKED BY:
PT, LT

DATE:
5/25/2020

SCALE:
As indicated

SHEET NO:
A2.01

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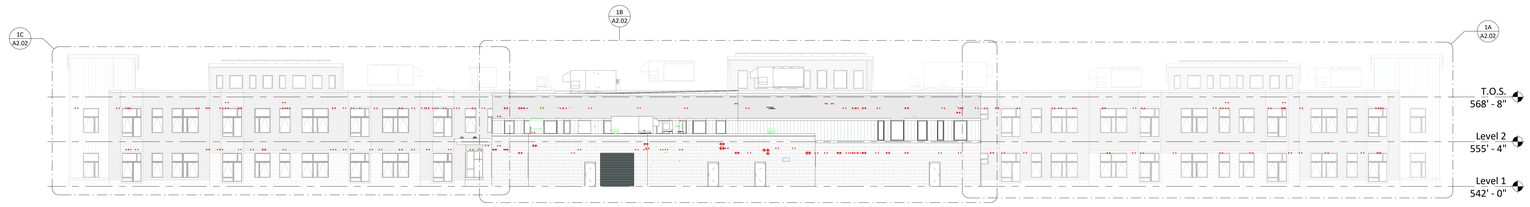
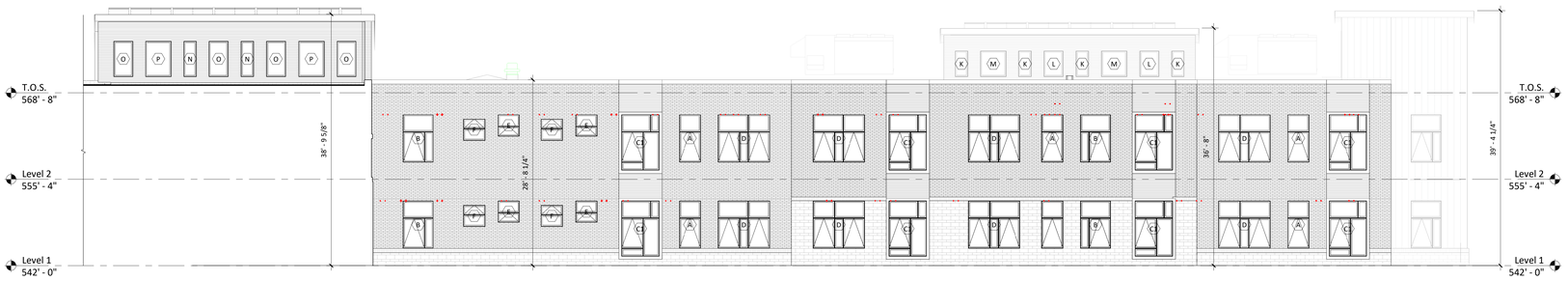
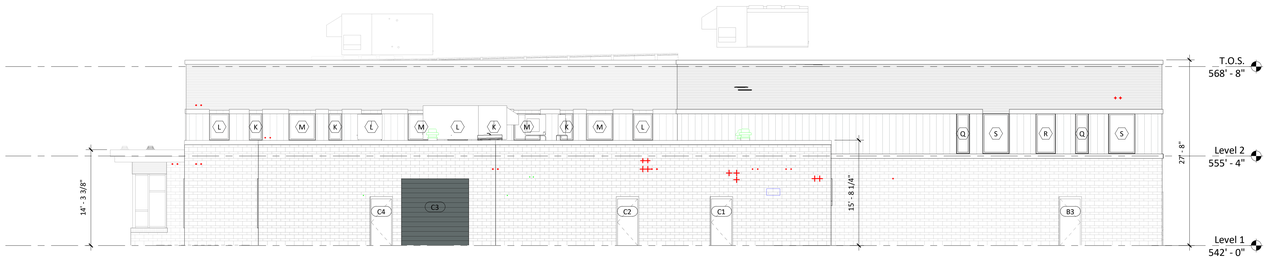


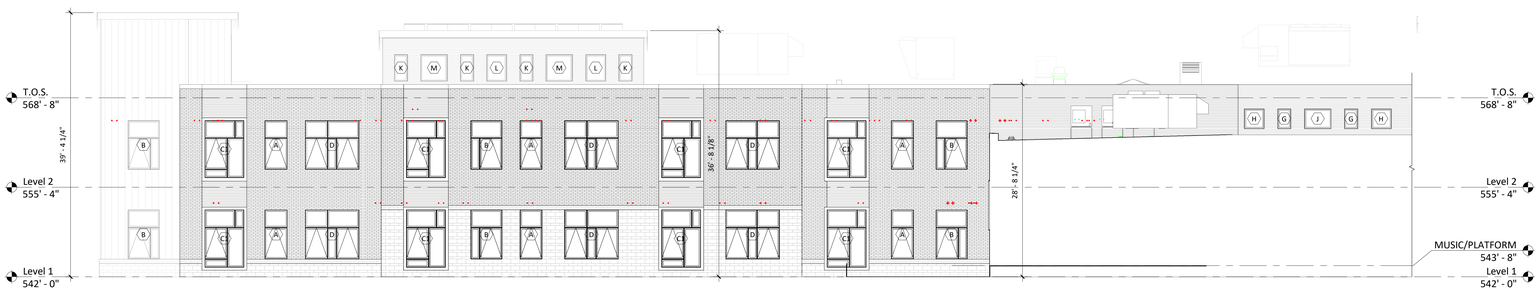
1 NORTH ELEVATION
1/16" = 1'-0"



1A ENLARGED NORTH ELEVATION A
1/8" = 1'-0"



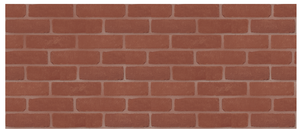
1B ENLARGED NORTH ELEVATION B
1/8" = 1'-0"



1C ENLARGED NORTH ELEVATION C
1/8" = 1'-0"

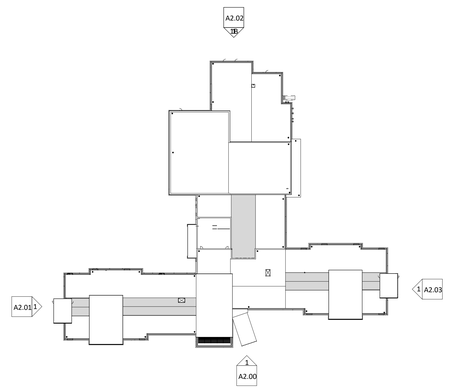
BRICK PATTERN C
SOLDIER COURSE WITH BRICK COLOR 2

BRICK PATTERN B
BIG BRICK MONARCH AND DOUBLE
MONARCH STACKED PATTERN
WITH BRICK COLOR 2



BRICK PATTERN A
RUNNING BOND
BRICK COLOR 1

2 MASONRY WALL TYPE DETAIL A2.02
1/2" = 1'-0"



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60% CONSTRUCTION DOCUMENTS - CARTOON SET

TITLE:
NORTH
EXTERIOR
ELEVATIONS

JOB NUMBER: 18-08

DRAWN BY: Author

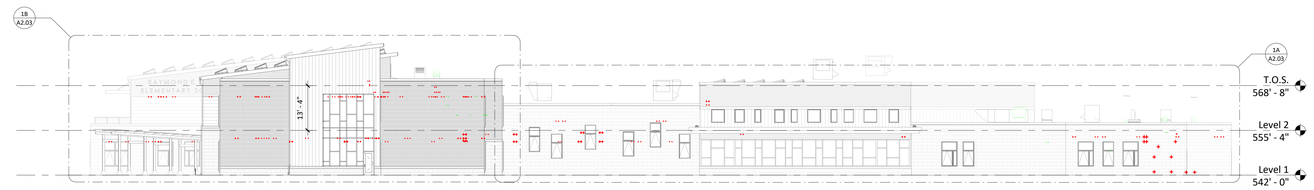
CHECKED BY: Checker

DATE: 5/25/2020

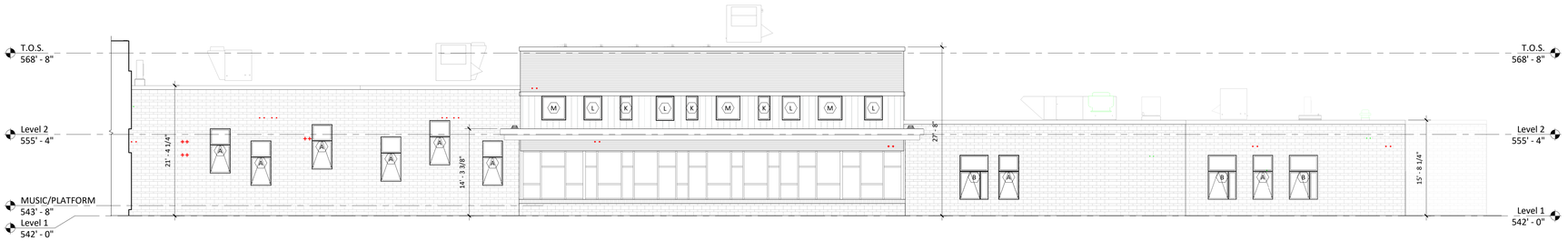
SCALE: As Indicated

SHEET NO: A2.02

5/21/2020 10:57:47 AM



1 EAST ELEVATION
1/16" = 1'-0"



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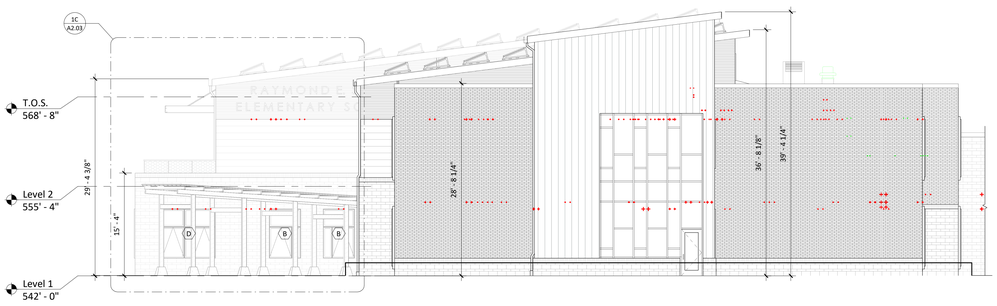
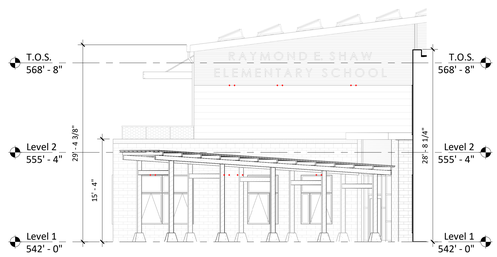
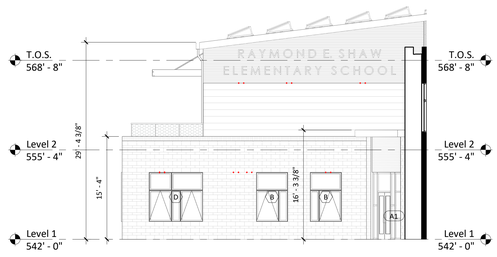
1/8" = 1'-0"



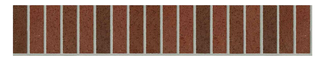
1B ENLARGED EAST ELEVATION B
1/8" = 1'-0"



1C ENLARGED EAST ELEVATION C
1/8" = 1'-0"

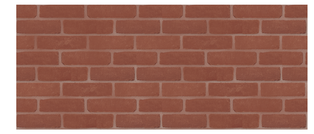


1D ENLARGED EAST ELEVATION D (CANOPY HIDDEN)
1/8" = 1'-0"



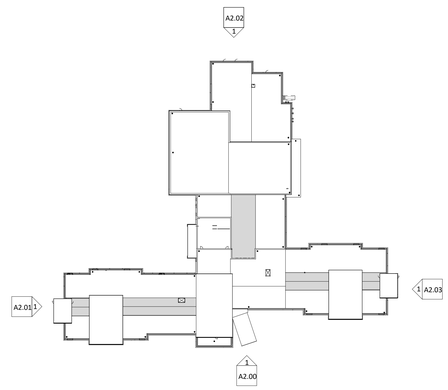
BRICK PATTERN C
SOLDIER COURSE WITH BRICK COLOR 2

BRICK PATTERN B
BIG BRICK MONARCH AND DOUBLE
MONARCH STACKED PATTERN
WITH BRICK COLOR 2



BRICK PATTERN A
RUNNING BOND
BRICK COLOR 1

2 MASONRY WALL TYPE DETAIL A2.03
1/2" = 1'-0"



T2 Turowski2 Architecture

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313 Wareham Road
Marion, MA 02738

508.758.9777 phone
www.t2architecture.com

CONSULTANT:

STAMP:

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST, MILLBURY, MA 01527

60% CONSTRUCTION DOCUMENTS - CARTOON SET

TITLE:
EAST
EXTERIOR
ELEVATIONS

JOB NUMBER: 18-08

DRAWN BY: Author

CHECKED BY: Checker

DATE: 5/25/2020

SCALE: As Indicated

SHEET NO: A2.03

5/12/2020 10:38:08 AM

DEMOLITION NOTES:

1. SITE PREPARATION AND DEMOLITION SHALL INCLUDE THOSE AREAS WITHIN THE LIMIT OF WORK LINE AS SHOWN ON THE CONTRACT DOCUMENTS.
2. ANY AREA OUTSIDE THE LIMIT OF WORK THAT IS DISTURBED SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
3. CONSULT ALL OF THE DRAWINGS AND SPECIFICATIONS FOR COORDINATION REQUIREMENTS BEFORE COMMENCING DEMOLITION.
4. THE CONTRACTOR SHALL COORDINATE SITE DEMOLITION EFFORTS WITH ALL TRADES THAT MAY BE AFFECTED BY THE WORK.
5. ALL ITEMS REQUIRING REMOVAL SHALL BE REMOVED TO FULL DEPTH TO INCLUDE BASE MATERIAL AND FOOTINGS OR FOUNDATIONS AS REQUIRED TO FACILITATE CONSTRUCTION, AND LEGALLY DISPOSED OF OFFSITE BY CONTRACTOR.
6. UTILITY PIPES DESIGNATED TO BE ABANDONED IN PLACE SHALL BE PLUGGED AT THEIR ENDS WITH WATERTIGHT BRICK MASONRY OR CEMENT MORTAR WITH A MINIMUM THICKNESS OF 8 INCHES.
7. UTILITY PIPES DESIGNATED TO BE REMOVED SHALL CONSIST OF THE COMPLETE REMOVAL AND DISPOSAL OF THE ENTIRE LENGTH OF PIPE AND BACKFILL AND 95% COMPACTION OF THE VOID WITH ORDINARY BORROW. WHEN THE VOID IS WITHIN THE FOOTPRINT OF THE NEW BUILDING, GRAVEL BORROW SHALL BE USED TO BACKFILL THE VOID.
8. UTILITY STRUCTURES DESIGNATED TO BE ABANDONED IN PLACE SHALL HAVE THEIR CAST IRON CASTINGS REMOVED AND DISPOSED, INLET AND OUTLET PIPES PLUGGED, THE BOTTOM OF THE STRUCTURES SHALL BE BROKEN, THE VOID OF THE STRUCTURES SHALL BE BACKFILLED AND COMPACTED TO 95% WITH ORDINARY BORROW OR FLOWABLE FILL, AND THE TOP OF THE STRUCTURE SHALL BE REMOVED SO THAT IT IS AT LEAST 36 INCHES BELOW FINISH GRADE.
9. UTILITY STRUCTURES DESIGNATED TO BE REMOVED SHALL CONSIST OF THE REMOVAL AND DISPOSAL OF CAST IRON CASTINGS, PLUGGING OF INLET AND OUTLET PIPES, REMOVAL OF THE STRUCTURE, AND BACKFILL AND 95% COMPACTION OF THE VOID WITH ORDINARY BORROW. WHEN HE VOID IS WITHIN THE FOOTPRINT OF THE NEW BUILDING, GRAVEL BORROW SHALL BE USED TO BACKFILL THE VOID.
10. ALL DEBRIS GENERATED DURING SITE PREPARATION ACTIVITIES SHALL BE LEGALLY DISPOSED OF OFFSITE.
11. AT ALL LOCATIONS WHERE EXISTING CURBING, CONCRETE PAVEMENT OR BITUMINOUS CONCRETE ROADWAY ABUTS NEW CONSTRUCTION, THE EDGE OF THE EXISTING CURB OR PAVEMENT SHALL BE SAW CUT TO A CLEAN, SMOOTH EDGE.
12. EXTEND DESIGNATED LIMIT OF WORK AS NECESSARY TO ACCOMPLISH ROUGH GRADING, EROSION CONTROL, TREE PROTECTION, AND SITE WORK AS REQUIRED BY THESE DRAWINGS AND SPECIFICATIONS.
13. THE CONTRACTOR SHALL REMOVE FROM THE SITE ALL RUBBISH AND DEBRIS FOUND THEREON. STORAGE OF SUCH MATERIALS ON THE PROJECT SITE WILL NOT BE PERMITTED. THE CONTRACTOR SHALL LEAVE THE SITE IN SAFE, CLEAN, AND LEVEL CONDITION UPON COMPLETION OF THE SITE DEMOLITION WORK.
14. REMOVE AND STOCKPILE ALL EXISTING SITE LIGHTS, BENCHES, TRASH RECEPTACLES, TRAFFIC SIGNS, GRANITE CURB, AND OTHER SITE IMPROVEMENTS WITHIN LIMIT OF WORK LINE UNLESS OTHERWISE NOTED.
15. ALL EXISTING TREES AND SHRUBS TO REMAIN SHALL BE PROTECTED AND MAINTAINED THROUGHOUT THE TIME OF CONSTRUCTION, AS SPECIFIED AND DIRECTED BY THE LANDSCAPE ARCHITECT.
16. BEFORE ANY TREES OR SHRUBS ARE REMOVED, THE CONTRACTOR SHALL ARRANGE A CONFERENCE ON THE SITE WITH THE OWNER OR OWNER'S REPRESENTATIVE TO IDENTIFY TREES AND SHRUBS THAT ARE TO BE REMOVED, AS WELL AS THOSE WHICH ARE TO BE PROTECTED. DO NOT COMMENCE CLEARING OPERATIONS WITHOUT A CLEAR UNDERSTANDING OF EXISTING CONDITIONS TO BE PRESERVED.
17. THE CONTRACTOR SHALL REMOVE FROM THE AREA OF CONSTRUCTION PAVEMENT, CONCRETE, CURBING, POLES AND FOUNDATIONS, ISLANDS, TREE BERMS AND OTHER FEATURES WITHIN THE LIMITS OF CONSTRUCTION AS REQUIRED TO ACCOMMODATE NEW CONSTRUCTION WHETHER SPECIFIED ON THE DRAWINGS OR NOT.

EARTH MOVING AND GRADING NOTES:

1. ALL TOPSOIL ENCOUNTERED WITHIN THE WORK AREA SHALL BE STRIPPED TO ITS FULL DEPTH AND STOCKPILED FOR REUSE. EXCESS TOPSOIL SHALL BE REMOVED FROM THE SITE UNLESS OTHERWISE DIRECTED BY THE OWNER. TOPSOIL PILES SHALL REMAIN SEGREGATED FROM EXCAVATED SUBSURFACE SOIL MATERIALS.
2. GRADES WITHIN HANDICAP PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 1.5% IN ANY DIRECTION.
3. CROSS SLOPES OF ALL PEDESTRIAN WALKS SHALL NOT EXCEED 1.5%
4. RUNNING SLOPE OF ALL PEDESTRIAN WALKS SHALL NOT EXCEED 4.5%, UNLESS OTHERWISE NOTED.
5. THE CONTRACTOR SHALL EXERCISE CAUTION IN ALL EXCAVATION ACTIVITY DUE TO POSSIBLE EXISTENCE OF UNRECORDED UTILITY LINES.
6. ALL PAVED AREAS MUST PITCH TO DRAIN AT A MINIMUM OF 1% UNLESS OTHERWISE NOTED.
7. PROVIDE POSITIVE DRAINAGE AWAY FROM FACE OF BUILDINGS AT ALL LOCATIONS.
8. PITCH EVENLY BETWEEN CONTOUR LINES AND BETWEEN SPOT GRADES. SPOT GRADE ELEVATIONS TAKE PRECEDENCE OVER CONTOUR LINES.
9. ALL PROPOSED TOP OF CURB ELEVATIONS ARE SIX INCHES (6") ABOVE BOTTOM OF CURB ELEVATIONS UNLESS OTHERWISE NOTED. ALL PROPOSED TOP OF CAPE COD BERM ELEVATIONS ARE FOUR INCHES (4") ABOVE BOTTOM OF CURB ELEVATION UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL BLEND NEW GRADING SMOOTHLY INTO EXISTING GRADING AT LIMITS OF GRADING.
11. WHERE NEW PAVING MEETS EXISTING PAVING, MEET LINE AND GRADE OF EXISTING PAVING WITH SMOOTH TRANSITION BETWEEN EXISTING AND NEW SURFACES.
12. THE CONTRACTOR SHALL VERIFY EXISTING GRADES IN THE FIELD AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ARCHITECT OR OWNER'S REPRESENTATIVE PRIOR TO STARTING WORK.
13. PITCH TOPS OF ALL WALLS AT ONE-EIGHTH INCH (1/8") PER FOOT FROM BACK OF WALL TO FACE OF WALL.
14. SURPLUS MATERIALS SHALL BE REMOVED FROM THE SITE UNLESS DIRECTED BY THE OWNER OR OWNER'S REPRESENTATIVE. REFER TO EARTHWORK SPECIFICATIONS.
15. ANY AREAS OUTSIDE OF THE LIMIT OF WORK THAT ARE DISTURBED SHALL BE RESTORED BY THE CONTRACTOR TO THE PRE-CONSTRUCTION CONDITION/GRADE AT NO COST TO THE OWNER.
16. EXCAVATION REQUIRED WITHIN 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 ADDITIONAL COST TO COMMONWEALTH/OWNER.
17. GRADING SHOWN FOR INFORMATION ONLY – SEE LANDSCAPE ARCHITECT'S GRADING PLAN FOR GRADING.
18. GRADING FOR ATHLETIC FIELDS SHOWN FOR INFORMATION ONLY – SEE LANDSCAPE ARCHITECT'S GRADING PLAN

UTILITY NOTES:

1. ALL UTILITY CONNECTIONS ARE SUBJECT TO THE APPROVAL OF, AND GRANTING OF PERMITS BY, THE LOCAL MUNICIPALITY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL PERMITS AND APPROVALS RELATED TO UTILITY WORK PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR OBTAINING ALL PERMISSIONS FOR, AND FOR CONDUCTING ALL PREPARATIONS RELATED TO, WORK AFFECTING ANY UTILITIES WITHIN THE JURISDICTION OF ANY NON-MUNICIPAL UTILITY COMPANY, INCLUDING BUT NOT LIMITED TO ELECTRIC, TELEPHONE, AND/OR GAS. THE CONTRACTOR SHALL NOTIFY ALL APPROPRIATE AGENCIES, DEPARTMENTS, AND UTILITY COMPANIES, IN WRITING, AT LEAST 7 DAYS (OR PER UTILITY COMPANY REQUIREMENT) AND NOT MORE THAN 30 DAYS PRIOR TO ANY CONSTRUCTION.
3. THE CONTRACTOR SHALL MAINTAIN UTILITIES SERVICING BUILDINGS AND FACILITIES WITHIN OR OUTSIDE THE PROJECT LIMIT UNLESS THE INTERRUPTION OF SERVICE IS COORDINATED WITH THE OWNER.
4. ALL WATER, SEWER, AND DRAIN WORK SHALL BE PERFORMED ACCORDING TO THE REQUIREMENTS AND STANDARD SPECIFICATIONS OF THE LOCAL MUNICIPALITY.
5. GAS, TELECOMMUNICATIONS AND ELECTRIC SERVICES ARE TO BE DESIGNED BY EACH UTILITY COMPANY IN COORDINATION WITH THE MECHANICAL, ELECTRIC, AND PLUMBING CONSULTANTS.
6. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES OF NEW UTILITIES WITH GAS, TELECOMMUNICATION AND ELECTRICAL SERVICES.
7. INSTALL WATER LINES WITH A MINIMUM OF FIVE FEET OF COVER AND A MAXIMUM OF SEVEN FEET COVER FROM THE FINAL DESIGN GRADES.
8. MAINTAIN 10 FEET HORIZONTAL SEPARATION AND 18 INCHES VERTICAL SEPARATION (WATER OVER SEWER) BETWEEN SEWER AND WATER LINES. WHEREVER THERE IS LESS THAN 10 FEET OF HORIZONTAL SEPARATION AND 18 INCHES OF VERTICAL SEPARATION BETWEEN A PROPOSED OR EXISTING SEWER LINE TO REMAIN AND A PROPOSED OR EXISTING WATER LINE TO REMAIN BOTH WATER MAIN AND SEWER MAIN SHALL BE CONSTRUCTED OF MECHANICAL JOINT CEMENT LINED DUCTILE IRON PIPE FOR A DISTANCE OF 10-FEET ON EITHER SIDE OF THE CROSSING. ONE (1) FULL LENGTH OF WATER PIPE SHALL BE CENTERED OVER THE SEWER AT THE CROSSING.
9. THE CONTRACTOR SHALL MAINTAIN ALL EXISTING UTILITIES EXCEPT THOSE NOTED TO BE ABANDONED AND/OR REMOVED & DISPOSED.
10. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR TRENCHING, BACKFILLING, AND SURFACE RESTORATION FOR GAS UTILITY SYSTEMS.
11. ALL ONSITE UTILITIES SHALL BE INSTALLED UNDERGROUND UNLESS OTHERWISE NOTED.
12. ALL EXISTING AND PROPOSED MANHOLE FRAMES, COVERS, VALVES, CLEANOUTS, CASTINGS, ETC. SHALL BE RAISED TO FINISHED GRADE PRIOR TO FINAL GRADING AND PAVING CONSTRUCTION.
13. ALL GRATES IN WALKWAYS SHALL BE ADA COMPLIANT.

EROSION AND SEDIMENT CONTROL NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "MASSACHUSETTS EROSION AND SEDIMENT CONTROL GUIDELINES FOR URBAN AND SUBURBAN AREAS" PREPARED BY DEPARTMENT OF ENVIRONMENTAL PROTECTION, BUREAU OF RESOURCE PROTECTION, AND THE CURRENT NPDES GENERAL PERMIT FOR STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.
2. MEANS OF EROSION AND SEDIMENT PROTECTION AS NOTED ON THE DRAWINGS INDICATE MINIMUM RECOMMENDED PROVISIONS. THE CONTRACTOR IS RESPONSIBLE FOR FINAL SELECTION AND PLACEMENT OF EROSION AND SEDIMENTATION CONTROLS BASED ON ACTUAL SITE CONDITIONS AND CONSTRUCTION CONDITIONS. ADDITIONAL MEANS OF PROTECTION SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED FOR CONTINUED OR UNFORESEEN EROSION PROBLEMS, OR AS DIRECTED BY CONTROLLING MUNICIPAL AUTHORITIES, AT NO ADDITIONAL EXPENSE TO THE OWNER.
3. AN EROSION CONTROL BARRIER SHALL BE INSTALLED ALONG THE EDGE OF PROPOSED DEVELOPMENT AS INDICATED IN THE PLAN PRIOR TO COMMENCEMENT OF DEMOLITION OR CONSTRUCTION OPERATIONS.
4. SEDIMENT CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF AND DURING ALL PHASES OF CONSTRUCTION AND BE CONSTRUCTED PRIOR TO AND IMMEDIATELY AFTER ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
5. AFTER ANY SIGNIFICANT RAINFALL (GREATER THAN 0.25 INCHES OF RAINFALL WITHIN 24 HOURS), SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED FOR INTEGRITY. ANY DAMAGE SHALL BE CORRECTED IMMEDIATELY.
6. PERIODIC INSPECTION AND MAINTENANCE OF ALL SEDIMENT CONTROL STRUCTURES SHALL BE PROVIDED TO ENSURE THAT THE INTENDED PURPOSE IS ACCOMPLISHED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SEDIMENT LEAVING THE LIMIT OF WORK. SEDIMENT CONTROL MEASURES SHALL BE IN WORKING CONDITION AT THE END OF EACH WORKING DAY.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SEDIMENT FROM ENTERING ANY STORM DRAINAGE SYSTEM AND FROM BEING CONVEYED TO ANY WETLAND RESOURCE AREA, PUBLIC WAYS, ABUTTING PROPERTY, OR OUTSIDE OF THE PROJECT LIMITS.
8. THE CONTRACTOR SHALL PROTECT ALL DRAINAGE SWALES AND GROUND SURFACES WITHIN THE LIMIT OF WORK FROM EROSIVE CONDITIONS. STRAW BALE, CRUSHED STONE OR EQUIVALENT CHECK DAMS ARE TO BE PROVIDED AT A MAXIMUM OF TWO HUNDRED (200) FOOT SPACING, OR LESS AS SITE-SPECIFIC CONDITIONS WARRANT, WITHIN ALL DRAINAGE SWALES AND DITCHES AND AT UPSTREAM SIDES OF ALL DRAINAGE INLETS.
9. ALL STOCK PILES SHALL BE PROTECTED AND LOCATED A MINIMUM OF 100' FROM EXISTING WETLAND RESOURCE AREAS & WITHIN THE LIMIT OF WORK.
10. ANY SEDIMENT TRACKED ONTO PAVED AREAS SHALL BE SWEPT AT THE END OF EACH WORKING DAY.
11. ALL SEDIMENT RETAINED BY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE LEGALLY DISPOSED OF OFFSITE.
12. TEMPORARY DIVERSION DITCHES, PERMANENT DITCHES, CHANNELS, EMBANKMENTS, AND ANY DENUDED SURFACE THAT WILL BE EXPOSED FOR A PERIOD OF 14 CALENDAR DAYS OR MORE SHALL BE CONSIDERED CRITICAL VEGETATION AREAS. THESE AREAS SHALL BE STABILIZED/PROTECTED WITH APPROPRIATE EROSION CONTROL MATTING OR OTHER EROSION CONTROL METHODS.
13. DUST SHALL BE CONTROLLED BY WATERING OR OTHER APPROVED METHODS AS DIRECTED BY THE PERMITTING AUTHORITY OR OWNER.
14. THE CONTRACTOR SHALL USE TEMPORARY SEEDING, MULCHING, OR OTHER APPROVED STABILIZATION MEASURES TO PROTECT EXPOSED AREAS DURING PROLONGED CONSTRUCTION OR OTHER LAND DISTURBANCE. STOCKPILES THAT WILL BE EXPOSED FOR LONGER THAN 14 DAYS SHALL BE STABILIZED.
15. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL EROSION AND SEDIMENT CONTROLS AT THE COMPLETION OF SITE CONSTRUCTION, BUT ONLY WHEN DIRECTED BY THE TOWN OF MILLBURY CONSERVATION AGENT. STABILIZE OR SEED BARE AREAS LEFT AFTER EROSION CONTROL REMOVAL.

GENERAL NOTES:

1. TOPOGRAPHIC DATA, PROPERTY LINE INFORMATION, AND EXISTING SITE FEATURES WERE OBTAINED FROM A PLAN ENTITLED "LIMITED TOPOGRAPHIC PLAN", PREPARED BY NITSCH ENGINEERING., DATED 11/19/2018 AND UPDATED FEBRUARY 2020..
2. FLOODPLAIN INFORMATION WAS OBTAINED FROM THE FLOOD INSURANCE RATE MAP (FIRM) NO. 25027C0809E EFFECTIVE 7/4/2011. THE SITE IS IN ZONE X, AN AREA OF MINIMAL FLOOD HAZARD.
3. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82, SECTION 40, AS AMENDED, WHICH STATES THAT NO ONE MAY EXCAVATE IN THE COMMONWEALTH OF MASSACHUSETTS EXCEPT IN AN EMERGENCY WITHOUT 72 HOURS NOTICE, EXCLUSIVE OF SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, TO NATURAL GAS PIPELINE COMPANIES, AND MUNICIPAL UTILITY DEPARTMENTS THAT SUPPLY GAS, ELECTRICITY, TELEPHONE, OR CABLE TELEVISION SERVICE IN OR TO THE CITY OR TOWN WHERE THE EXCAVATION IS TO BE MADE. THE CONTRACTOR SHALL CALL "DIG SAFE" AT 1-888-DIG-SAFE.
4. THE CONTRACTOR SHALL COMPLY WITH MASSACHUSETTS GENERAL LAWS CHAPTER 82A, ALSO REFERRED TO AS JACKIE'S LAW, AS DETAILED IN SECTION 520 CMR 14.00 OF THE CODE OF MASSACHUSETTS REGULATIONS.
5. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL LAWS, RULES, REGULATIONS AND SAFETY CODES IN THE CONSTRUCTION OF ALL IMPROVEMENTS.
6. THE LOCATIONS AND ELEVATIONS OF ALL EXISTING UTILITIES ARE APPROXIMATE AND ALL UTILITIES MAY NOT BE SHOWN. PRESENCE AND LOCATIONS OF ALL UTILITIES WITHIN THE LIMIT OF WORK MUST BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING AND CONTACTING THE CONTROLLING AUTHORITIES AND/OR UTILITY COMPANIES RELATIVE TO THE LOCATIONS AND ELEVATIONS OF THEIR LINES. THE CONTRACTOR SHALL KEEP A RECORD OF ANY DISCREPANCIES OR CHANGES IN THE LOCATIONS OF ANY UTILITIES SHOWN OR ENCOUNTERED DURING CONSTRUCTION. ANY DISCREPANCIES SHALL BE REPORTED TO THE OWNER AND NITSCH ENGINEERING. ANY DAMAGE RESULTING FROM THE FAILURE OF THE CONTRACTOR TO MAKE THESE DETERMINATIONS AND CONTACTS SHALL BE BORNE BY THE CONTRACTOR.
7. THE CONTRACTOR SHALL, THROUGHOUT CONSTRUCTION, TAKE ADEQUATE PRECAUTIONS TO PROTECT ALL WALKS, GRADING, SIDEWALKS AND SITE DETAILS OUTSIDE OF THE LIMIT OF WORK AS DEFINED ON THE DRAWINGS AND SHALL REPAIR AND REPLACE OR OTHERWISE MAKE GOOD AS DIRECTED BY THE ENGINEER OR OWNER'S DESIGNATED REPRESENTATIVE ANY SUCH OR OTHER DAMAGE SO CAUSED.
8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY AND ALL CONSTRUCTION MEANS AND METHODS.
9. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL BECOME FAMILIAR WITH THE SITE AND CONSTRUCTION DOCUMENTS TO DEVELOP A THOROUGH UNDERSTANDING OF THE PROJECT, INCLUDING ANY SPECIAL CONDITIONS AND CONSTRAINTS.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PROJECT SITE AND TO VERIFY ALL CONDITIONS IN THE FIELD AND REPORT DISCREPANCIES BETWEEN PLANS AND ACTUAL CONDITIONS TO THE OWNER OR OWNER'S REPRESENTATION IMMEDIATELY.
11. THE CONTRACTOR SHALL CONDUCT ALL NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN ALL NECESSARY CONSTRUCTION PERMITS.
12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE ESTABLISHMENT AND USE OF ALL VERTICAL AND HORIZONTAL CONSTRUCTION CONTROLS.
13. ELEVATIONS REFER TO NAVD88.
14. THE CONTRACTOR SHALL COMPLY WITH THE ORDER OF CONDITIONS DATED XXXX XX, XXXX AND ISSUED BY THE XXXX CONSERVATION COMMISSION (DEP #XXX-XXX).
15. FOR SOIL INFORMATION REFER TO GEOTECHNICAL REPORT.

LOCUS PLAN

NOT TO SCALE

PROPOSED LEGEND

- LIMIT OF WORK
- EXISTING UTILITY TO BE ABANDONED, REMOVED AND DISPOSED IF IN CONFLICT WITH NEW SITE IMPROVEMENTS, OR AS INDICATED ON DRAWINGS
- EROSION CONTROL BARRIER
- CONSTRUCTION FENCE
- W — DOMESTIC WATER PIPE
- FP — FIRE PROTECTION PIPE
- S — SANITARY SEWER PIPE
- D — STORM DRAIN PIPE
- G — GAS PIPE
- E — ELECTRIC DUCTBANK
- T/C — TELECOM DUCTBANK
- CW — CHILLED WATER PIPE
- STM — STEAM PIPE
- CR — CONDENSATE RETURN PIPE
- HW — HOT WATER PIPE/RETURN
- HHW — HEATING HOT WATER
- RW — REUSE WATER PIPE
- GW — GREY WATER PIPE
- FUTURE UTILITY, SHOWN FOR INFORMATION ONLY
- INLET PROTECTION
- ELEVATION CONTOURS
- MATCH LINE
- CENTERLINE
- CO — CLEANOUT
- AREA DRAIN
- ACCESS BASIN
- DRAIN MANHOLE
- WATER QUALITY STRUCTURE
- CATCH BASIN
- DOUBLE CATCH BASIN
- WATER QUALITY INLET
- SEWER MANHOLE
- STMH — STEAM MANHOLE
- TMH — TELECOM MANHOLE
- EMH — ELECTRIC MANHOLE
- CWV — CHILLED WATER VALVE
- WV — WATER VALVE
- HYD — FIRE HYDRANT

ABBREVIATIONS

AB	ACCESS BASIN
AD	AREA DRAIN
BC	BOTTOM OF CURB ELEVATION
CB	CATCH BASIN
CCB	CAPE COD BERM
CI	CAST IRON
CJ	CONTROL JOINT
CL	CENTER LINE
CO	CLEANOUT
COP	CENTER OF PIPE
CP	CARRIER PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
DCB	DOUBLE CATCH BASIN
DI	DUCTILE IRON PIPE CEMENT LINED
DMH	DRAIN MANHOLE
EHH	ELECTRIC HANDHOLE
EJ	EXPANSION JOINT
EMH	ELECTRIC MANHOLE
FD	FOUNDATION DRAIN
FFE	FINISHED FLOOR ELEVATION
HP	HIGH POINT
HYD	FIRE HYDRANT
INV	INVERT ELEVATION
LF	LINEAR FEET
LOW	LIMIT OF WORK
LP	LOW POINT
LW	LAB WASTE
M&P	MAINTAIN AND PROTECT
NIC	NOT IN CONTRACT
OC	ON CENTER
OCS	OUTLET CONTROL STRUCTURE
PD	PERIMETER DRAIN
PERF	PERFORATED
PVC	POLYVINYL CHLORIDE PIPE
R&D	REMOVE AND DISPOSE
R&S	REMOVE AND STOCKPILE
RD	ROOF DRAIN
RIM	RIM ELEVATION
SMH	SEWER MANHOLE
SS	SEWER SERVICE
TC	TOP OF CURB ELEVATION
THH	TELECOM HANDHOLE
TMH	TELECOM MANHOLE
TOP	TOP OF PIPE
TOD	TOP OF DUCT BANK
TYP	TYPICAL
UD	UNDERDRAIN
USD	UNDERSLAB DRAIN
VGC	VERTICAL GRANITE CURB
WQI	WATER QUALITY INLET
WQS	WATER QUALITY STRUCTURE
WV	WATER VALVE

CIVIL PLAN LIST FOR Shaw Elementary School

	Drawing Number	Survey and Civil Drawings	Scale
1	C1.00	Civil Notes	NTS
2	C1.01	Zoning Information Plan	NTS
3	EX-1.00 to 1.10	Existing Conditions Survey Plans	1"=20'
4	C3.00	Overall Site Preparation Plan	1"=40'
5	C3.01	Site Preparation Plan	1"=20'
6	C3.02	Site Preparation Plan	1"=20'
7	C3.10	Overall Driveway Preparation Plan	1"=40'
8	C3.11	Driveway Preparation Plan	1"=20'
9	C3.12	Driveway Preparation Plan	1"=20'
10	C3.13	Driveway Preparation Plan	1"=20'
11	C4.00	Overall Site Driveway Layout Plan	1"=40'
12	C4.01	Site Driveway Layout Plan	1"=20'
13	C4.02	Site Driveway Layout Plan	1"=20'
14	C4.10	Overall Driveway Layout Plan	1"=40'
15	C4.11	Driveway Layout Plan	1"=20'
16	C4.12	Driveway Layout Plan	1"=20'
17	C4.13	Driveway Layout Plan	1"=20'
18	C5.00	Overall Site Grading Plan	1"=40'
19	C5.01	Site Grading Plan	1"=20'
20	C5.02	Site Grading Plan	1"=20'
21	C5.03	Site Detail Grading Plan	1"=20'
22	C6.00	Overall Site Drainage & Utility Plan	1"=40'
23	C6.01	Site Drainage Plan	1"=20'
24	C6.02	Site Drainage Plan	1"=20'
25	C7.01	Site Utility Plan	1"=20'
26	C7.02	Site Utility Plan	1"=20'
27	C11.00	Civil Details	NTS
28	C11.01	Civil Details	NTS
29	C11.02	Civil Details	NTS
30	C11.03	Civil Details	NTS
31	C11.04	Civil Details	NTS
32	DA-EX	Existing Drainage Areas	1"=40'
33	DA-PR	Proposed Drainage Area	1"=40'

PLANNING BOARD APPROVALS

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STAMP:
COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER
05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: CIVIL NOTES

JOB NUMBER: 18-08
DRAWN BY: JCZ
CHECKED BY: SAB
DATE: MAY 25, 2020
SCALE: N/A
SHEET NO: C1.00

NITSCH PROJECT #12936

417 GREENWOOD ST
N/F
LAURA E GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1920_2

70 WORC–PROV PIKE
N/F
ROUTE 146 MILLBURY LLC
BK 24293 PG 105
MAP PARCEL ID 44_31

ASSESSOR'S INFORMATION
151.2 ACRES
MAP 61 PARCEL A
BOOK 4654 PG 143

PROPOSED SCHOOL BUILDING

ATHLETIC FIELDS

SHOPPING CENTER BUILDING

SHOPPING CENTER BUILDING (APPROXIMATE LOCATION)

PROPERTY LINE BY GIS

SNOW STORAGE

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

ZONING TABLE – SETBACKS

BUILDING SETBACKS FOR R–2 ZONING	FRONT	SIDE (WEST)	SIDE (EAST)	REAR
ZONING REQUIREMENTS	25'	10'	10'	10'
PROPOSED SCHOOL BUILDING	3,000+'	725±'	251±'	147±'
	ZONING* REQUIREMENTS		EXISTING SITE	
MINIMUM AREA	40,000		152 ACRES	
FRONTAGE	100'		OVER 500'	
BUILDING HEIGHT	30'		40'**	

* PARCEL IS LOCATED IN R–2 ZONE
** SEE SITE PLAN APPLICATION FOR ADDITION INFORMATION

PARKING TABLE

DESCRIPTION OF LOT	TOTAL SPACES	9'X18' SPACES	HC SPACES	CHARGING SPACES	ELEC VEHICLES
MAIN PARKING LOT 9'X18' PERPENDICULAR	105	101	4	7	7
VISITOR PARKING LOT	9	7	2	0	0
FIELD PARKING LOT	4	4	1	0	0
MAIN DRIVE PARALLEL SPACES	11	11	0	0	0
MAIN PARKING LOT PARALLEL SPACES	13	13	0	0	0
TOTALS	142	135	7	7	7

PLANNING BOARD APPROVALS

Turowski2 Architecture
P.O. Box 1290
313 Wareham Road
Marion, MA 02738
508.758.9777 phone
www.t2architecture.com

CONSULTANT:
Nitsch Engineering
www.nitscheng.com
370 Main Street, Suite 850
Worcester, MA 01608
T: (508) 365-1030
F: (617) 338-6472

STAMP:
COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER
05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: ZONING INFORMATION PLAN
JOB NUMBER: 18-08
DRAWN BY: JCZ, RL
CHECKED BY: SAB
DATE: MAY 25, 2020
SCALE: 1"=40'
SHEET NO: C1.01

NITSCH PROJECT #12936

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LIMITED TOPOGRAPHIC PLAN

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD STREET, MILLBURY, MA 01527

PREPARED FOR:
TUROWSKI2 ARCHITECTS
313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	05/20
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	02/20
B	WATER LINE & PROPERTY LINE	09/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
FILE:	12936.1_TOPO1.dwg
SCALE:	1"=20'
DATE:	11/19/2018
DES./COMP:	
FIELD BOOK:	728/732/758
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 1

EX-1

OF 10 REV.

COMMONWEALTH OF MASSACHUSETTS
DENIS R. SEGUIN
#37058
REGISTERED PROFESSIONAL LAND SURVEYOR

DENIS R. SEGUIN, PLS DATE
MASSACHUSETTS REG. No. 37058
REGISTERED PROFESSIONAL LAND SURVEYOR

GRAPHIC SCALE
20 10 0 20 40 60
SCALE: 1"=20'

SEE NOTES ON SHEET 7

MATCH LINE SHEET 1
MATCH LINE SHEET 6

MATCH LINE SHEET 2
MATCH LINE SHEET 1

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

3/9/2020, 5:58 PM

J:\12936.1 shaw es study\survey\12936.1_topo1.dwg

3/9/2020, 5:20 PM

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

417 GREENWOOD ST
N/F
LAURA E GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1920_2

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

PROPERTY LINE BY GIS

MATCH LINE SHEET 3
MATCH LINE SHEET 2

MATCH LINE SHEET 2
MATCH LINE SHEET 1

N62°10'25"E 47.72

WF 1
WF 2
WF 3
WF 4
WF 5A
WF 6A
WF (BVW5)
WF (BVW6)
WF (BVW7)
WF (BVW8)
WF (BVW9)
WF (BVW10)
WF (BVW11)
WF (BVW12)
WF (BVW13)
WF (BVW14)
WF 6-2
WF 6-3
WF 6-4
WF 6-5
WF 6-6
WF 6-7
WF 6-8
WF 6-9
WF 6-10
WF 6-11
WF 6-12

EDGE OF BORDERING VEGETATED WETLAND
ISOLATED VEGETATED WETLAND

TEST PIT (T1-P1) GROUND ELEVATION=528.781
TEST PIT (T1-P2) GROUND ELEVATION=531.716

BENCH MARK:
MUELLER NUT ON HYD
ELEVATION=542.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

R=538.72
A TH=536.7'
B TH=536.6'(4"D)

BORING B-3 GROUND ELEVATION=538.9
BORING B-5 GROUND ELEVATION=538.1
BORING B-6 GROUND ELEVATION=538.8
BORING B-7 GROUND ELEVATION=539.6
BORING B-9 GROUND ELEVATION=539.6
BORING B-12 GROUND ELEVATION=540.4
BORING B-13 GROUND ELEVATION=538.3
BORING B-14 GROUND ELEVATION=540.1
BORING B-15 GROUND ELEVATION=539.2
BORING B-16 GROUND ELEVATION=540.0
BORING B-17 GROUND ELEVATION=540.0

WATER
WOODS
GRASS
DIRT
MULCH
BOULDER
STONEWALL
LEDGE
GROUND WATER BREAKOUT
FIELD STONEWALL
2' MIS STONEWALL
100-FOOT BUFFER ZONE
FLAGGING (SUBMENT)
BIT CONCRETE
BIT SIDEWALK
CONCRETE SIDEWALK
SOCCER GOAL
SOCCER PRACTICE FIELD
BASKETBALL HOOP
SWINGS
RUBBER MAT
RECORD FUEL OIL STORAGE TANK
TRANSFORMER ON CONC PAD
DUMPSTERS
BOULDER
DOOR ENT=542.29 (METAL)
DOOR ENT=542.23 (CONC)
DOOR ENT=542.30 (METAL)
DOOR ENT=542.35 (CONC)
DOOR ENT=542.30 (CONC)
DOOR ENT=542.32 (CONC)
MW
CATV

GRAPHIC SCALE
20 10 0 20 40 60
SCALE: 1"=20'

SEE NOTES ON SHEET 7

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LIMITED TOPOGRAPHIC PLAN

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD STREET, MILLBURY, MA 01527

PREPARED FOR:
TUROWSKI2 ARCHITECTS
313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	03/2020
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	02/2020
B	WATER LINE & PROPERTY LINE	12/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
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SCALE:	1"=20'
DATE:	11/19/2018
DES./COMP:	
FIELD BOOK:	728/732/758
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 2

EX-2

OF 10 REV.

G:\12936.1 shaw es study\Survey\12936.1_Topo1.dwg

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

GRAPHIC SCALE

20 10 0 20 40 60

SCALE: 1"=20'

SEE NOTES ON SHEET 7

417 GREENWOOD ST
N/F
LAURA E GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1920_2

70 WORC-PROV PIKE
N/F
ROUTE 146 MILLBURY LLC
BK 24293 PG 105
MAP PARCEL ID 44_31

50' WIDE EASEMENT

BENCH MARK:
SPIKE IN UP #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

TEST PIT (T1-P1) GROUND ELEVATION=528.781

TEST PIT (T1-P2) GROUND ELEVATION=531.716

BORING B-1 GROUND ELEVATION=538.5

BORING B-3 GROUND ELEVATION=538.9

BORING B-4 GROUND ELEVATION=539.9

BORING B-5 GROUND ELEVATION=538.1

BORING B-6 GROUND ELEVATION=538.8

BORING B-7 GROUND ELEVATION=539.6

BORING B-8 GROUND ELEVATION=540.6

BORING B-9 GROUND ELEVATION=539.6

SOCCER PRACTICE FIELD

BASEBALL FIELD

SOCCER GOAL

MATCH LINE SHEET 2

MATCH LINE SHEET 3

MATCH LINE SHEET 4

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313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	01/2020
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	12/2020
B	WATER LINE & PROPERTY LINE	09/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
FILE:	12936.1_TOPO1.dwg
SCALE:	1"=20'
DATE:	11/19/2016
DES./COMP:	
FIELD BOOK:	728/732/758
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 3

EX-3

OF 10 REV.

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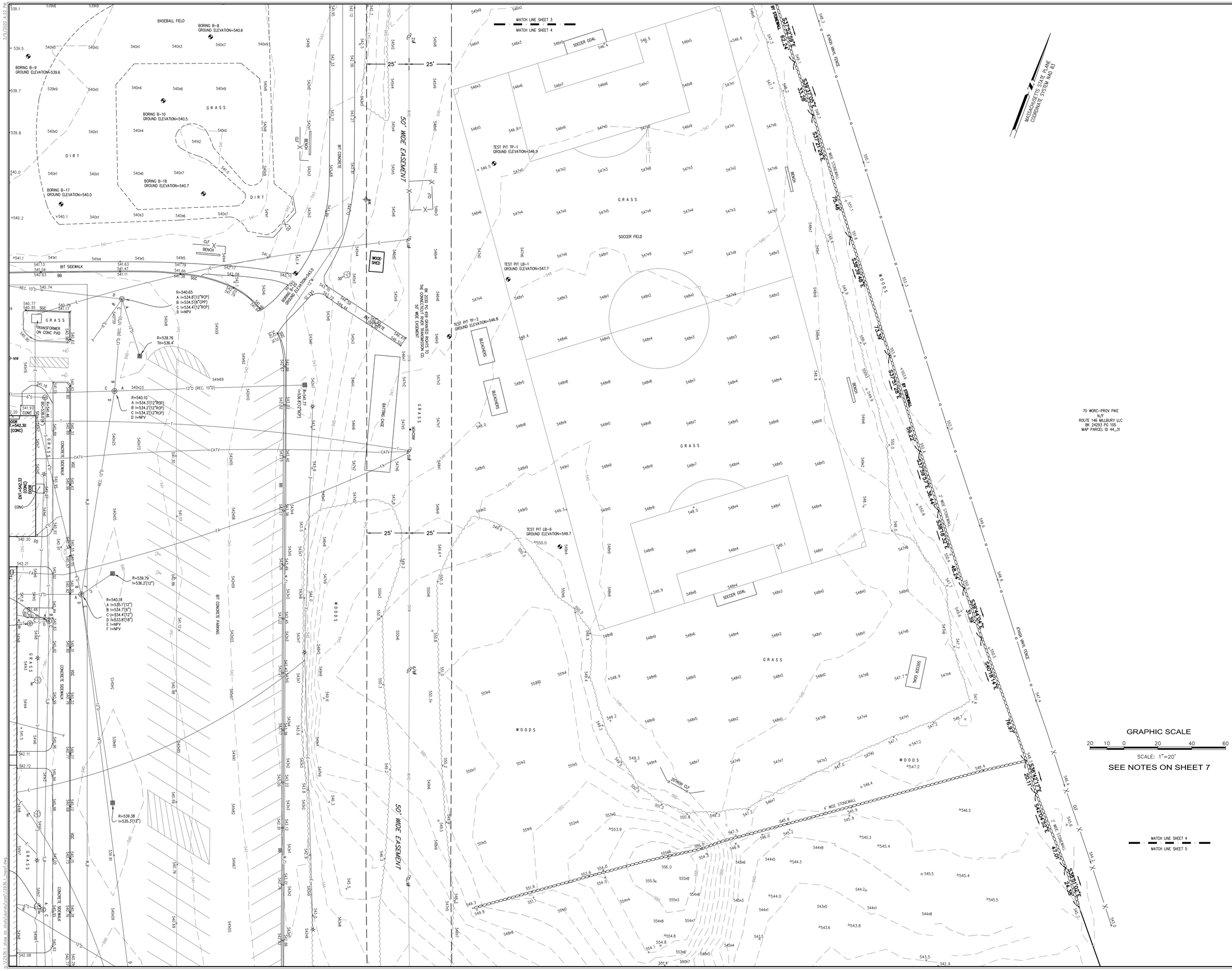

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LIMITED TOPOGRAPHIC PLAN

RAYMOND E. SHAW ELEMENTARY SCHOOL
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PREPARED FOR:
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313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	03/2020
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	02/2020
B	WATER LINE & PROPERTY LINE	09/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
FILE:	12936.1_TOPO1.dwg
SCALE:	1"=20'
DATE:	11/19/2018
DES./COMP:	
FIELD BOOK:	728/732/758
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 4

EX-4

OF 10 REV.

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LIMITED TOPOGRAPHIC PLAN

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PREPARED FOR:
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313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	01/2020
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	12/2006
B	WATER LINE & PROPERTY LINE	09/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT # 12936.1
FILE: 12936.1_TOPO1.dwg
SCALE: 1"=20'
DATE: 11/19/2018
DES./COMP:
FIELD BOOK: 728/732/758
DRAFTED BY: IOS/TI
CHECKED BY: DRS

SHEET: 5

EX-5

OF 10 REV.

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LIMITED TOPOGRAPHIC PLAN

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD STREET, MILLBURY, MA 01527

PREPARED FOR:
TUROWSKI2 ARCHITECTS
313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
	REVISIONS	
D	WETLAND FLAGS ADDED	01/6/20
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	02/20/0
B	WATER LINE & PROPERTY LINE	09/19
A	ADD EASEMENT INFORMATION	04/19

PROJECT #	12936.1
FILE:	12936.1_TOPO1.dwg
SCALE:	1"=20'
DATE:	11/19/2018
DES./COMP:	
FIELD BOOK:	728/732
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 6

EX-6

OF 10 REV.

GRAPHIC SCALE
20 10 0 20 40 60
SCALE: 1"=20'

SEE NOTES ON SHEET 7

MATCH LINE SHEET 1
MATCH LINE SHEET 6

MATCH LINE SHEET 6
MATCH LINE SHEET 7

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

MASSACHUSETTS STATE PLANE
COORDINATE SYSTEM NAD 83

EDGE OF BORDERING VEGETATED WETLAND
GROUND WATER BREAKOUT
WF 2-1
WF 2-2
INTERMITTENT STREAM
CONC HEADWALL
INV 12"=533.3
WF BANK (A1)
WF BANK (A2)
WF BANK (A3)
BANK
WOODS
GRASS
R=538.33
A l=533.9'(8"D)
B l=533.9'(8"D)
BITUMINOUS PAVEMENT
8"W-ABANDONED PER WATER COMPANY
BIT CONC SIDEWALK
6 8 4 5 5
WF BANK (A4)
WF 3-1
WF 3-2
WF 3-3
WF 3-4
WF 3-5
WF 3-6
WF 3-7
WF 3-7A
WF 3-8
WF 3-9
WF 3-10
WF 3-11
WF 3-12
WF 3-13
EDGE OF BORDERING VEGETATED WETLAND
R=529.67
A =527.0'(8"HC)
B l=526.7'(8"D)
C l=NPV
BC=526.7
R=530.52
A l=426.3'(12"RCP)
B l=426.2'(12"RCP)
C l=NPV
BC =525.8'
R=538.28
l=526.31'(24"RCP)
R=521.06
A l=516.1
B l=516.0
R=512.69
l=508.4
R=512.96
l=508.6
R=512.73
A l=509.1
B l=505.2
C l=505.3
D l=505.1
CONC HEADWALL
INV 18"=529.1
SWALE
WF BANK (B1)
WF BANK (B2)
WF B1
WF B2
WF B3/5-1
WF 5-2
WF 5-3
WF 5-4
WF 5-5
WF 5-6
WF 5-7
WF 5-8
WF 5-9
EDGE OF BORDERING VEGETATED WETLAND
TEST PIT-3
GROUND ELEVATION=529.0
TEST PIT-4
GROUND ELEVATION=526.7
2.5' WIDE STONEWALL
50' WIDE EASEMENT
100-FOOT BUFFER ZONE
P4/6
P1/7
ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

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NOTES

1. THIS DOCUMENT IS AN INSTRUMENT OF SERVICE OF NITSCH ENGINEERING. IT IS ISSUED TO TUROWSKI2 ARCHITECTS, INC. FOR PURPOSES RELATED DIRECTLY AND SOLELY TO NITSCH ENGINEERING'S SCOPE OF SERVICES UNDER CONTRACT WITH TUROWSKI2 ARCHITECTS, INC. FOR RAYMOND E. SHAW ELEMENTARY SCHOOL IN MILLBURY, MA. ANY USE OR REUSE OF THIS DOCUMENT FOR ANY REASON BY ANY PARTY FOR PURPOSES UNRELATED DIRECTLY AND SOLELY TO SAID CONTRACT AND PROJECT SHALL BE AT THE USER'S SOLE AND EXCLUSIVE RISK AND LIABILITY, INCLUDING LIABILITY FOR VIOLATION OF COPYRIGHT LAWS, UNLESS WRITTEN AUTHORIZATION IS GIVEN THEREFOR BY NITSCH ENGINEERING.
2. THE PURPOSE OF THIS PLAN IS TO SHOW APPROXIMATE PROPERTY LINE AND LIMITED TOPOGRAPHIC SURVEY AS THE RESULT OF AN ON-THE-GROUND INSTRUMENT SURVEY AND A DRONE SURVEY WHICH OCCURRED BETWEEN OCTOBER 31 AND NOVEMBER 15, 2018. THE PROPERTY LINES ARE COMPILED FROM RECORD DEEDS/PLANS AND GIS INFORMATION.
3. THE FLOOD INSURANCE RATE MAP DOES NOT SHOW THE SITE TO BE WITHIN A 100-YEAR FLOOD PLAIN.
4. HORIZONTAL COORDINATES REFER TO MASSACHUSETTS STATE PLANE COORDINATES (NAD 83) BASED ON GPS RTK OBSERVATIONS.
5. ELEVATION REFERS TO NORTH AMERICAN VERTICAL DATUM (NAVD 88) BASED ON GPS RTK OBSERVATIONS.
6. THE INFORMATION CONTAINED ON THE DISK OR ELECTRONIC DRAWING FILE ACCOMPANYING THIS PLAN MUST BE COMPARED TO THE SEALED AND SIGNED HARD COPY OF THE PLAN TO ENSURE THE ACCURACY OF ALL INFORMATION AND TO ENSURE NO CHANGES, ALTERATIONS, OR MODIFICATIONS HAVE BEEN MADE. RELIANCE SHALL NOT BE MADE ON A DOCUMENT TRANSMITTED BY COMPUTER OR OTHER ELECTRONIC MEANS UNLESS FIRST COMPARED TO THE ORIGINAL SEALED DOCUMENT ISSUED AT THE TIME OF THE SURVEY. DUE TO THE CRITICAL NATURE OF SURVEYING, DATA ACQUISITION, AND AUTOCAD PLAN DEVELOPMENT, IF CRITICAL DIMENSIONAL INFORMATION IS NEEDED AND IS NOT SPECIFICALLY SHOWN ON THE ELECTRONIC DRAWING FILE, PLEASE CONTACT NITSCH ENGINEERING.

UTILITY INFORMATION STATEMENT

1. THE SUB-SURFACE UTILITY INFORMATION SHOWN HEREON IS COMPILED BASED ON FIELD SURVEY INFORMATION, RECORD INFORMATION AS SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES, AND PLAN INFORMATION SUPPLIED BY THE CLIENT, IF ANY; THEREFORE WE CANNOT GUARANTEE THE ACCURACY OF SAID COMPILED SUB-SURFACE INFORMATION TO ANY CERTAIN DEGREE OF STATED TOLERANCE. ONLY PHYSICALLY LOCATED SUB-SURFACE UTILITY FEATURES FALL WITHIN NORMAL STANDARD OF CARE ACCURACIES.
2. THE LOCATIONS OF UNDERGROUND PIPES, CONDUITS, AND STRUCTURES HAVE BEEN DETERMINED FROM SAID INFORMATION, AND ARE APPROXIMATE ONLY. COMPILED LOCATIONS OF ANY UNDERGROUND STRUCTURES, NOT VISIBLY OBSERVED AND LOCATED, CAN VARY FROM THEIR ACTUAL LOCATIONS.
3. ADDITIONAL BURIED UTILITIES/STRUCTURES MAY BE ENCOUNTERED.
4. THE STATUS OF UTILITIES, WHETHER ACTIVE, ABANDONED, OR REMOVED, IS AN UNKNOWN CONDITION AS FAR AS OUR COMPILATION OF THIS INFORMATION.
5. IT IS INCUMBENT UPON INDIVIDUALS USING THIS INFORMATION TO UNDERSTAND THAT COMPILING UTILITY INFORMATION IS NOT EXACT, AND IS SUBJECT TO CHANGE BASED UPON VARYING PLAN INFORMATION RECEIVED AND ACTUAL LOCATIONS.
6. THE ACCURACY OF MEASURED UTILITY INVERTS AND PIPE SIZES IS SUBJECT TO FIELD CONDITIONS, THE ABILITY TO MAKE VISUAL OBSERVATIONS, DIRECT ACCESS TO THE VARIOUS ELEMENTS AND OTHER MATTERS.
7. THE PROPER UTILITY ENGINEERING/COMPANY SHOULD BE CONSULTED AND THE ACTUAL LOCATIONS OF SUBSURFACE STRUCTURES SHOULD BE VERIFIED IN THE FIELD (V.I.F.) BEFORE PLANNING FUTURE CONNECTIONS. CONTACT THE DIG SAFE CALL CENTER AT 1-888-344-7233, SEVENTY-TWO HOURS PRIOR TO EXCAVATION, BLASTING, GRADING, AND/OR PAVING.
8. AS OF THE DATE OF THIS PLAN RECORD INFORMATION HAS NOT BEEN RECEIVED BY NITSCH ENGINEERING FOR THE FOLLOWING UTILITIES:
   -CHARTER COMMUNICATIONS

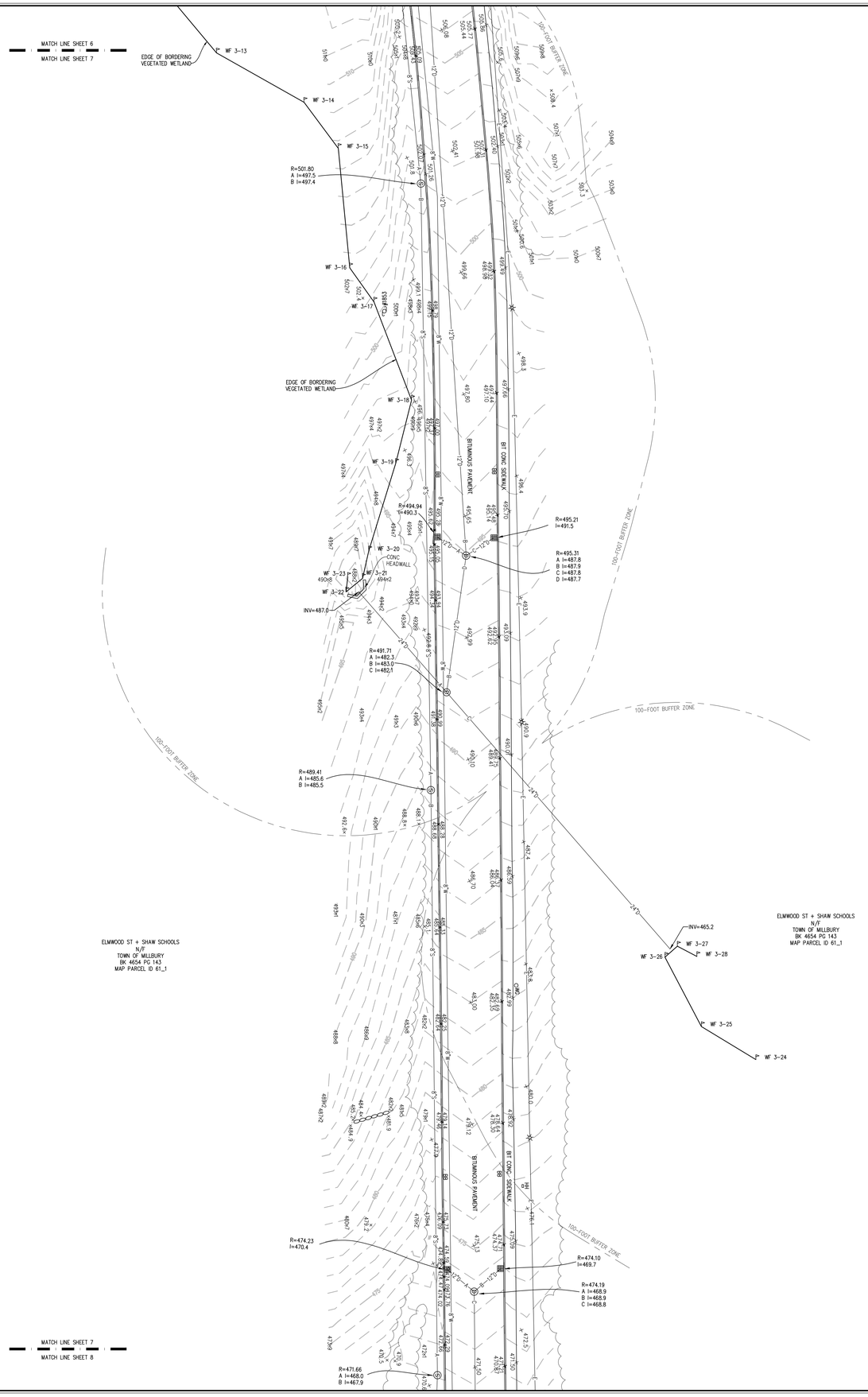
LEGEND

CB	CATCH BASIN
DMH	DRAIN MANHOLE
MMH	MISCELLANEOUS MANHOLE
SMH	SEWER MANHOLE
WG O	WATER GATE
	FIRE HYDRANT
	DOWN SPOUT
UP	UTILITY POLE
	LIGHT POLE
HH	HAND HOLE
S	SIGN POST
12"	DECIDUOUS TREE WITH TRUNK DIAMETER
12"	CONIFEROUS TREE WITH TRUNK DIAMETER
	HANDICAP PARKING
601#43	SPOT ELEVATION
CLF	CHAIN LINK FENCE
BB	BITUMINOUS CONCRETE BERM
CONC	CONCRETE
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
VCC	VERTICAL CONCRETE CURB
WCR	WHEELCHAIR RAMP
LST	LANDSCAPE TIMBER
R=	RIM ELEVATION EQUALS
REC.	RECORD
I=	INVERT ELEVATION EQUALS
TH=	TOP OF HOOD ELEVATION EQUALS
NPV	NO PIPES VISIBLE
601#43TW	TOP OF WALL ELEVATION
CATV	UNDERGROUND CABLE TELEVISION LINE
D	UNDERGROUND DRAIN LINE
E	UNDERGROUND ELECTRIC LINE
S	UNDERGROUND SEWER LINE
T	UNDERGROUND TELEPHONE LINE
W	UNDERGROUND WATER LINE
OHW	OVERHEAD WIRES
	MONITORING WELL
	BENCH MARK

GRAPHIC SCALE

20 10 0 20 40 60

SCALE: 1"=20'



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LIMITED TOPOGRAPHIC PLAN

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD STREET, MILLBURY, MA 01527

PREPARED FOR:
TUROWSKI2 ARCHITECTS
313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	03/5/20
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	02/20/20
B	WATER LINE & PROPERTY LINE	08/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
FILE:	12936.1_TOPO1.dwg
SCALE:	1"=20'
DATE:	11/19/2016
DES./COMP:	
FIELD BOOK:	728/732/758
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 7

EX-7

OF 10 REV.

3/9/2020, 4:57 PM

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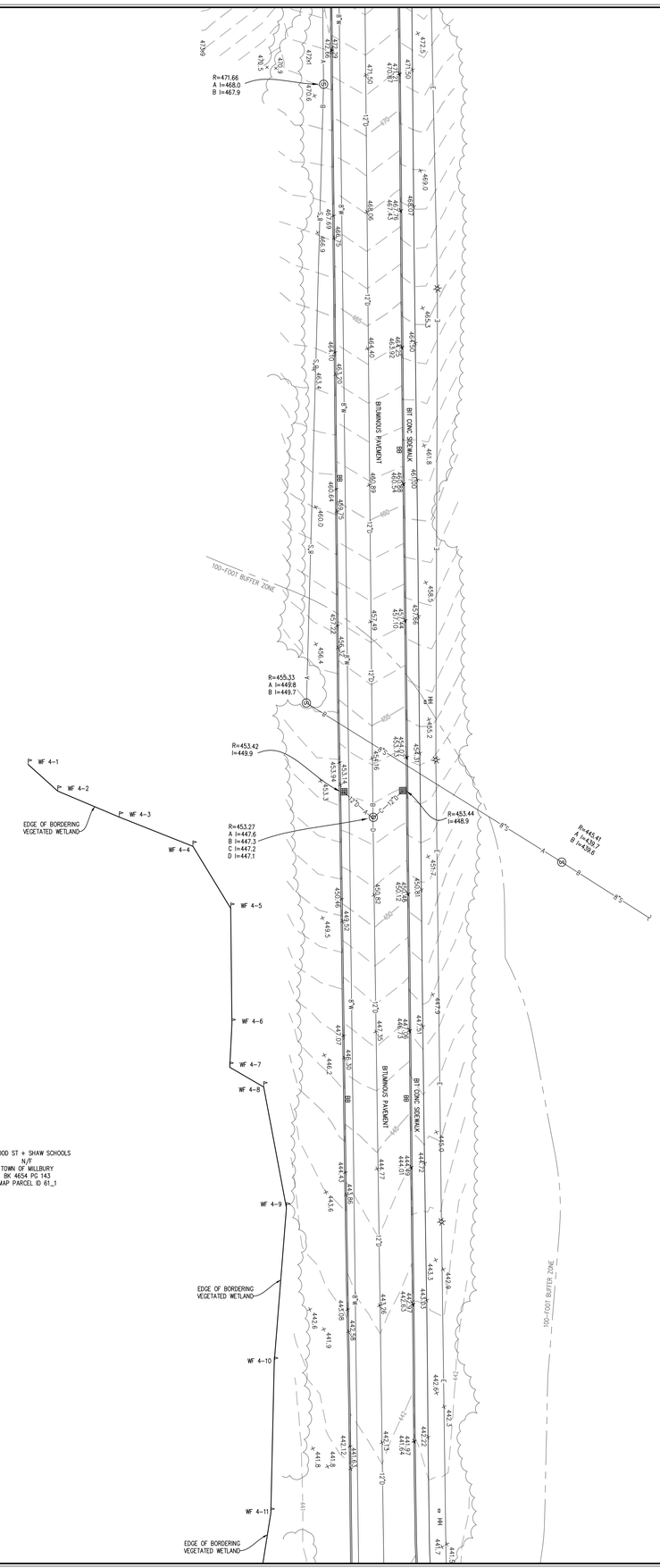
3/9/2020, 4:32 PM

J:\12936.1 Shaw es Millbury\Survey\cad\12936.1_topo1.dwg

MATCH LINE SHEET 7

MATCH LINE SHEET 8

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM, NAD 83



LEGEND

CB DMH MH	CATCH BASIN
D	DRAIN MANHOLE
M	MISCELLANEOUS MANHOLE
S	SEWER MANHOLE
WG	WATER GATE
	FIRE HYDRANT
	DOWN SPOUT
UP	UTILITY POLE
	LIGHT POLE
HH	HAND HOLE
S	SIGN POST
12"	DECIDUOUS TREE WITH TRUNK DIAMETER
12"	CONIFEROUS TREE WITH TRUNK DIAMETER
	HANDICAP PARKING
601+43	SPOT ELEVATION
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CONC	CONCRETE
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
VCC	VERTICAL CONCRETE CURB
WCR	WHEELCHAIR RAMP
LST	LANDSCAPE TIMBER
R=	RIM ELEVATION EQUALS
REC.	RECORD
I=	INVERT ELEVATION EQUALS
TH=	TOP OF HOOD ELEVATION EQUALS
NPV	NO PIPES VISIBLE
601+43TW	TOP OF WALL ELEVATION
CATV	UNDERGROUND CABLE TELEVISION LINE
D	UNDERGROUND DRAIN LINE
E	UNDERGROUND ELECTRIC LINE
S	UNDERGROUND SEWER LINE
T	UNDERGROUND TELEPHONE LINE
W	UNDERGROUND WATER LINE
OHW	OVERHEAD WIRES
	MONITORING WELL
	BENCH MARK

GRAPHIC SCALE

20 10 0 20 40 60

SCALE: 1"=20'

SEE NOTES ON SHEET 7

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- GIS

LIMITED TOPOGRAPHIC PLAN

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD STREET, MILLBURY, MA 01527

PREPARED FOR:
TUROWSKI2 ARCHITECTS
313 WAREHAM ROAD, MARION, MA 02738

REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	01/5/20
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	12/2/20
B	WATER LINE & PROPERTY LINE	09/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
FILE:	12936.1_TOPO1.dwg
SCALE:	1"=20'
DATE:	11/19/2018
DES./COMP:	
FIELD BOOK:	728/732/758
DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 8

EX-8

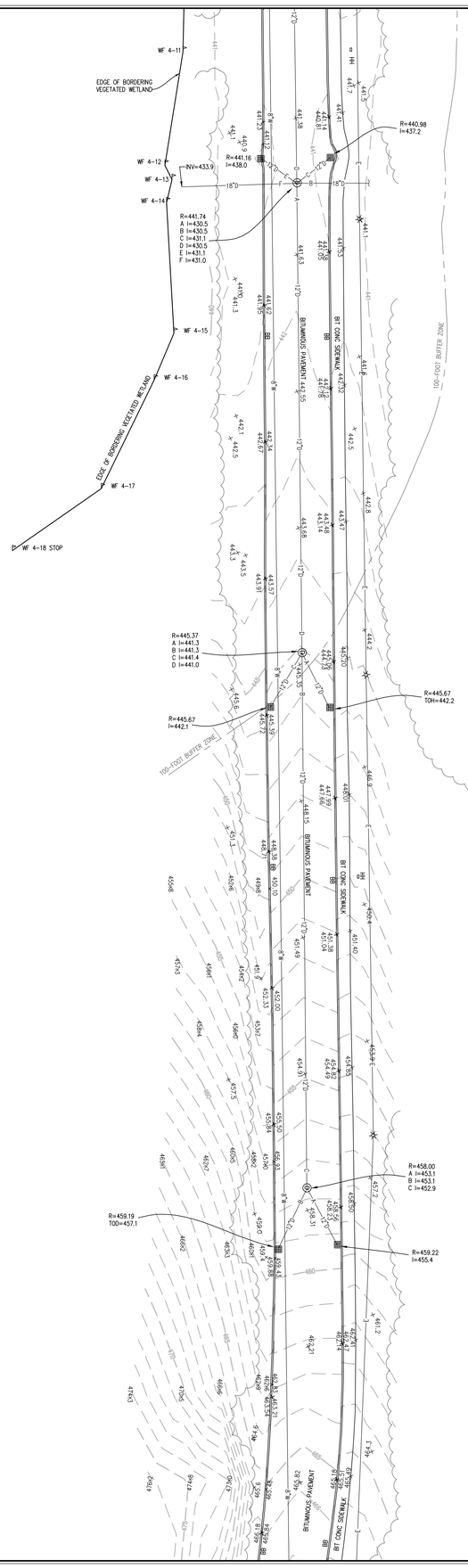
OF 10 REV.

3/9/2020, 4:32 PM

MATCH LINE SHEET 8

MATCH LINE SHEET 9

MASSACHUSETTS STATE PLANE
COORDINATE SYSTEM NAD 83



ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

LEGEND

	CATCH BASIN
	DRAIN MANHOLE
	MISCELLANEOUS MANHOLE
	SEWER MANHOLE
WG O	WATER GATE
	FIRE HYDRANT
	DOWN SPOUT
UP	UTILITY POLE
	LIGHT POLE
HH	HAND HOLE
S	SIGN POST
12"	DECIDUOUS TREE WITH TRUNK DIAMETER
12"	CONIFEROUS TREE WITH TRUNK DIAMETER
	HANDICAP PARKING
601+43	SPOT ELEVATION
CLF	CHAIN LINK FENCE
BB	BITUMINOUS CONCRETE BERM
CONC	CONCRETE
SGC	SLOPED GRANITE CURB
VGC	VERTICAL GRANITE CURB
VCC	VERTICAL CONCRETE CURB
WCR	WHEELCHAIR RAMP
LST	LANDSCAPE TIMBER
R=	RIM ELEVATION EQUALS
REC.	RECORD
I=	INVERT ELEVATION EQUALS
TH=	TOP OF HOOD ELEVATION EQUALS
NPV	NO PIPES VISIBLE
601+43TW	TOP OF WALL ELEVATION
CATV	UNDERGROUND CABLE TELEVISION LINE
D	UNDERGROUND DRAIN LINE
E	UNDERGROUND ELECTRIC LINE
S	UNDERGROUND SEWER LINE
T	UNDERGROUND TELEPHONE LINE
W	UNDERGROUND WATER LINE
OHW	OVERHEAD WIRES
	MONITORING WELL
	BENCH MARK

MATCH LINE SHEET 9

MATCH LINE SHEET 10

GRAPHIC SCALE

20 10 0 20 40 60

SCALE: 1"=20'

SEE NOTES ON SHEET 7

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REV.	COMMENTS	DATE
D	WETLAND FLAGS ADDED	03/2020
C	ADD BORINGS & ADDITIONAL TOPOGRAPHY	02/2020
B	WATER LINE & PROPERTY LINE	08/19
A	ADD EASEMENT INFORMATION	04/19

REVISIONS

PROJECT #	12936.1
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DRAFTED BY:	IOS/TI
CHECKED BY:	DRS

SHEET: 9

EX-9

OF 10 REV.

Z:\12936.1 Shaw es study\survey\12936.1_topo1.dwg

3/9/2020, 4:38 PM

MATCH LINE SHEET 9
MATCH LINE SHEET 10

MASSACHUSETTS STATE PLANE COORDINATE SYSTEM NAD 83

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

PROPERTY LINE BY GIS

2 WITTER LANE
N/F
JANE E THOMAS
BK 4388 PG 35
MAP PARCEL ID 61_5

62 ELMWOOD ST
N/F
WILLIAM I THOMPSON,III AND
DIANE H THOMPSON
BK 42431 PG 75
MAP PARCEL ID 61_6

PROPERTY LINE BY GIS

APPROXIMATE LOCATION OF 200-FOOT RIVER FRONT AREA BASED ON USGS MAP FROM MASS GIS OLIVER

60 ELMWOOD ST
N/F
PAUL J BERUBE, JR AND
KATHY J BERUBE
BK 08019 PG 0157
MAP PARCEL ID 61_7

PROPERTY LINE BY GIS

PROPERTY LINE BY GIS

APPROXIMATE LOCATION OF 200-FOOT RIVER FRONT AREA BASED ON USGS MAP FROM MASS GIS OLIVER

56 ELMWOOD ST
N/F
DAVID SAUER, TRUSTEE
BK 50470 PG 342
MAP PARCEL ID 61_8

52 ELMWOOD ST
N/F
DONALD A SCANLON AND WENDY S SCANLON
BK 16710 PG 43
MAP PARCEL ID 61_9

BITUMINOUS PAVEMENT
BIT CONC SIDEWALK
BB
CB
HH
CATV

R=457.99
I=454.2

R=456.87
A I=453.6
B I=454.1
C I=453.5

R=454.59
I=450.3(8")

R=455.09
A I=450.1
B I=450.7
C I=450.0

APPROXIMATE LOCATION OF PERENNIAL STREAM FROM USGS MAP

APPROXIMATE LOCATION OF PERENNIAL STREAM FROM USGS MAP

ELMWOOD STREET
(49.50' WIDE PER PLAN BK 279 PG 26)
(PUBLIC WAY PER PLAN BK 911 PG 41)

GRAPHIC SCALE
20 10 0 20 40 60
SCALE: 1"=20'

SEE NOTES ON SHEET 7

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PROJECT #	12936.1
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CHECKED BY:	DRS

SHEET: 10

EX-10

OF 10 REV.

J:\12936\1 plans etc studies\survey\cad\12936.1-topo1.dwg

1

2

417 GREENWOOD ST
N/F
LAURA E GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1920_2

70 WORC-PROV PIKE
N/F
ROUTE 146 MILLBURY LLC
BK 24293 PG 105
MAP PARCEL ID 44_31

PROPERTY LINE BY GIS

BY STONEWALL

L.OW.

BENCH MARK
SPIKE IN LIP #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

ATHLETIC FIELDS

SCALE:
1" = 20'
20 10 0 20 40

PLANNING BOARD APPROVALS

Turowski2 Architecture

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STAMP:

COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER
05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
SITE PREPARATION KEY PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO:
C3.00

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

SAWCUT

PHASE 1 & 2 STABILIZED CONSTRUCTION ENTRANCE – FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

L.O.W.

100-FOOT BUFFER ZONE

R&D ASPHALT AND CONCRETE PAVEMENTS (TYP)

DOUBLE PERIMETER EROSION CONTROL BARRIER AT BORDERING VEGETATED WETLANDS (TYP)

M&P UTILITY POLE

BENCH MARK:
SPIKE IN UP, #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

CONSTRUCTION FENCE (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

PERIMETER EROSION CONTROL BARRIER (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

PROPOSED SCHOOL BUILDING

INLET PROTECTION ON ALL EX ONSITE INLET STRUCTURES. MAINTAIN INLET PROTECTION UNTIL STRUCTURES ARE DEMOLISHED OR SITE IS STABILIZED (TYP)

R&D 12" WATER LINE WHERE IN CONFLICT WITH PROPOSED BUILDING

R&D HYDRANT

R&D CB

R&D DMH

R&D TRANSFORMER AND PAD

R&D UTILITY POLE

PROPOSED PAVEMENT LIMITS SHOWN FOR COORDINATION SEE ROADWAY LAYOUT PLAN (TYP)

INLET PROTECTION ON ALL PROPOSED DRAINAGE INLET STRUCTURES. REFER TO THE SITE UTILITY PLAN (TYP)

INLET PROTECTION ON ALL PROPOSED DRAINAGE INLET STRUCTURES. REFER TO THE SITE UTILITY PLAN (TYP)

MATCHLINE C3.01
MATCHLINE C3.02

MATCHLINE C3.01
MATCHLINE C3.02

LEGEND

R&D ASPHALT AND CONCRETE PAVEMENTS

FULL DEPTH ASPHALT PAVEMENT RECLAMATION

SCALE:
1" = 20'
20 10 0 20 40

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STAMP:
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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: SITE PREPARATION PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C3.01

NITSCH PROJECT #12936

MATCHLINE C3.01
MATCHLINE C3.02

100-FOOT BUFFER ZONE

R&D CB

DOUBLE EROSION CONTROL BARRIER AT PROPOSED BIORETENTION BASINS AND GRAVEL WETLANDS. REFER TO THE SITE UTILITY PLANS.

R&D CB

R&D DMH

ATHLETIC FIELDS

R&D CB

R&D DMH

EXISTING BUILDING TO BE DEMOLISHED SEE ARCHITECTURAL AND STRUCTURAL PLANS

INLET PROTECTION ON ALL EX ONSITE INLET STRUCTURES. MAINTAIN INLET PROTECTION UNTIL STRUCTURES ARE DEMOLISHED OR SITE IS STABILIZED (TYP)

R&D CB

BUFFER ZONE

R&D CB

M&P CB

M&P 12" DRAIN PIPE

100-FOOT BUFFER ZONE

R&D CB

R&D CB

M&P CB

DOUBLE PERIMETER EROSION CONTROL BARRIER AT BORDERING VEGETATED WETLANDS (TYP)

R&D ASPHALT AND CONCRETE PAVEMENTS (TYP)

M&P 12" DRAIN PIPE

R&D HYDRANT

DOUBLE PERIMETER EROSION CONTROL BARRIER AT BORDERING VEGETATED WETLANDS.

M&P DMH

M&P HEADWALL

100-FOOT BUFFER ZONE

L.O.W.

M&P 18" PIPE OUT TO 25' FROM HEADWALL

M&P AND INSTALL EROSION CONTROL BARRIER AROUND HEADWALL & SWALE

PERIMETER EROSION CONTROL BARRIER AROUND WETLANDS MIN. 25' OFFSET FROM WETLANDS FLAGS.

100-FOOT BUFFER ZONE

50' WIDE EASEMENT

PHASE 3 STABILIZED CONSTRUCTION ENTRANCE – FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

M&P DRAINAGE STRUCTURES AND PIPES

PERIMETER EROSION CONTROL BARRIER (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

CONSTRUCTION FENCE (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

24' DOUBLE GATE

MATCHLINE C3.02
MATCHLINE C3.13

R&D CB

M&P UTILITY POLE

PROPOSED PAVEMENT LIMITS SHOWN FOR COORDINATION SEE ROADWAY LAYOUT PLAN (TYP)

R&D SITE LIGHTING (TYP)

TOPOGRAPHY

TEST PIT LB-6
GROUND ELEVATION=549.7

ATHLETIC FIELDS

CONSTRUCTION FENCE (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

PERIMETER EROSION CONTROL BARRIER (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

L.O.W.

LEGEND

R&D ASPHALT AND CONCRETE PAVEMENTS

FULL DEPTH ASPHALT PAVEMENT RECLAMATION

SCALE:
1" = 20'
20 10 0 20 40

PLANNING BOARD APPROVALS

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STAMP:

COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
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05/01/2020
#12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
SITE PREPARATION PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

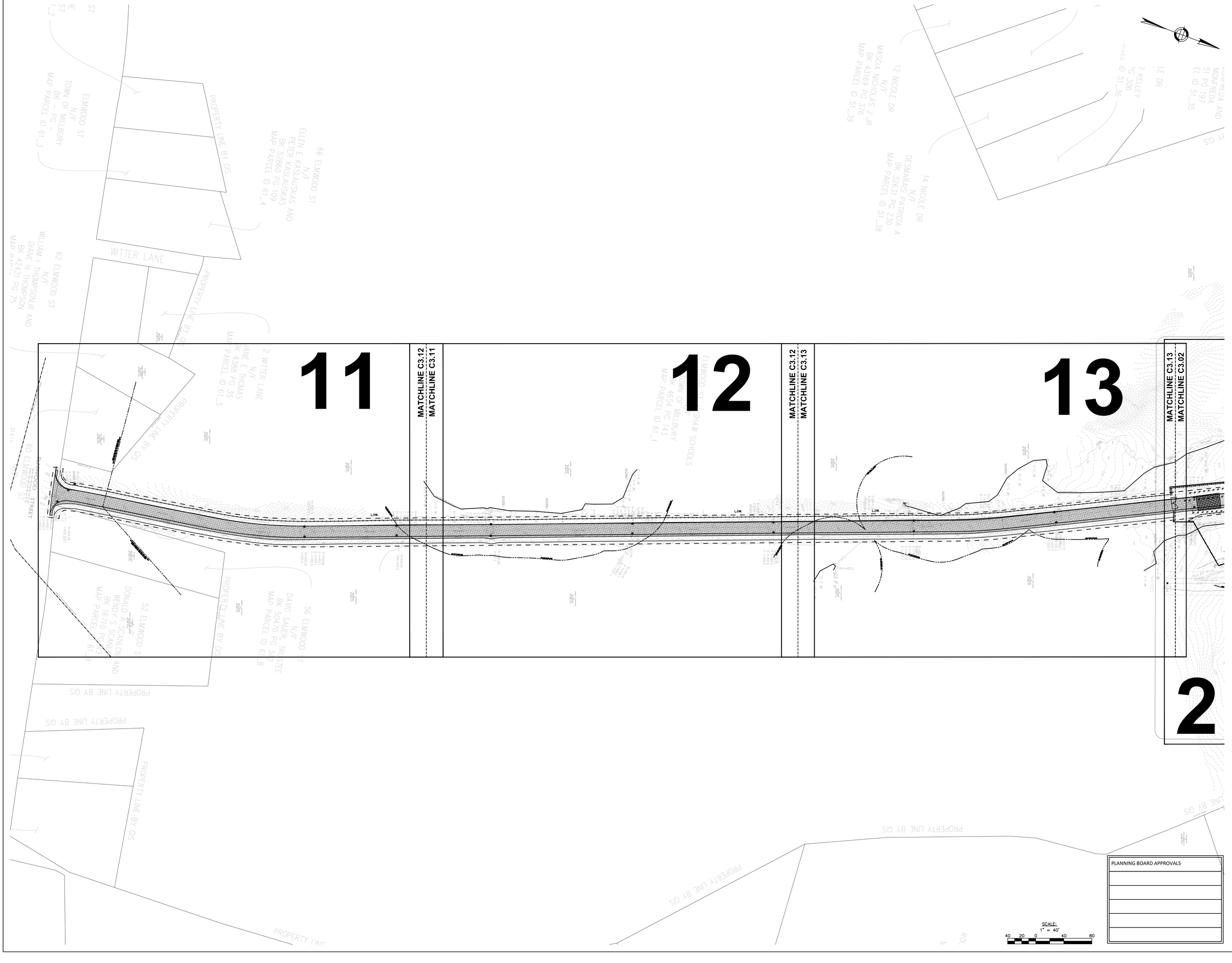
CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO:
C3.02

NITSCH PROJECT #12936



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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
DRIVEWAY PREPARATION KEY PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C3.10

NITSCH PROJECT #12936

MATCHLINE C3.12
MATCHLINE C3.11

SAWCUT

SAWCUT

SAWCUT

FULL DEPTH RECLAMATION (8" MIN.) OF ASPHALT PAVEMENT IN DRIVEWAY (TYP)

R&D ASPHALT CURB IN DRIVEWAY (TYP)

PERIMETER EROSION CONTROL BARRIER (TYP)

L.O.W.

100-FOOT BUFFER ZONE

INLET PROTECTION (TYP)

PROPOSED PAVEMENT LIMITS SHOWN FOR COORDINATION SEE ROADWAY LAYOUT PLAN (TYP)

M&P DRAINAGE STRUCTURES IN DRIVEWAY & ADJUST TO FINISH GRADE (TYP)

APPROXIMATE LOCATION OF SCHOOL STEAM VENT AND VENT PIPE AS SHOWN ON SCHOOL MEP PLANS. FINAL LOCATION TO BE VERIFIED BY MECHANICAL ENGINEER

APPROXIMATE LOCATION OF SCHOOL STEAM VENT AND VENT PIPE AS SHOWN ON SCHOOL MEP PLANS. FINAL LOCATION TO BE VERIFIED BY MECHANICAL ENGINEER

PROPERTY LINE BY GIS

PROPERTY LINE BY GIS

PROPERTY LINE BY GIS

PROPERTY LINE BY GIS

52 ELMWOOD ST
DONALD A SCANLON, JR. & WENDY S SCANLON
N/F
BK 16710 PG 47
MAP PARCEL ID 61_6

56 ELMWOOD ST
DAVID SAUER, TRUSTEE
N/F
BK 50470 PG 1
MAP PARCEL ID 61_7

2 WITTER LANE
N/F
JANE E THOMAS
BK 4388 PG 35
MAP PARCEL ID 61_5

LEGEND

- R&D ASPHALT AND CONCRETE PAVEMENTS
- FULL DEPTH ASPHALT PAVEMENT RECLAMATION

SCALE:
1" = 20'
20 10 0 20 40

PLANNING BOARD APPROVALS

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PLANNING BOARD SUBMISSION

TITLE: DRIVEWAY PREPARATION PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C3.11

NITSCH PROJECT #12936

MATCHLINE C3.12
MATCHLINE C3.11

MATCHLINE C3.12
MATCHLINE C3.13

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1

PERIMETER EROSION CONTROL BARRIER (TYP)

R&D ASPHALT CURB IN DRIVEWAY (TYP)

FULL DEPTH RECLAMATION (8" MIN.) OF ASPHALT PAVEMENT IN DRIVEWAY (TYP)

SWZ 40MM HOT-MIX

L.OW.

PROPOSED PAVEMENT LIMITS SHOWN FOR COORDINATION SEE ROADWAY LAYOUT PLAN (TYP)

M&P DRAINAGE STRUCTURES IN DRIVEWAY & ADJUST TO FINISH GRADE (TYP)

SWZ 40MM HOT-MIX

INLET PROTECTION (TYP)

100-FOOT BUFFER ZONE

100-FOOT BUFFER ZONE

PLANNING BOARD APPROVALS

LEGEND

R&D ASPHALT AND CONCRETE PAVEMENTS

FULL DEPTH ASPHALT PAVEMENT RECLAMATION

SCALE:
1" = 20'

20 10 0 20 40

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PLANNING BOARD SUBMISSION

TITLE:
DRIVEWAY PREPARATION PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C3.12

NITSCH PROJECT #12936

MATCHLINE C3.12
MATCHLINE C3.13

MATCHLINE C3.13
MATCHLINE C3.02

M&P DRAINAGE STRUCTURES IN DRIVEWAY & ADJUST TO FINISH GRADE (TYP)

PERIMETER EROSION CONTROL BARRIER (TYP)

R&D ASPHALT CURB IN DRIVEWAY (TYP)

FULL DEPTH RECLAMATION (8" MIN.) OF ASPHALT PAVEMENT IN DRIVEWAY (TYP)

CONSTRUCTION FENCE (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

PERIMETER EROSION CONTROL BARRIER (TYP) FINAL LOCATION TO BE DETERMINED BY CONTRACTOR

24' DOUBLE GATE

PROPOSED PAVEMENT LIMITS SHOWN FOR COORDINATION SEE ROADWAY LAYOUT PLAN (TYP)

INLET PROTECTION (TYP)

L.O.W.

100-FOOT BUFFER ZONE

LEGEND

R&D ASPHALT AND CONCRETE PAVEMENTS

FULL DEPTH ASPHALT PAVEMENT RECLAMATION

SCALE:
1" = 20'
20 10 0 20 40

PLANNING BOARD APPROVALS

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05/01/2020 #12936

REVISIONS:

No.	Description	Date

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PLANNING BOARD SUBMISSION

TITLE: DRIVEWAY PREPARATION PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C3.13

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

1

2

417 GREENWOOD ST
N/F
LAURA E GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1926_2

70 WORC-PROV PIKE
N/F
ROUTE 146 MILLBURY LLC
BK 24293 PG 105
MAP PARCEL ID 44_31

PROPERTY LINE BY GIS

BY STONEWALL

L.OW.

ATHLETIC FIELDS

BENCH MARK:
SPIKE IN UP #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

BENCH MARK:
MUELLER NUT ON FH1
ELEVATION=542.30(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

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

Turowski2 Architecture

P.O. Box 1290
313 Wareham Road
Marion, MA 02738

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CONSULTANT:

Nitsch Engineering
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370 Main Street, Suite 850
Worcester, MA 01608
T: (508) 365-1030
F: (617) 338-6472

STAMP:

COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER
05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: OVERALL SITE DRIVEWAY LAYOUT PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=40'

SHEET NO: C4.00

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

SCALE:
1" = 20'
20 10 0 20 40

LEGEND

HOT MIX ASPHALT PAVEMENT (SUPERPAVE)

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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
SITE
DRIVEWAY
LAYOUT PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C4.01

NITSCH PROJECT #12936

MATCHLINE C4.01
MATCHLINE C4.02

MATCHLINE C4.01
MATCHLINE C4.02

MATCHLINE C4.01
MATCHLINE C4.02

100-FOOT BUFFER ZONE

ATHLETIC FIELDS

8' X 22' PARALLEL PARKING SPACES (TYP)

PC: 30+27.81

PT: 29+30.12

PC: 25+89.55

30+00

29+00

28+00

26+00

25+00

24+00

EDGE OF BORDERING VEGETATED WETLAND

BANK

L.O.W.

MATCHLINE C4.02
MATCHLINE C4.13

PLANNING BOARD APPROVALS

LEGEND

HOT MIX ASPHALT PAVEMENT (SUPERPAVE)

SCALE:
1" = 20'
20 10 0 20 40

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PLANNING BOARD SUBMISSION

TITLE:
SITE
DRIVEWAY
LAYOUT PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

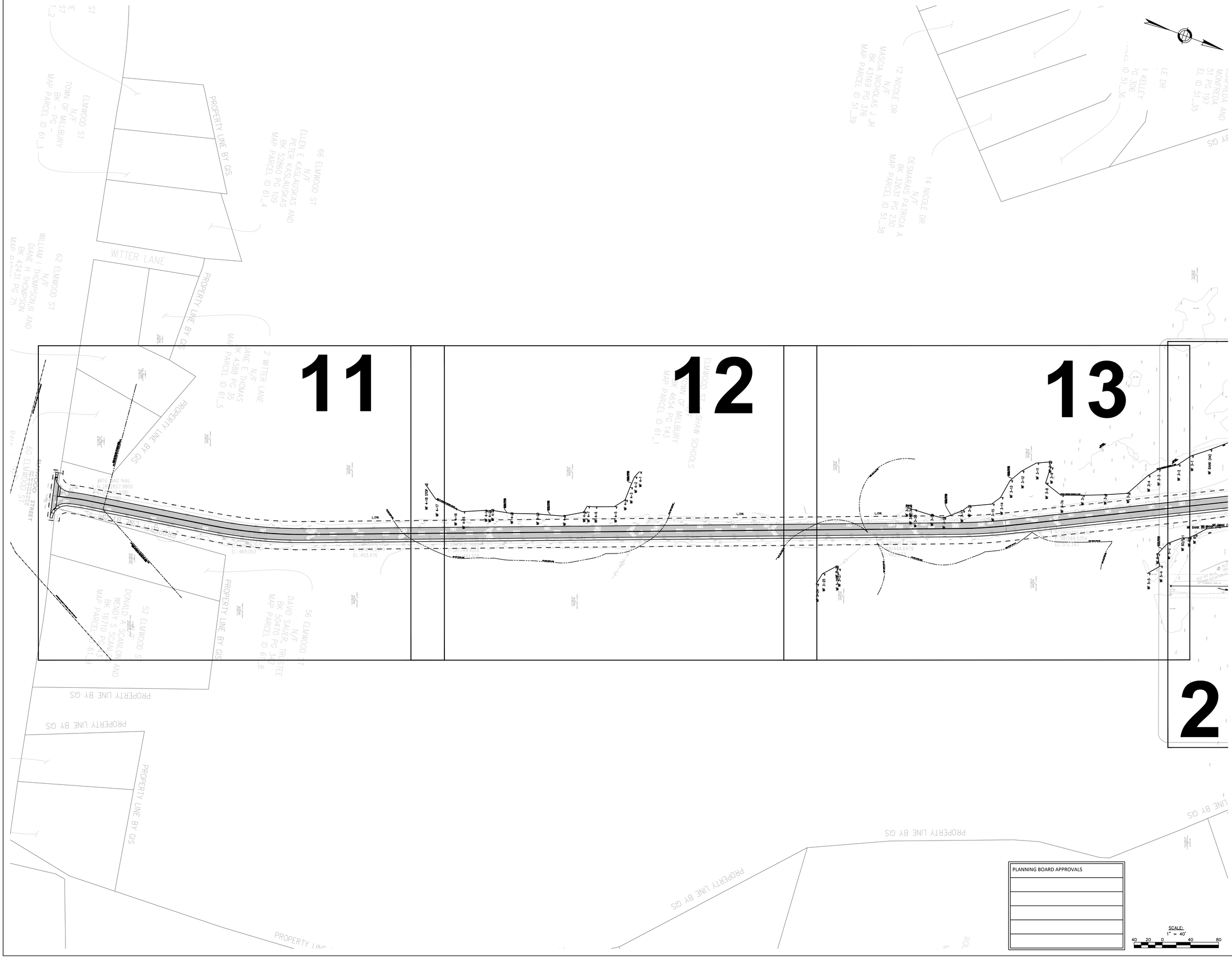
CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C4.02

NITSCH PROJECT #12936


11
12
13
2
ELMWOOD ST
PROPERTY LINE BY GIS
WITTER LANE
60 ELMWOOD STREET
62 ELMWOOD ST
N/F
WILLIAM J THOMPSON,III AND
DIANE H THOMPSON
BK 42431 PG 75
66 ELMWOOD ST
ELLEN E KASLAUSKAS
N/F
PETER KASLAUSKAS AND
BK 52860 PG 109
MAP PARCEL ID 61_4
2 WITTER LANE
N/F
JANE E THOMAS
BK 4388 PG 35
MAP PARCEL ID 61_5
52 ELMWOOD ST
DONALD A SCANLON AND
WENDY S SCANLON
BK 16710 PG 43
MAP PARCEL ID 61_6
56 ELMWOOD ST
N/F
DAVID SAUER, TRUSTEE
BK 50470 PG 342
MAP PARCEL ID 61_8
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1
MILLBURY SCHOOLS
12 NICOLE DR
N/F
MASOA NICHOLAS J JR
BK 43169 PG 376
MAP PARCEL ID 51_39
14 NICOLE DR
N/F
DESMARAIS PATRICIA A
BK 32631 PG 230
MAP PARCEL ID 51_38
LE DR
MONFREDA
51 PG 197
EL ID 51_35
3G 306
51_36
#616 PAG NAIL
EL:427.9800
EL:469.653
EL:453.476
EL:444.6979
EL:512.393
LOW
BANK (A)
BANK (B)
PROPERTY LINE BY GIS
PROPERTY LINE BY GIS
PROPERTY LINE BY GIS

MATCHLINE C4.11
MATCHLINE C4.12

BEGIN GRAN CURB MEET EXIST
SAWCUT MEET EXIST WALK
PROP CEM CONC WCR
ADJ CB
RET CB
SAWCUT MEET EXIST
RET
ADJ DMH
ADJ CB
ADJ WG
R35.00'
PROP CEM CONC WCR
SAWCUT MEET EXIST WALK
BEGIN GRAN CURB MEET EXIST
PROP GRAN CURB (6" REVEAL)
PROP 5.5' CEM CONC WALK
PROP FULL DEPTH PAVEMENT
6" DYCL
12.00'
RET
ADJ CB
ADJ DMH
ADJ CB
PROP 5.5' CEM CONC WALK
PROP FULL DEPTH PAVEMENT
ADJ CB
ADJ DMH
ADJ CB
RET
RET
PROP GRAN CURB (6" REVEAL)
PROP GRAN CURB (6" REVEAL)
PROP GRAN CURB (6" REVEAL)
BP 1+00.00
PC 1+43.13
PT 1+77.81
PC 2+42.24
PT 2+47.41
N13°01'16"W 43.13'
R=500.00'
L=34.77'
N9°02'11"W 264.33'
R=988.00'
L=205.18'
N20°56'06"W 1394.25'
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
12' SL
10' CW
L.O.W.
HIGH WATER MARK
W 4+16 STA
W 4+17
EDGE OF B
APPROXIMATE LOCATION OF INTERMITTENT STREAM FROM USGS MAP
APPROXIMATE LOCATION OF SECOND INTERMITTENT STREAM FROM USGS MAP
PROPERTY LINE BY GIS
2 WITTER LANE N/F JANE E THOMAS BK 4388 PG 35 MAP PARCEL ID 61_5
52 ELMWOOD ST N/F DONALD A SCANLON & WENDY S SCANLON BK 16710 PG 47 MAP PARCEL ID 61_6
56 ELMWOOD ST N/F DAVID SAUER, TR BK 50470 PG MAP PARCEL ID
ELMWOOD STREET

PLANNING BOARD APPROVALS

LEGEND

HOT MIX ASPHALT PAVEMENT (SUPERPAVE)

SCALE: 1" = 20'

20 10 0 20 40

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SANDRA A. BROCK
CIVIL
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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: DRIVEWAY LAYOUT PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

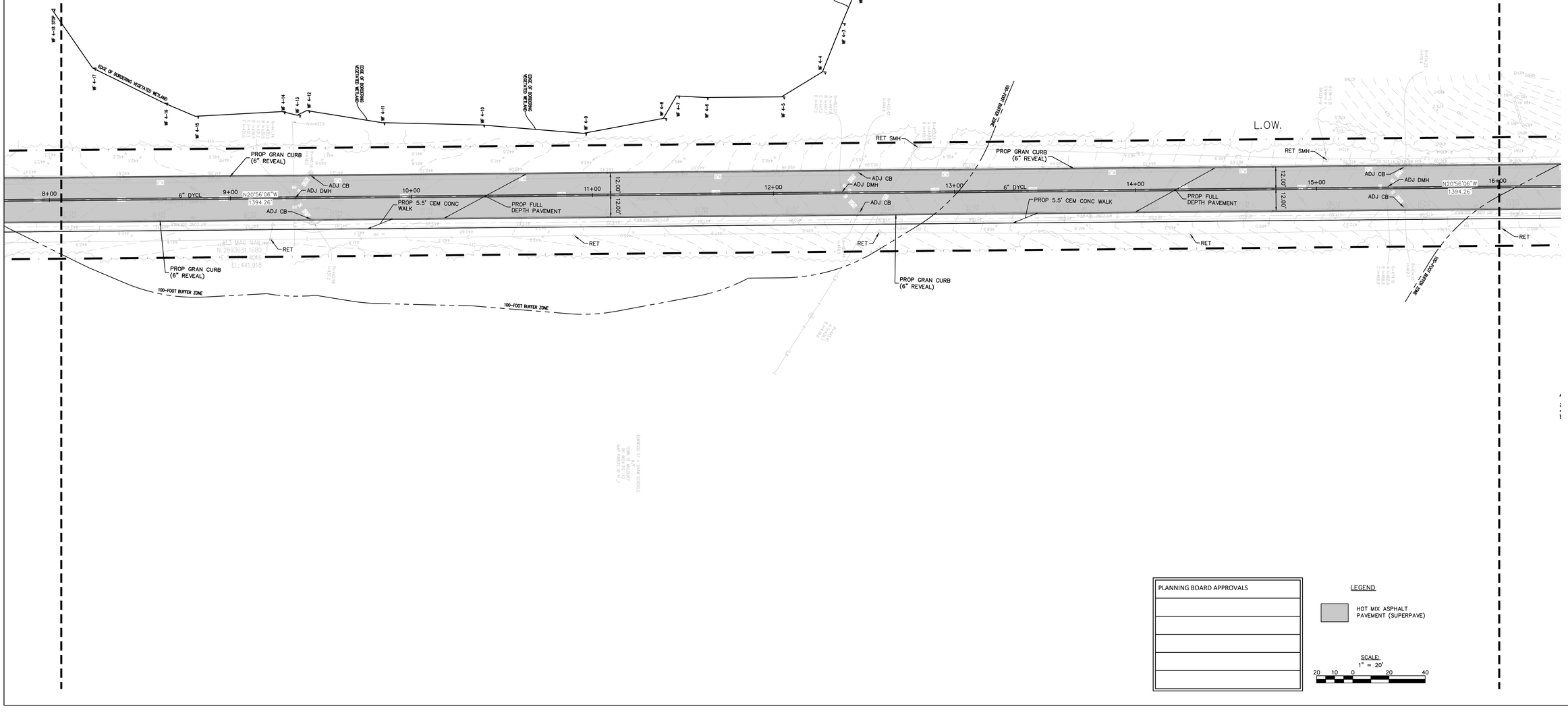
SHEET NO: C4.11

NITSCH PROJECT #12936

MATCHLINE C4.11
MATCHLINE C4.12

MATCHLINE C4.12
MATCHLINE C4.13

ELMWOOD ST + SHAW SCHOOLS
N/F
TOWN OF MILLBURY
BK 4654 PG 143
MAP PARCEL ID 61_1



PLANNING BOARD APPROVALS

LEGEND

HOT MIX ASPHALT PAVEMENT (SUPERPAVE)

SCALE:
1" = 20'

20 10 0 20 40

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PLANNING BOARD SUBMISSION

TITLE:
DRIVEWAY LAYOUT PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C4.12

NITSCH PROJECT #12936

MATCHLINE C4.12
MATCHLINE C4.13

MATCHLINE C4.13
MATCHLINE C4.02

100-FOOT BUFFER ZONE

EDGE OF BORDERING VEGETATED WETLAND

RET HEADWALL

L.O.W.

PROP GRAN CURB (6" REVEAL)

RET SMH

ADJ DMH

ADJ CB

PROP 5.5' CEM CONC WALK

PROP FULL DEPTH PAVEMENT

6" DYCL

12.00'

12.00'

N20°56'06"W
1394.26

16+00

17+00

18+00

19+00

20+00

21+00

22+00

23+00

24+00

PC: 19+41.68

R=988.00'

L=97.11'

PT: 20+38.79

N26°34'00"W
510.76

ADJ WG

RET

PROP GRAN CURB (6" REVEAL)

PROP 5.5' CEM CONC WALK

PROP FULL DEPTH PAVEMENT

#10 MAGNOLIA

#12 MAGNOLIA

#14 MAGNOLIA

#16 MAGNOLIA

#18 MAGNOLIA

#20 MAGNOLIA

#22 MAGNOLIA

#24 MAGNOLIA

#26 MAGNOLIA

#28 MAGNOLIA

#30 MAGNOLIA

#32 MAGNOLIA

#34 MAGNOLIA

#36 MAGNOLIA

#38 MAGNOLIA

#40 MAGNOLIA

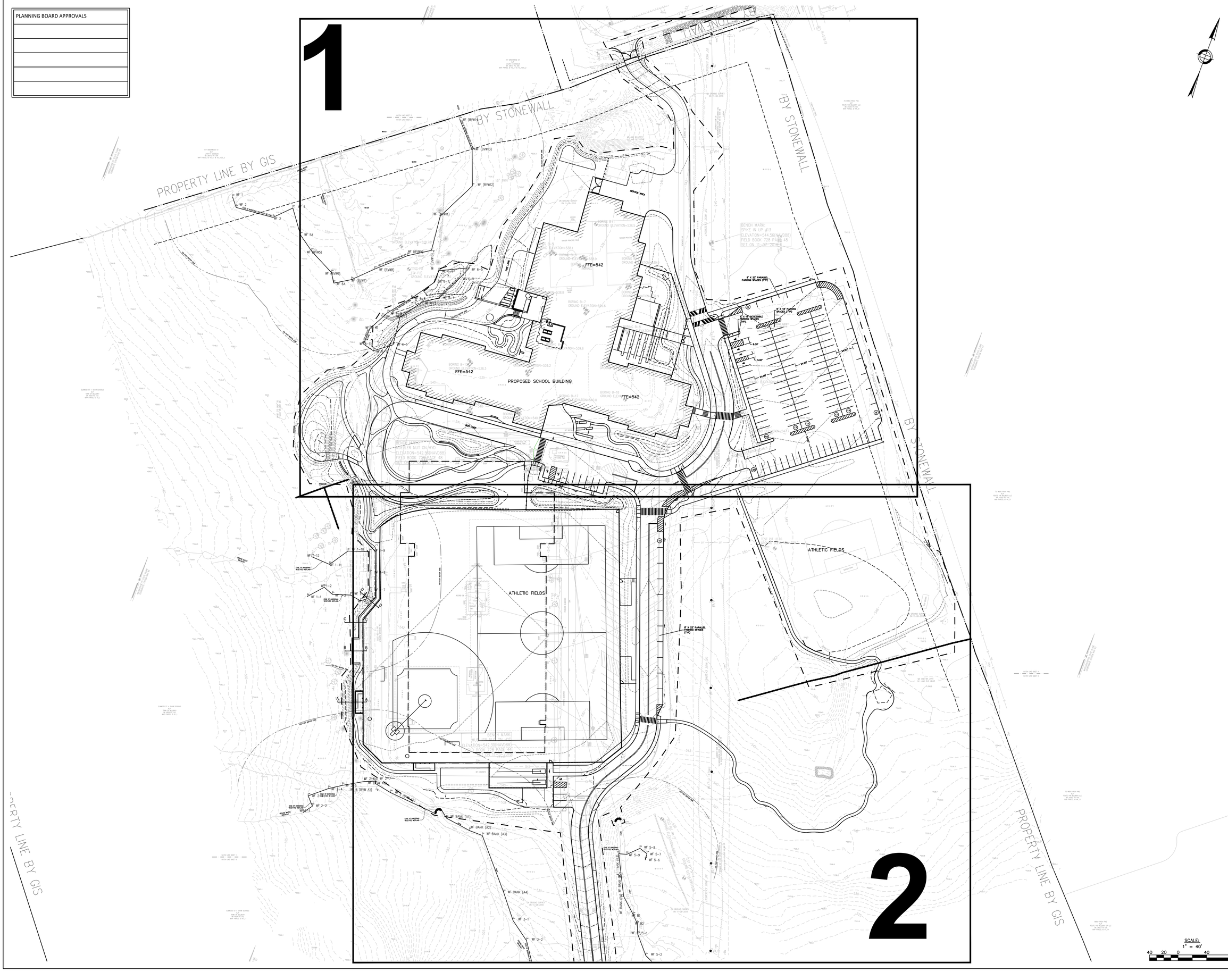
#42 MAGNOLIA

#44 MAGNOLIA

#46 MAGNOLIA

#48 MAGNOLIA

PLANNING BOARD APPROVALS



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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: OVERALL SITE GRADING PLAN

JOB NUMBER: 18-08

DRAWN BY:

CHECKED BY:

DATE: MAY 25, 2020

SCALE: 1"=40'

SHEET NO: C5.00

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

PROPOSED SCHOOL BUILDING

FFE=542

FFE=542

FFE=542

SERVICE AREA

BUS LOOP

FIRE LANE

100-FOOT BUFFER ZONE

8' X 22' PARALLEL PARKING SPACES (TYP)

9' X 18' PARKING SPACES (TYP)

8' X 18' ACCESSIBLE PARKING SPACES (TYP)

CURB BREAK/INLET STRUCTURE TO BIORETENTION BASIN

EDGE OF BORDERING VEGETATED WETLAND

ISOLATED VEGETATED WETLAND

BENCH MARK:
SPIKE IN UP, #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

ON GROUND SURVEY ON 11-08-2018

MATCHLINE C5.01
MATCHLINE C5.02

SCALE:
1" = 20'
20 10 0 20 40

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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: SITE GRADING PLAN

JOB NUMBER: 18-08

DRAWN BY:

CHECKED BY:

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C5.01

NITSCH PROJECT #12936

MATCHLINE C5.01
MATCHLINE C5.02

ATHLETIC FIELDS

CURB BREAK/INLET STRUCTURE TO BIORETENTION BASIN

100-FOOT BUFFER

4:1 SLOPES

100-FOOT BUFFER ZONE

8' X 22' PARALLEL PARKING SPACES (TYP)

PC: 30+27.81

PT: 29+83.55

PC: 25+89.55

PT: 22+53.12

EDGE OF BORDERING VEGETATED WETLAND

BANK (A1)

WF BANK (A2)

WF BANK (A3)

WF BANK (A4)

WF BANK (B1)

WF BANK (B2)

WF BANK (B)

WF B1/5-1

WF B2/5-2

WF B (BVW A1)

WF C (BVW A3)

WF (BVW A2)

WF 1-10

WF 1-4

WF 2-5

WF 2-6

WF 2-7

WF 3-1

WF 3-2

WF 5-6

WF 5-7

WF 5-8

WF 5-9

ON GROUND SURVEY ON 11-08-2018

BENCH MARK1
MUELLER NUT ON HYD
ELEVATION=542.30(NAVD88)
FIELD BOOK: 728 PAGE 44
SET ON 11-5-2018

ME AND MA 2015 QL1 AND QL2 LIDAR

PLANNING BOARD APPROVALS

SCALE:
1" = 20'
20 10 0 20 40

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RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: SITE GRADING PLAN

JOB NUMBER: 18-08

DRAWN BY:

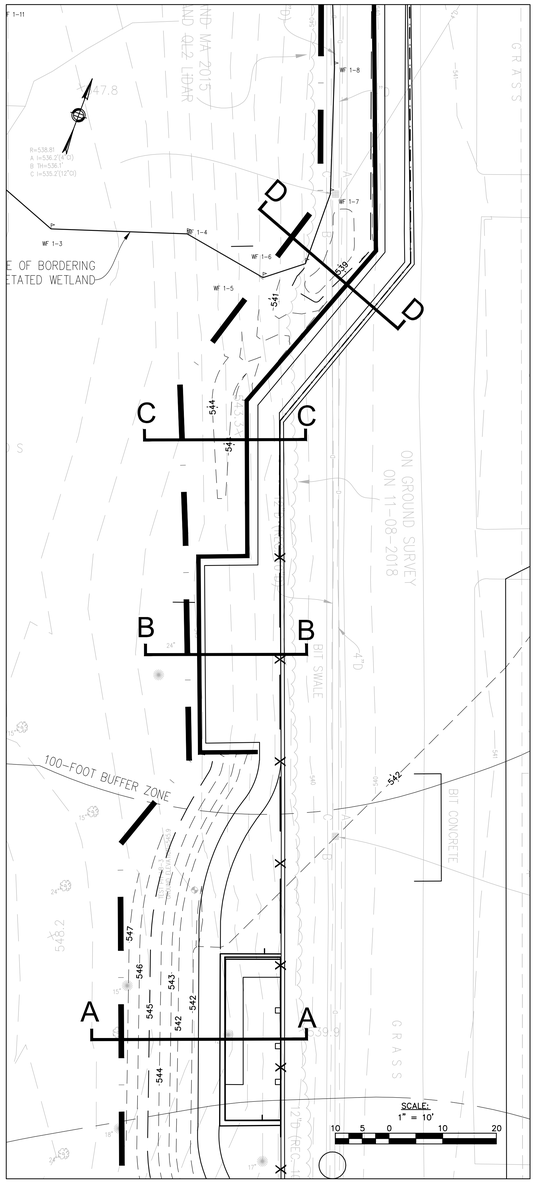
CHECKED BY:

DATE: MAY 25, 2020

SCALE: 1"=20'

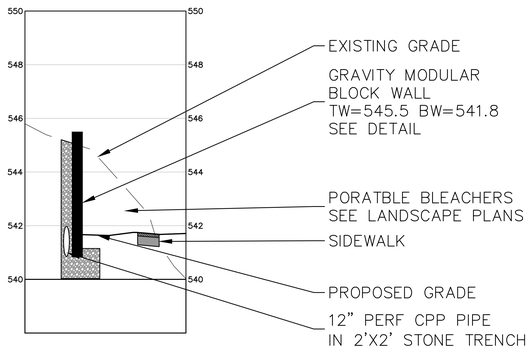
SHEET NO: C5.02

NITSCH PROJECT #12936



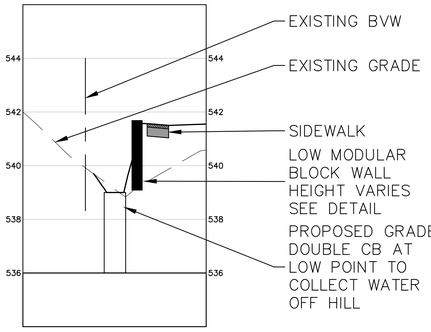
PLAN VIEW OF SECTIONS

SCALE HORZ: 1"=10' VERT; 1"=2.5'



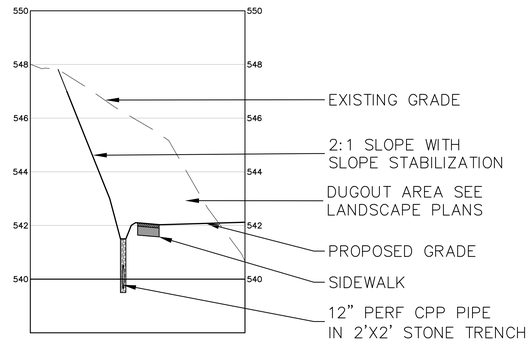
SECTION B-B BLEACHERS

SCALE: H: 1"=10' V: 1"=2.5'



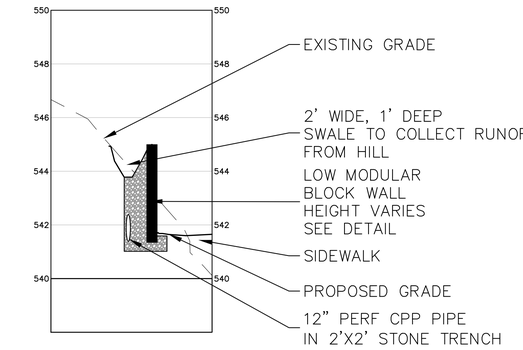
SECTION D-D WETLANDS

SCALE: H: 1"=10' V: 1"=2.5'



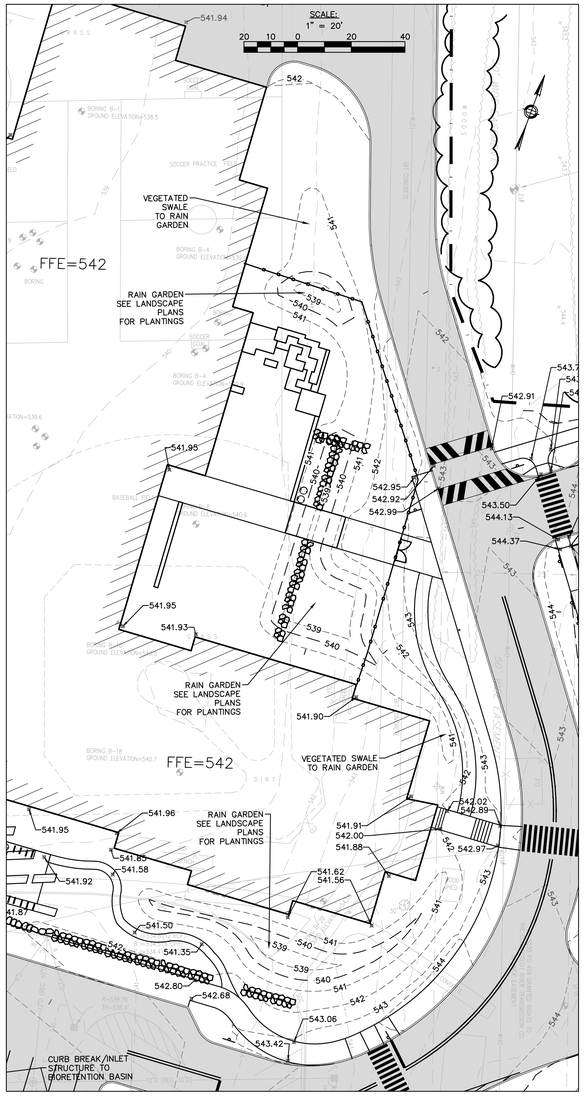
SECTION A-A DUGOUT

SCALE: H: 1"=10' V: 1"=2.5'



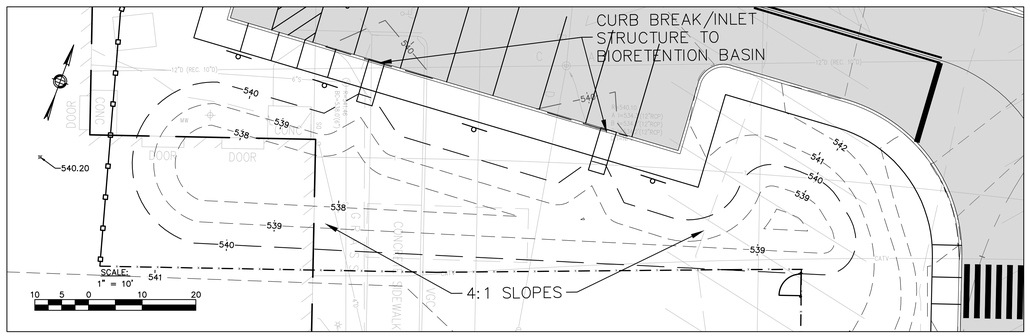
SECTION C-C SWALE

SCALE: H: 1"=10' V: 1"=2.5'



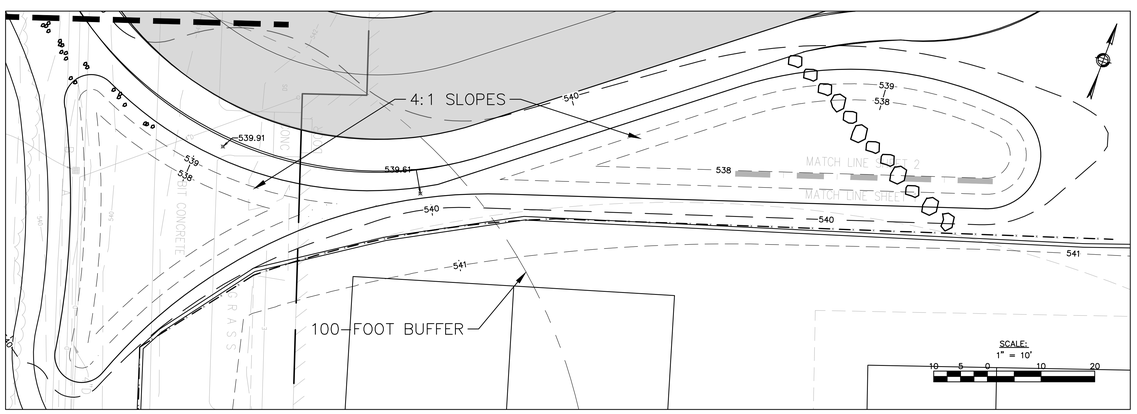
RAIN GARDEN AND SWALE SYSTEM

SCALE: 1"=20'



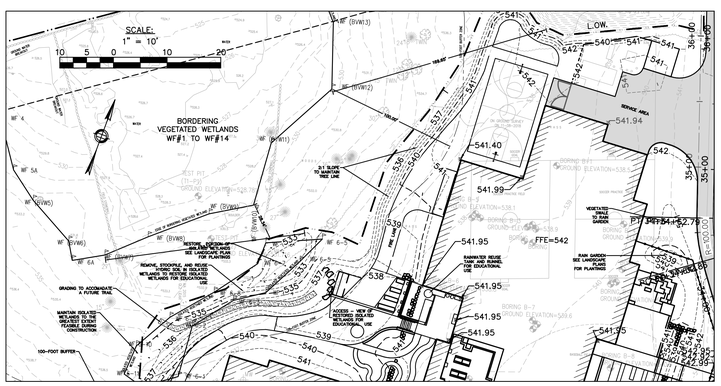
BIORETENTION BASIN #1

SCALE: 1"=10'



BIORETENTION BASIN #2

SCALE: 1"=10'



ISOLATED WETLAND RESTORATION - EDUCATION AREA

SCALE: 1"=10'

PLANNING BOARD APPROVALS

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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: GRADING DETAILS STORMWATER

JOB NUMBER: 18-08

DRAWN BY:

CHECKED BY:

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C5.03

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

1

2

417 GREENWOOD ST
N/F
LAURA E GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1920_2

70 WORC-PROV PIKE
N/F
ROUTE 146 MILLBURY LLC
BK 24293 PG 105
MAP PARCEL ID 44_31

PROPERTY LINE BY GIS

BY STONEWALL

ATHLETIC FIELDS

BENCH MARK
SPIKE IN UP #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

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

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REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
OVERALL SITE DRAINAGE & UTILITY PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

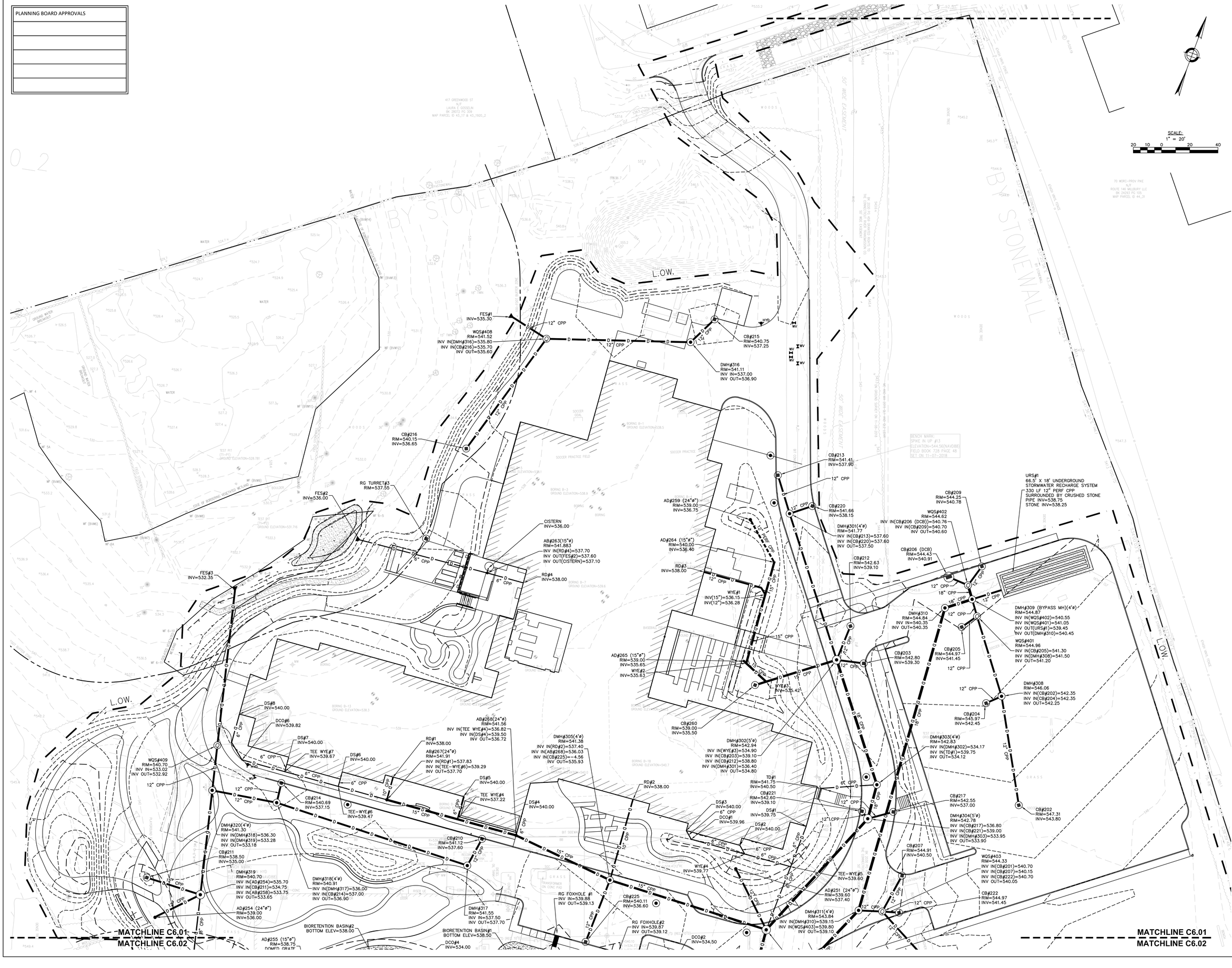
DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO:
C6.00

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS



Turowski2 Architecture

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STAMP:

COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER

05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: SITE DRAINAGE PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: 1"=20'

SHEET NO: C6.01

NITSCH PROJECT #12936

MATCHLINE C6.01
MATCHLINE C6.02

MATCHLINE C6.01
MATCHLINE C6.02

BIORETENTION BASIN#2
BOTTOM ELEV=538.00

BIORETENTION BASIN#1
BOTTOM ELEV=538.50

AD#255 (15"ø)
RIM=538.75
DOMED GRATE
INV=536.25

AD#257 (15"ø)
RIM=538.50
DOMED GRATE
INV=536.25

AD#253 (24"ø)
RIM=539.00
DOMED GRATE
INV=537.00

AD#256(2'ø)
RIM=538.52
INV IN(AD#255)=536.00
INV IN(AD#257)=536.00
INV IN(AD#252)=536.00
INV OUT=535.88

AD#252 (15"ø)
RIM=539.50
INV=537.25

AB#258(15"ø)
RIM=535.37
INV IN(DCO#4)=534.00
INV IN(DCO#5)=534.00
INV OUT=534.00

AB#270
RIM=543.37
INV IN=539.50
INV IN=539.60

DCO#5
INV=534.00

DCO#4
INV=534.00

DCO#3
INV=534.50

DCO#2
INV=534.50

RG FOXHOLE#2
INV IN=539.87
INV OUT=539.12

INV OUT=537.70

INV=536.65

INV IN(DMH#310)=539.15
INV IN(WQS#403)=539.80
INV OUT=539.10

CB#201
RIM=546.59
INV=543.00

DMH#306(5'ø)
RIM=543.24
INV IN(DMH#305)=534.85
INV IN(AD#251)=536.90
INV IN(DMH#304)=533.15
INV IN(TEE-WYE#5)=539.36
INV OUT=533.10

DMH#312
RIM=543.43
INV IN(DMH#311)=538.60
INV OUT(URS#2)=538.50

CB#223 (DCB)
RIM=542.30
INV=538.80

DMH#307
RIM=542.50
INV IN(DCO#2)=534.00
INV IN(CB#223 (DCB))=538.70
INV IN(DMH#306)=532.45
INV OUT=532.40

WQI#404
RIM=542.29
INV=538.80

CB#226 (DCB)
RIM=539.00
INV IN(DCO#7)=537.90
INV OUT=537.40

URS#2
201' X 308'
UNDERGROUND STORMWATER
RECHARGE SYSTEM
PIPE INV=328.50
STONE INV=328.00

DCO#7
INV=542.60

DCO#6
INV=543.60

WQI#405
RIM=541.98
INV=538.50

CB#224
RIM=541.98
INV=538.45

DMH#321(4'ø)
RIM=541.31
INV IN(CB#226 (DCB))=534.90
INV IN(DCO#8)=538.80
INV OUT=534.80

CONNECT PANEL DRAINS
TO 12" PERF COLLECTOR
PIPE (TYP)
INV=538.50

12" WIDE PANEL DRAINS
SLOPE WITH FIELD SURFACE
INV=12" BELOW FINISH GRADE (TYP)

AB#269
ACCESS MH
RIM=540.36
INV=539.16

WQS#406
RIM=541.93
INV IN(DMH#307)=530.64
INV IN(CB#224)=538.15
INV OUT=530.59

OCS#313(5'ø)
RIM=542.00
INV IN=538.50
INV OUT=538.40

DMH#314(4'ø)
RIM=541.29
INV IN(OCS#313)=537.30
INV OUT=537.20

CB#218
RIM=540.09
INV=536.50

DMH#322(4'ø)
RIM=539.43
INV IN(DMH#321)=533.75
INV IN(AB#256)=533.60
INV OUT=533.50

NEW CONCRETE HEADWALL
INV=533.30

DMH#315(6'ø)
RIM=538.59
INV IN(WQS#407)=531.50
INV IN(DMH#314)=534.60
INV IN(WQS#406)=529.45
INV OUT=529.40

WQS#407
RIM=539.10
INV IN=532.10
INV IN=535.85
INV OUT=532.00

CB#219
RIM=536.15
INV=532.65

L.O.W.

PLANNING BOARD APPROVALS

SCALE:
1" = 20'
20 10 0 20 40

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DRAWN BY: JCZ, RL
CHECKED BY: SAB
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SCALE: 1"=20'
SHEET NO: C6.02

NITSCH PROJECT #12936

MATCHLINE - SEE INSET
MATCHLINE C7.01

CONNECT GAS SERVICE TO EXISTING 4" GAS MAIN (BY GAS COMPANY (EVERSOURCE))

SCALE:
1" = 20'
20 10 0 20 40

ELECTRIC TRANSFORMER SHOWN FOR COORDINATION ONLY – REFER TO ELECTRICAL PLANS

UNDERGROUND ELECTRIC DUCTBANK SHOWN FOR COORDINATION ONLY REFER TO ELECTRICAL PLANS (TYP)

UNDERGROUND TELECOM DUCTBANK SHOWN FOR COORDINATION ONLY REFER TO ELECTRIC AND/OR TELECOM PLANS (TYP)

ELECTRIC GENERATOR SHOWN FOR COORDINATION ONLY – REFER TO ELECTRICAL PLANS

6"X12" TAPPING SLEEVE & VALVE

4"X12" TEE & VALVES

6"X12" TEE & VALVES

4" DI DOMESTIC WATER SERVICE

6" DI FIRE PROTECTION SERVICE

GAS METER

SS#1
INV=538.50

SMH#101
RIM=541.43
INV IN=538.05
INV OUT=537.95

KW#1
INV=538.50

3,500 GALLON GREASE TRAP
INV IN=538.40
INV OUT=538.20

SMH#102
RIM=541.63
INV IN(SMH#101)=537.60
INV IN(3500 GAL GT)=538.00
INV OUT=537.50

CONNECT REROUTED 12" DI WATER MAIN TO EX 12" MAIN

SS#5

SS#2
INV=538.00

SMH#105 (DROP MH)
RIM=541.64
INV IN(SS#3 TOP)=537.40
INV IN(SS#3 BOTTOM)=535.00
INV IN(SMH#104)=535.00
INV OUT=534.85

SMH#103
RIM=542.75
INV IN=535.45
INV OUT=535.35

SS#3
INV=538.00

12" DI WATER LINE REROUTED AROUND PROPOSED BUILDING

SMH#104
RIM=541.55
INV IN=537.50
INV OUT=537.30

BENCH MARK:
SPIKE IN UP, #13
ELEVATION=544.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

BENCH MARK:
MUELLER/NUT ON HYD
ELEVATION=542.56(NAVD88)
FIELD BOOK 728 PAGE 48
SET ON 11-07-2018

BIORETENTION BASIN#2
BOTTOM ELEV=538.00

BIORETENTION BASIN#1
BOTTOM ELEV=538.50

FFE=542

L.O.W.

417 GREENWOOD ST
N/F
LAURA E. GOSSELIN
BK 28072 PG 309
MAP PARCEL ID 43_17 & 43_1920_2

70 WORC-PROV PIKE
N/F
ROUTE 146 MILBURY LLC
BK 24293 PG 105
MAP PARCEL ID 44_31

PLANNING BOARD APPROVALS

MATCHLINE C7.01
MATCHLINE C7.02

MATCHLINE C7.01
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No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
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PLANNING BOARD SUBMISSION

TITLE: SITE UTILITY PLAN
JOB NUMBER: 18-08
DRAWN BY: JCZ, RL
CHECKED BY: SAB
DATE: MAY 25, 2020
SCALE: 1"=20'
SHEET NO: C7.01

NITSCH PROJECT #12936

MATCHLINE C7.01
MATCHLINE C7.02

MATCHLINE C7.01
MATCHLINE C7.02

SMH#106
RIM=543.10
INV IN(SMH#103)=533.65
INV IN(SMH#105)=533.65
INV OUT=533.55

SMH#107
RIM=542.68
INV IN=532.90
INV OUT=532.80

8" PVC

50' WIDE EASEMENT

L.O.W.

SMH#108(5'ø)
RIM=541.70
INV IN=529.60
INV OUT=529.50

WATER AND SEWER SERVICE
FOR THE COMFORT STATION IS
PART OF ADD ALTERNATE #3

2" TYPE K COPPER

6" DICL FP

4" PVC

SS#4
INV=528.95

6"X12" TAPPING
SLEEVE & VALVE

2" CORP
STOP

2" DOMESTIC WATER SERVICE
FOR THE COMFORT STATION
SEE PLUMBING PLANS

SMH#109(5'ø)
RIM=539.61
INV IN(SMH#108)=528.57
INV IN(SS#4)=528.47
INV OUT=528.47

EX SMH
RIM=(529.67)
INV IN(SMH#109)=526.70

EDGE OF BORDERING
VEGETATED WETLAND

PLANNING BOARD APPROVALS

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20 10 0 20 40

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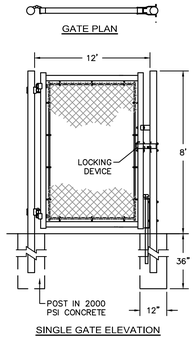
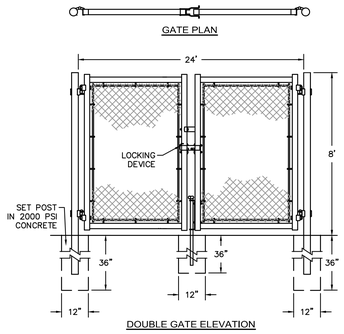
NITSCH PROJECT #12936

PLANNING BOARD APPROVALS



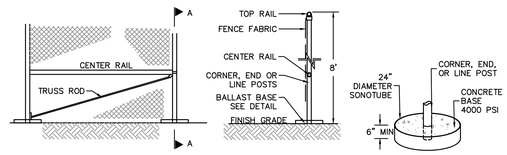
12' WIDE EMERGENCY GATE

NOT TO SCALE



24' WIDE DOUBLE GATE

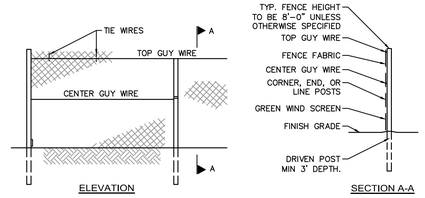
NOT TO SCALE



NOTES:
1. END, GATE AND CORNER POSTS SHALL BE BRACED TO ADJACENT LINE POSTS. (MORE THAN 30° CHANGE IN DIRECTION CONSTITUTES A CORNER)
2. FABRIC SHALL BE 0.148" GAUGE MIN. WIRE, WOVEN INTO APPROXIMATELY 2" DIAMOND MESH.
3. ZINC-COATED STEEL FABRIC BASE METAL SHALL BE COATED WITH PRIME WESTERN SPELTER OR EQUAL.
4. ALUMINUM COATED STEEL FABRIC BASE METAL SHALL BE COATED WITH ALUMINUM ALLOY.
5. LINE POSTS SHALL BE 2½" O.D. END OR CORNER POSTS SHALL BE 3" O.D.
6. THE CONTRACTOR IS RESPONSIBLE FOR SURFACE RESTORATION ONCE THE FENCE IS REMOVED.
7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY CONSTRUCTION FENCE AT THE CONCLUSION OF THE PROJECT.

TEMPORARY CHAIN LINK CONSTRUCTION FENCE WITH BALLAST BASE

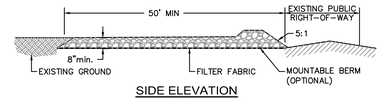
NOT TO SCALE



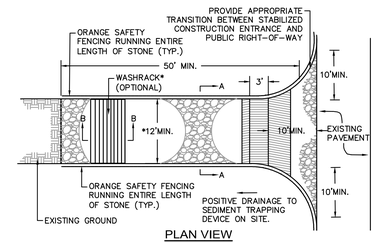
CONSTRUCTION FENCE AND GATE NOTES:
1. FABRIC SHALL BE 0.148" WIRE, WOVEN INTO APPROXIMATELY 2" DIAMOND MESH.
2. THE FENCE FABRIC SHALL BE ZINC COATED STEEL OR ALUMINUM COATED STEEL.
3. FENCE POSTS SHALL RECEIVE THE SAME COATING AND TREATMENT AS THE FENCE FABRIC (DESCRIBED ABOVE).
4. THE CONTRACTOR SHALL ADD A GREEN WIND SCREEN
5. LINE POSTS SHALL BE 2½" O.D. END OR CORNER POSTS SHALL BE 3" O.D.
6. THE CONTRACTOR IS RESPONSIBLE FOR SURFACE RESTORATION ONCE THE FENCE IS REMOVED.
7. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF THE TEMPORARY CONSTRUCTION FENCE AT THE CONCLUSION OF THE PROJECT.

CHAIN LINK CONSTRUCTION FENCE

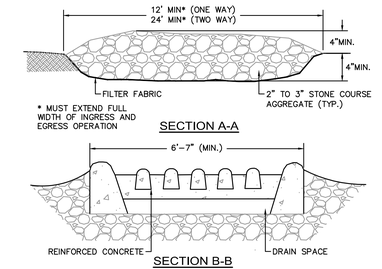
NOT TO SCALE



SIDE ELEVATION



PLAN VIEW

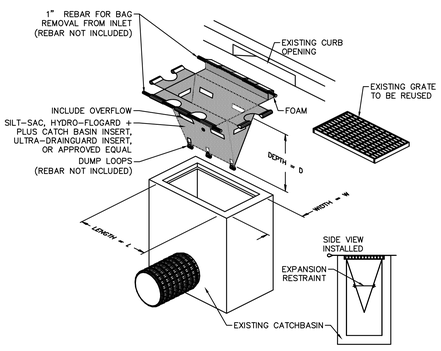


SECTION B-B

CONSTRUCTION SPECIFICATIONS
1. LENGTH – GREATER THAN OR EQUAL TO 50 FEET
2. WIDTH – TWELVE FOOT MINIMUM (ONE WAY), TWENTY FOUR FOOT MINIMUM (TWO WAY), BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
3. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM SHALL BE PERMITTED.
4. THICKNESS – 8"
5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
6. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED.

STABILIZED CONSTRUCTION ENTRANCE

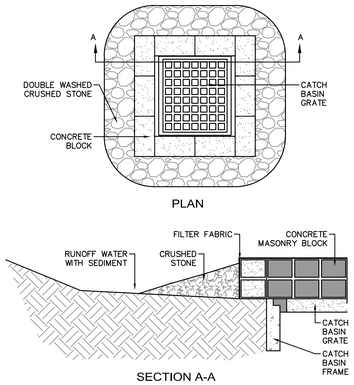
NOT TO SCALE



THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS SHEET, OVERLAND OR CONCENTRATED FLOWS (NOT GREATER THAN 1 CFS). THE METHOD CAN DRAIN FLAT AREA TO STEEP SLOPES. INLET CAPACITY WILL BE DECREASED WITH THIS METHOD AND THE CONTRACTOR SHALL EXPECT PONDING DURING HIGH FLOW EVENTS.

INLET PROTECTION - OPTION 1 CATCH BASIN WITH SILTATION SACK

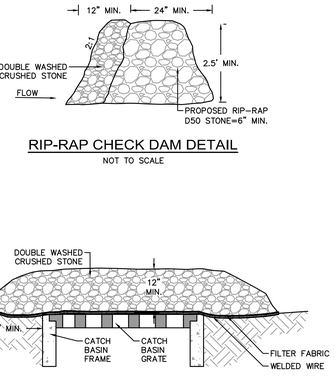
NOT TO SCALE



THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND STRUCTURE.

INLET PROTECTION - OPTION 2 CATCH BASIN W/ BLOCK AND GRAVEL

NOT TO SCALE



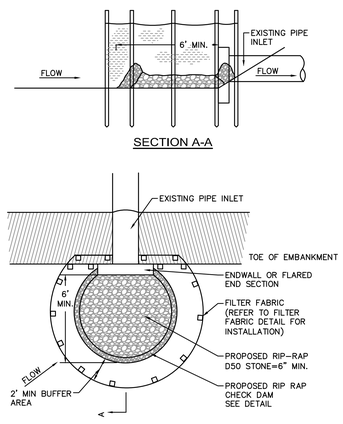
RIP-RAP CHECK DAM DETAIL

NOT TO SCALE

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED, BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS. THIS METHOD NOT ACCEPTABLE IN ACTIVE TRAFFIC AREAS.

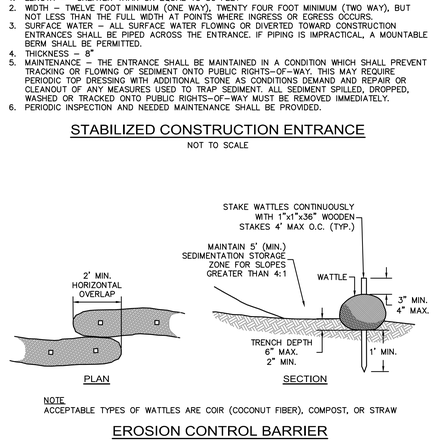
INLET PROTECTION - OPTION 3 CATCH BASIN WITH GRAVEL

NOT TO SCALE



CULVERT INLET PROTECTION WITH SILT FENCE

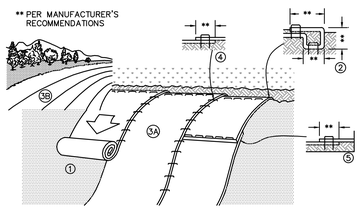
NOT TO SCALE



NOTE
ACCEPTABLE TYPES OF WATTLES ARE COIR (COCONUT FIBER), COMPOST, OR STRAW

EROSION CONTROL BARRIER WATTLES FOR SLOPES LESS THAN 10:1

NOT TO SCALE

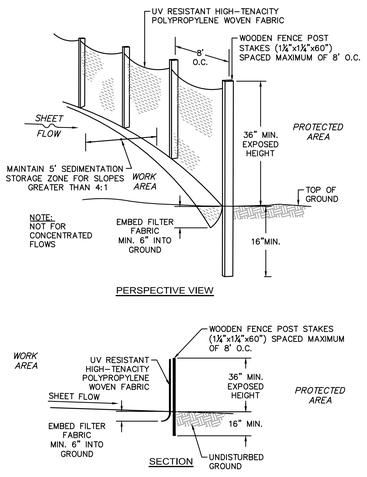


NOTES:

1. PREPARE SOIL BEFORE INSTALLING EROSION CONTROL BLANKETS (ECB's), INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE ECB's IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING PORTION OF ECB's BACK OVER SEED AND COMPACTED SOIL. SECURE ECB's OVER COMPACTED SOIL WITH A ROW OF STAKES/STAPLES SPACED ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATIONS ACROSS THE WIDTH OF THE ECB's.
3. ROLL THE ECB's DOWN (A) OR HORIZONTALLY (B) ACROSS THE SLOPE. ECB's WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL ECB's MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAKES/STAPLES IN APPROPRIATE LOCATIONS AS SHOWN ON THE STAKE/STAPLE PATTERN GUIDE.
4. THE EDGES OF PARALLEL ECB's MUST BE STAKED/STAPLED WITH OVERLAP DEPENDING ON ECB's TYPE. SEE THE MANUFACTURER'S RECOMMENDATIONS.
5. CONSECUTIVE ECB's SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN OVERLAP (SEE THE MANUFACTURER'S RECOMMENDATIONS). STAKE/STAPLE THROUGH OVERLAPPED AREA, ACROSS ENTIRE ECB's WIDTH PER MANUFACTURER'S RECOMMENDATIONS.
6. IN LOOSE SOIL CONDITIONS, THE USE OF STAKE OR STAPLE LENGTHS GREATER THAN 6" MAY BE NECESSARY TO PROPERLY SECURE THE ECB's.
7. THE CONTRACTOR SHALL FOLLOW ALL INSTALLATION INSTRUCTIONS AS RECOMMENDED BY THE MANUFACTURER.

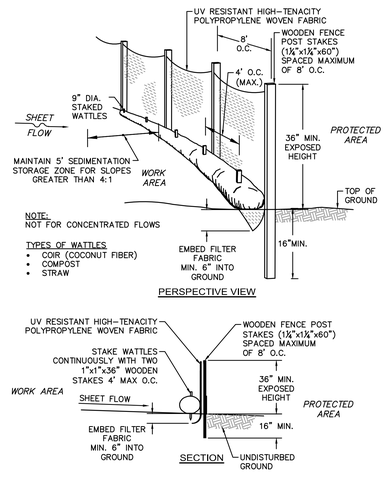
TEMPORARY EROSION CONTROL BLANKET FOR STEEP SLOPES DETAIL

NOT TO SCALE



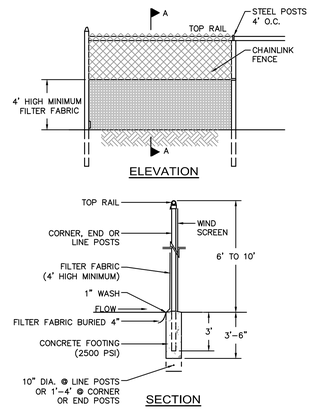
PERIMETER EROSION CONTROL BARRIER OPTION A - SILT FENCE DETAIL

NOT TO SCALE



PERIMETER EROSION CONTROL BARRIER OPTION B - SILT FENCE DETAIL WITH WATTLES

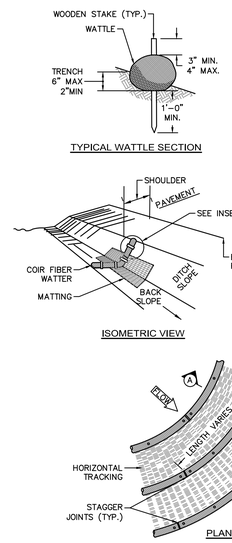
NOT TO SCALE



NOTES:
1. CHAINLINK FENCE SHALL BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES.
2. FILTER FABRIC SHALL BE FASTENED SECURELY TO CHAINLINK FENCE WITH TIES SPACED HORIZONTALLY 24" AS THE TOP AND MIDSECTION.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6"
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHALL BE REMOVED WHEN SEDIMENT BUILD-UP REACHES 50% OF THE HEIGHT OF THE FILTER FABRIC.
5. MAINTENANCE OF SILT FENCE SHALL BE RECORDED TO IN THE SWPPP

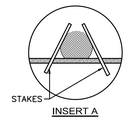
PERIMETER EROSION CONTROL BARRIER OPTION C - SUPER SILT FENCE

NOT TO SCALE

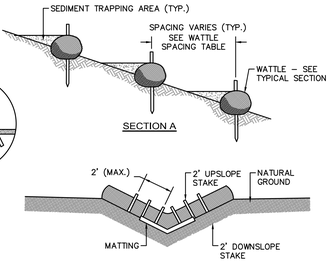


TYPES OF WATTLES
• COIR (COCONUT FIBER)
• COMPOST
• STRAW

WATTLE SPACING TABLE	
SLOPE	MAX. SPACING
1:1	10'–0"
2:1	20'–0"
3:1	30'–0"
4:1	40'–0"



WATTLE SLOPE PROTECTION NOTES:
1. SECURELY KNOT EACH END OF WATTLE. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
2. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLES AND INTO THE SOIL WHEN SOIL CONDITIONS REQUIRE.
3. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
4. ONLY INSTALL WATTLE(S) TO A HEIGHT IN DITCH SO FLOW WILL NOT WASH AROUND WATTLE AND SCOUR DITCH SLOPES AND AS DIRECTED.



EROSION CONTROL BARRIER - WATTLES FOR STEEP SLOPES

NOT TO SCALE

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COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
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No. 39417
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05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
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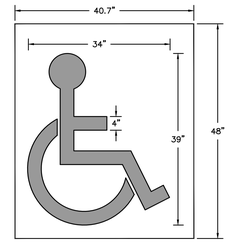
PLANNING BOARD SUBMISSION

TITLE: CIVIL DETAILS
JOB NUMBER: 18-08
DRAWN BY: JCZ
CHECKED BY: SAB
DATE: MAY 25, 2020
SCALE: N/A
SHEET NO: C11.00

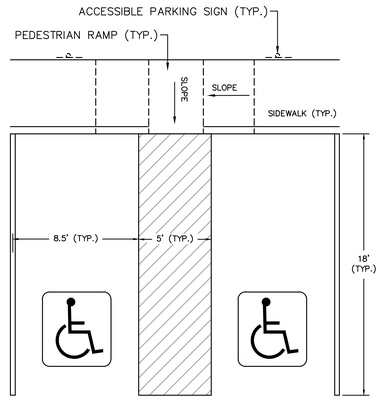
NITSCH PROJECT #12936

PLANNING BOARD APPROVALS



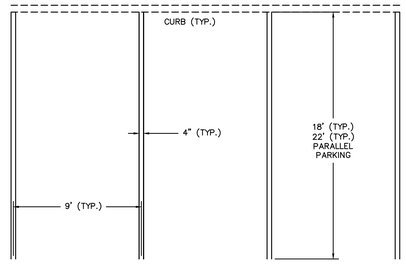
ACCESSIBLE PARKING STENCIL DETAIL

NOT TO SCALE



ACCESSIBLE PARKING DETAIL

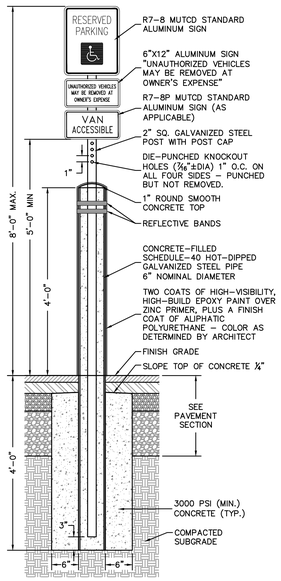
NOT TO SCALE



NOTE:
STRIPING SHALL BE INSTALLED PER SPECIFICATIONS

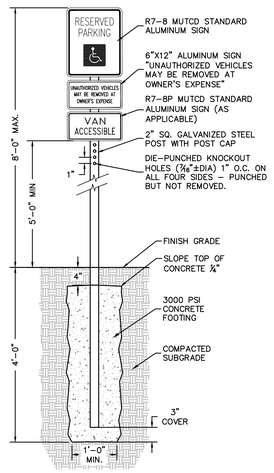
TYPICAL PARKING STRIPING DETAIL

NOT TO SCALE



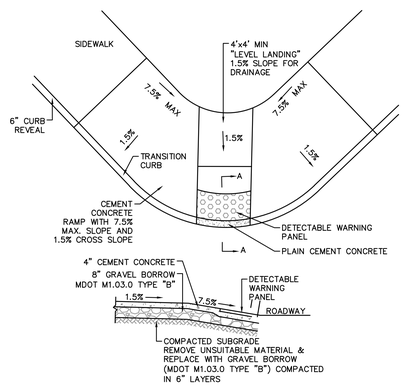
ACCESSIBLE PARKING SIGN DETAIL
POST SET IN BOLLARD

NOT TO SCALE



ACCESSIBLE PARKING SIGN DETAIL
POST SET IN LANDSCAPE

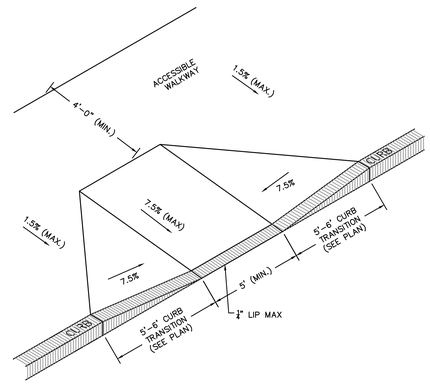
NOT TO SCALE



SECTION A-A

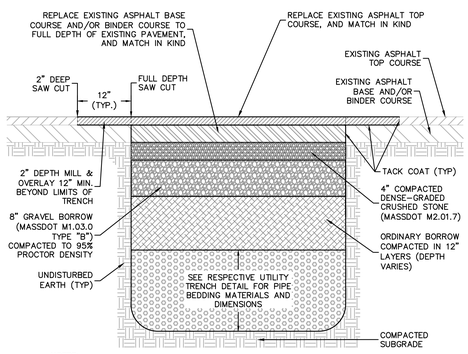
PEDESTRIAN RAMP AT CORNER DETAIL

NOT TO SCALE



ACCESSIBLE RAMPS WITH GREATER THAN 12'-6" SIDEWALK DETAIL

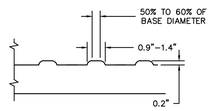
NOT TO SCALE



NOTES:
1. IF TWO PARALLEL TRENCHES ARE LESS THAN 20 FEET APART, THEN ALL PAVEMENT BETWEEN TRENCHES SHALL BE MILLED & OVERLAYED TO A TWO INCH DEPTH.
2. IN PUBLIC STREETS, IF EXISTING PAVEMENT IS LESS THAN 5 YEARS OLD, THEN FLOWABLE FILL SHALL BE USED FOR ALL TRENCH BACKFILL, AND THE FINISHED PAVEMENT SHALL BE INFRARED TREATED IN ACCORDANCE WITH DPW STANDARDS.

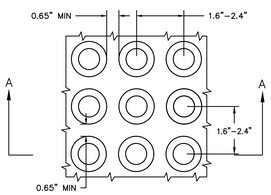
PAVEMENT RESTORATION OVER TRENCH DETAIL

NOT TO SCALE



SECTION A-A

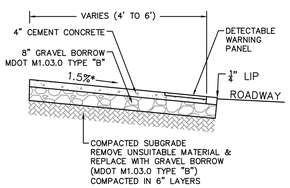
NOTES:
1. DETECTABLE WARNING PANELS SHALL BE PERMANENTLY APPLIED TO THE RAMP.
2. DETECTABLE WARNING PANELS SHALL CONTRAST VISUALLY WITH THE ADJACENT WALKWAY SURFACES PER THE FOLLOWING COLOR SCHEDULE:
   - PALE YELLOW ON CEMENT CONCRETE PEDESTRIAN RAMPS
3. DETECTABLE WARNING PANELS SHALL BE AS MANUFACTURED BY ADA SOLUTIONS, INC. OF NORTH BILLERICA, MA OR AN APPROVED EQUAL.
4. DETECTABLE WARNING PANELS SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.



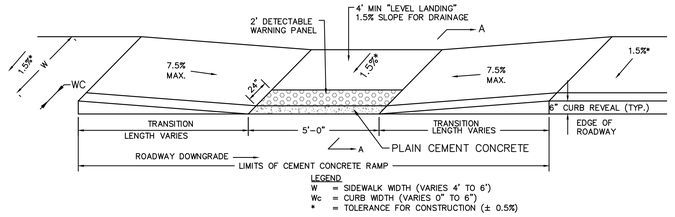
DETECTABLE WARNING PANEL

DETECTABLE WARNING PANEL FOR PEDESTRIAN RAMPS DETAIL

NOT TO SCALE



SECTION A-A



LEGEND
W = SIDEWALK WIDTH (VARIES 4' TO 6')
Wc = CURB WIDTH (VARIES 0" TO 6")
* = TOLERANCE FOR CONSTRUCTION (± 0.5%)

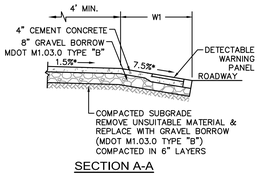
PEDESTRIAN RAMP DETAIL (4' TO 6' WIDE)

NOT TO SCALE

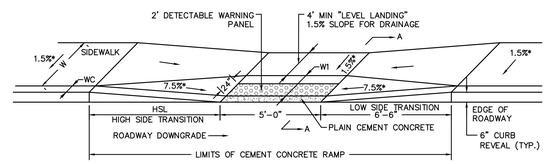
ROADWAY PROFILE GRADE	HIGH SIDE TRANSITION LENGTH
ROADWAY PROFILE GRADE %	HIGH SIDE TRANSITION LENGTH (FEET)
0	6'-6"
0-1	7'-8"
1-2	9'-0"
2-3	11'-0"
3-4	14'-0"
>4	15' (MAX.)

NOTE-BASED ON A DESIGN SLOPE OF 7.5% & A REVEAL OF 6"

LEGEND:
HSL = HIGH SIDE TRANSITION LENGTH (VARIES-SEE CHART)
W = SIDEWALK WIDTH (USABLE WIDTH)
W1 = PERPENDICULAR RAMP LENGTH (W-4')
Wc = CURB WIDTH (VARIES 0"-6")
* = TOLERANCE FOR CONSTRUCTION (±0.5%)

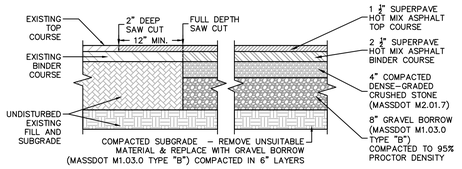


SECTION A-A



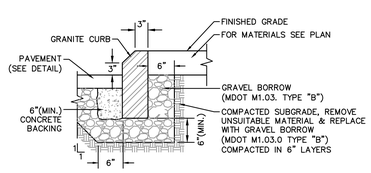
PEDESTRIAN RAMP DETAIL
(6'-0" TO 12'-6" WIDE)

NOT TO SCALE



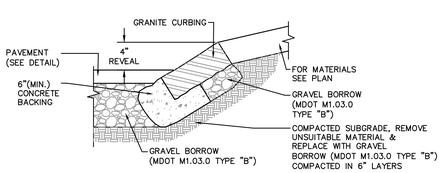
HOT MIX ASPHALT PAVING (TWO COURSES) DETAIL

NOT TO SCALE



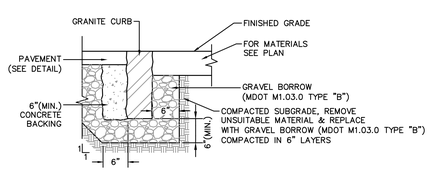
MOUNTABLE GRANITE CURB SETTING DETAIL

NOT TO SCALE



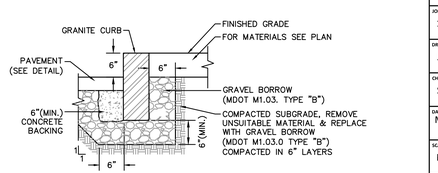
SLOPED GRANITE EDGING DETAIL

NOT TO SCALE



FLUSH GRANITE CURB SETTING DETAIL

NOT TO SCALE



VERTICAL GRANITE CURB SETTING DETAIL

NOT TO SCALE

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DRAWN BY: JCZ
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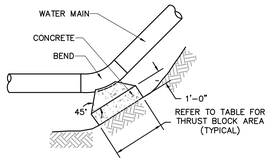
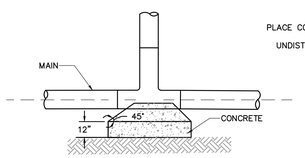
SHEET NO: C11.01

NITSCH PROJECT #12936

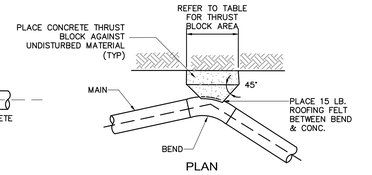
PLANNING BOARD APPROVALS



PLAN



PLAN



PLAN

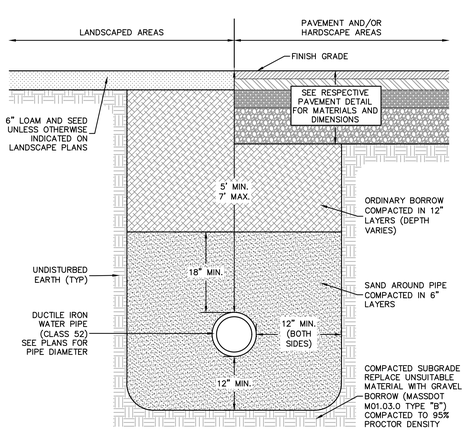
TABLE OF BEARING AREAS (IN SQUARE FEET) AGAINST UNDISTURBED MATERIAL FOR FITTING. *

SIZE OF MAIN (INCHES)	90° BEND (S.F.)	45° BEND (S.F.)	DEAD END (S.F.)
2 & 4	2.3	1.3	1.6
6	4.7	2.5	3.3
8	8.0	4.5	6.0
12	17.0	9.5	12.0

NOTES:
1. THRUST BLOCKS TO BE USED ON ALL PRESSURE PIPES AT HORIZONTAL AND VERTICAL BENDS GREATER OR EQUAL TO 45°, TEES AND DEAD ENDS.
2. FOR FITTINGS WITH LESS THAN 45° DEFLECTION USE BEARING AREAS FOR 45° BEND.
3. BEARING AREAS BASED ON HORIZONTAL PASSIVE SOIL PRESSURE OF 2000 PSF AND A MINIMUM INTERNAL WATER PRESSURE OF 175 PSIG. JOINTS SHALL NOT BE ENCASED IN CONCRETE, BEARING AREAS MAY BE DISREGARDED FOR TRENCHES IN ROCK WHERE THE TOP OF THE ROCK FACE IS AT OR ABOVE THE CROWN OF THE PIPE. HOWEVER, CONCRETE BACKING SHALL BE PLACED BETWEEN THE PIPE AND ROCK FACE.

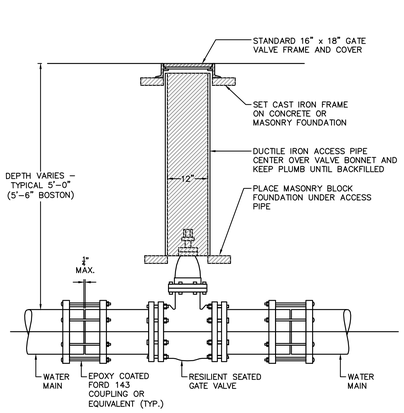
THRUST BLOCK DETAILS

NOT TO SCALE



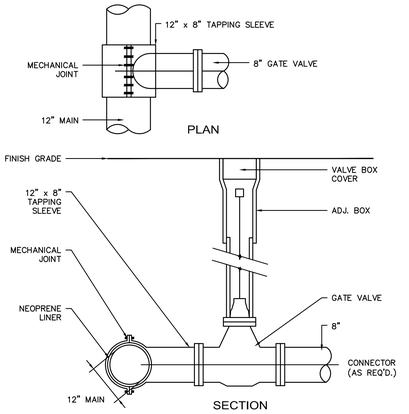
WATER TRENCH DETAIL

NOT TO SCALE



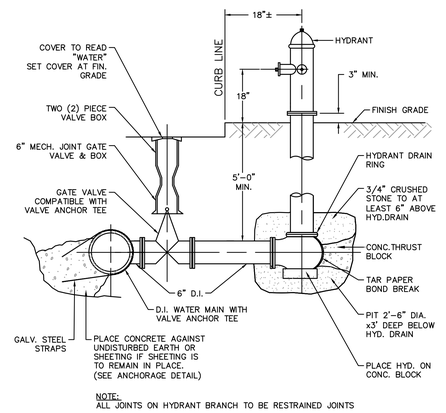
GATE VALVE DETAIL

NOT TO SCALE



TAPPING SLEEVE, VALVE & BOX DETAIL

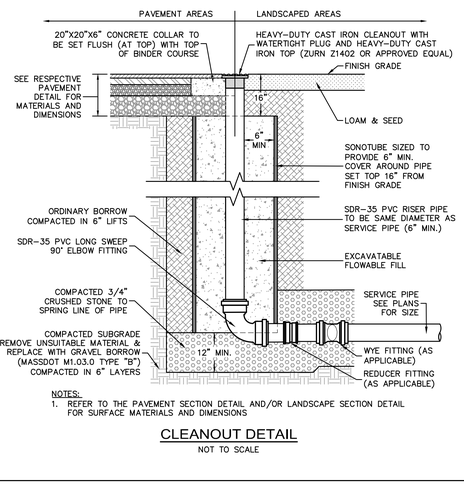
NOT TO SCALE



NOTE:
ALL JOINTS ON HYDRANT BRANCH TO BE RESTRAINED JOINTS

FIRE HYDRANT DETAIL

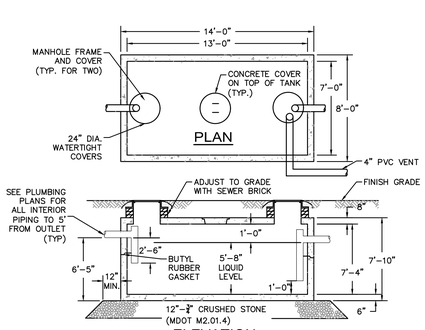
NOT TO SCALE



NOTES:
1. REFER TO THE PAVEMENT SECTION DETAIL AND/OR LANDSCAPE SECTION DETAIL FOR SURFACE MATERIALS AND DIMENSIONS

CLEANOUT DETAIL

NOT TO SCALE



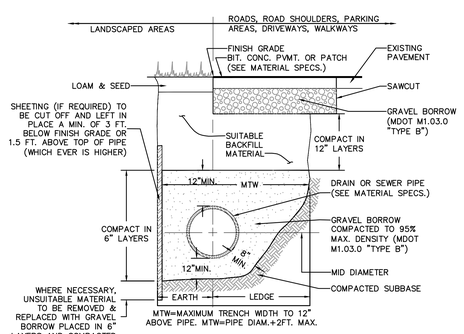
ELEVATION

SPECIFICATIONS:

1. CONCRETE MINIMUM STRENGTH – 5,000 PSI @ 28 DAYS
2. STEEL REINFORCEMENT – ASTM A615 GR. 60, A185 OR A497 – 1" MIN. COVER
3. DESIGN LOADING – AASHTO HS20-44 – EARTH COVER 0 TO 5 FEET
4. WATER TABLE – 0 FEET
5. CONSTRUCTION JOINT – SEALED WITH 1" DIA. BUTYL RUBBER OR EQUIVALENT
6. TOTAL CAPACITY – 3,500 GALLONS

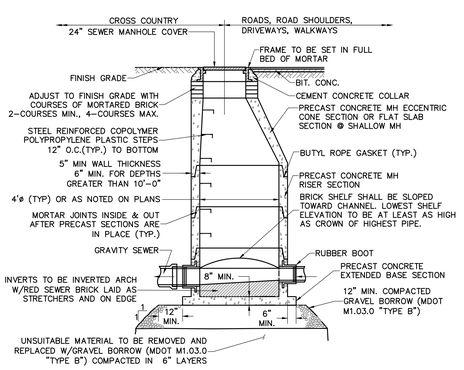
3,500 GALLON GREASE TRAP DETAIL

NOT TO SCALE



STANDARD TRENCH DETAIL FOR DRAIN AND SEWER PIPE

NOT TO SCALE



TYPICAL SEWER MANHOLE DETAIL

NOT TO SCALE

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CHECKED BY: SAB

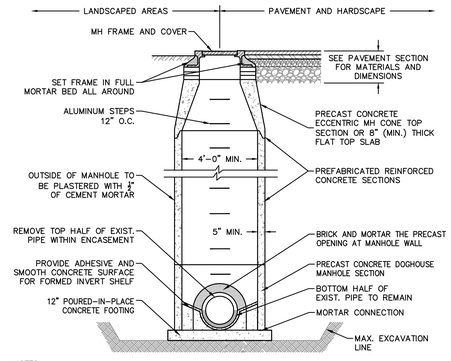
DATE: MAY 25, 2020

SCALE: N/A

SHEET NO: C11.02

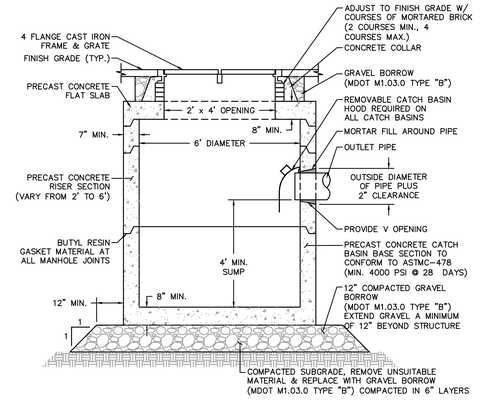
NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

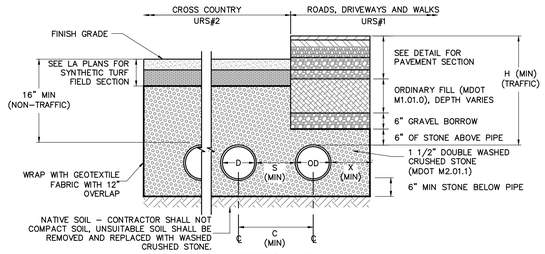


NOTES:
1. PREFABRICATED REINFORCED CONCRETE MANHOLE SECTIONS SHALL BE USED. THEY SHALL BE DESIGNED TO WITHSTAND AASHTO HS-20-44 LOADING.
2. SHOP DRAWINGS WILL BE REQUIRED TO BE SUBMITTED FOR APPROVAL. THE SHOP DRAWINGS SHALL BE STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN MASSACHUSETTS.

DOGHOUSE MANHOLE DETAIL
NOT TO SCALE



TYPICAL DOUBLE CATCH BASIN DETAIL
NOT TO SCALE

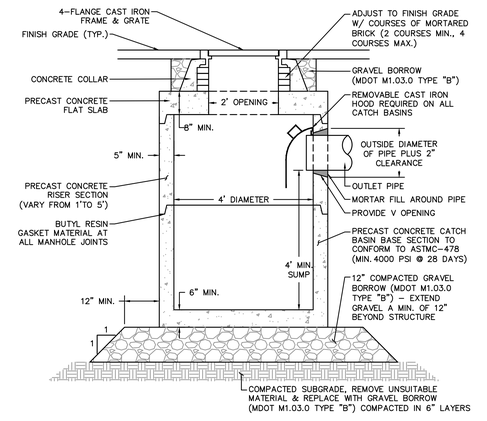


SECTION VIEW

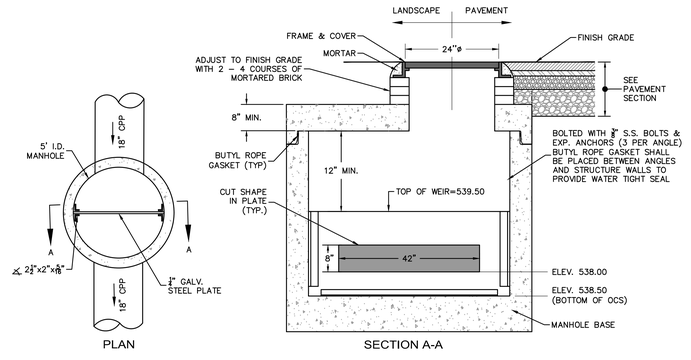
	NO. ROWS	PIPES PER ROW	NOMINAL DIAMETER (D)	OUTSIDE DIAMETER (OD)	MIN. SPACING C	S	X	H
URS#1	5	3	12"	14.5"	38.5"	24"	24"	42"
URS#2	5	15	12"	14.5"	48"-8.5"	47"-6"	30"	16"

NOTES:
1. ALL 5 ROWS OF PIPE AT URS#1 SHALL BE CONNECTED BY A 12" MANIFOLD PIPE AT EACH END WITH 24" END STONE BEYOND THE MANIFOLD.
2. ALL 5 ROWS OF PIPE AT URS#2 SHALL BE CONNECTED BY AN 18" MANIFOLD PIPE AT EACH END WITH 30" END STONE BEYOND THE MANIFOLD.

UNDERGROUND STORMWATER RECHARGE SYSTEM DETAIL
NOT TO SCALE



TYPICAL CATCH BASIN DETAIL
NOT TO SCALE

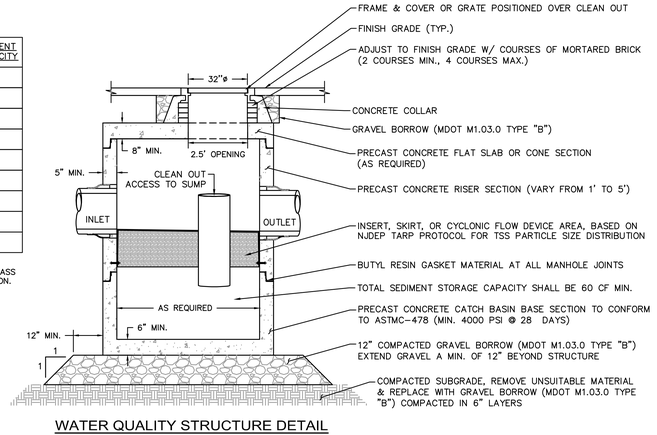


URS#2 OUTLET CONTROL STRUCTURE
NOT TO SCALE

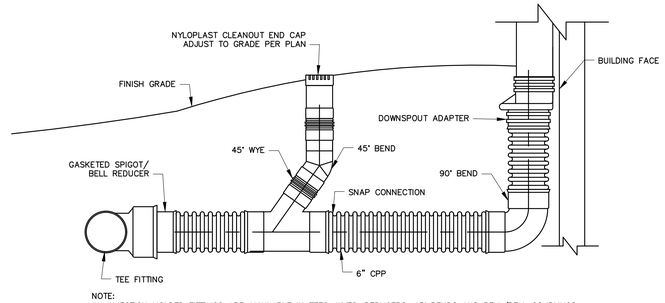
STRUCTURE NAME	MINIMUM WQF	PEAK FLOW RATE*	MINIMUM SEDIMENT STORAGE CAPACITY
WQS#401	0.49 CFS	2.27 CFS	30 CF
WQS#402	0.61 CFS	3.04 CFS	30 CF
WQS#403	0.08 CFS	2.37 CFS	30 CF
WQI#404	0.15 CFS	0.72 CFS	30 CF
WQI#405	0.05 CFS	0.26 CFS	30 CF
WQS#406	0.66 CFS	9.93 CFS	30 CF
WQS#407	0.30 CFS	1.77 CFS	30 CF
WQS#408	0.35 CFS	1.80 CFS	30 CF
WQS#409	0.38 CFS	2.43 CFS	30 CF

* PEAK FLOW RATE BASED ON RATIONAL ANALYSIS FOR A 25-YEAR STORM EVENT. STRUCTURE SHALL BE ABLE TO PASS PEAK FLOW RATE WITHOUT CAUSING A BACKWATER CONDITION.

NOTES:
1. THE USE OF FLEXIBLE CONNECTIONS IS RECOMMENDED AT THE INLET AND OUTLET WHERE APPLICABLE.
2. THE COVER SHOULD BE POSITIONED OVER THE OUTLET DROP PIPE AND THE OIL CLEANOUT PIPE.
3. STRUCTURE DESIGNED FOR H20 LOADING

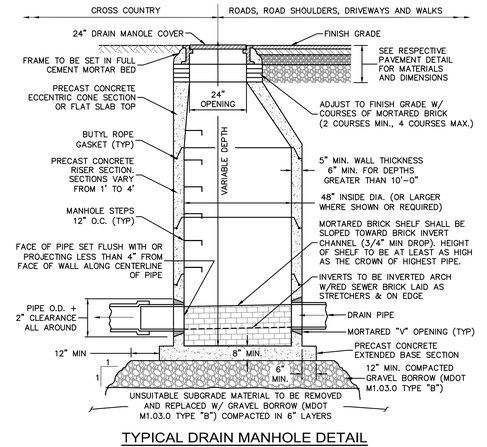


WATER QUALITY STRUCTURE DETAIL
NOT TO SCALE



NOTE:
1. INJECTION MOLDED FITTINGS ARE AVAILABLE IN TEES, WYES, REDUCERS, 45° BENDS AND BELL/BELL COUPLINGS.
2. WT INJECTION MOLDED FITTINGS AND WT PIPE CAN BE SUBSTITUTED FOR WATER TIGHT APPLICATIONS.

DOWNSPOUT DETAIL
NOT TO SCALE



TYPICAL DRAIN MANHOLE DETAIL
NOT TO SCALE

Turowski2 Architecture
P.O. Box 1290
313 Wareham Road
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CONSULTANT:
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Worcester, MA 01608
T: (508) 365-1030
F: (617) 338-6472

STAMP:
COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER
05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: CIVIL DETAILS
JOB NUMBER: 18-08
DRAWN BY: JCZ
CHECKED BY: SAB
DATE: MAY 25, 2020
SCALE: N/A
SHEET NO: C11.03

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

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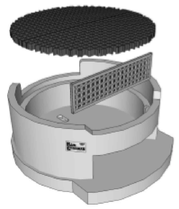
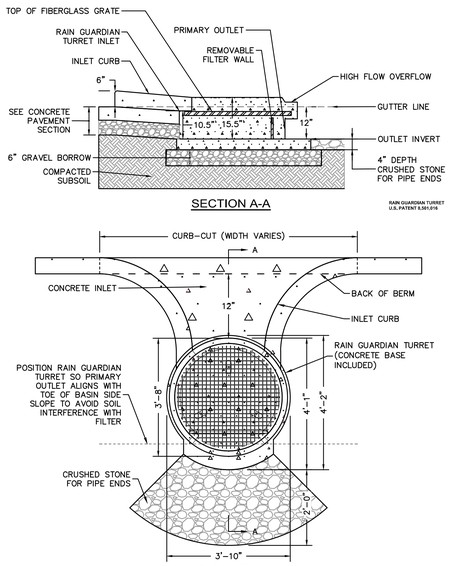
REVISIONS:

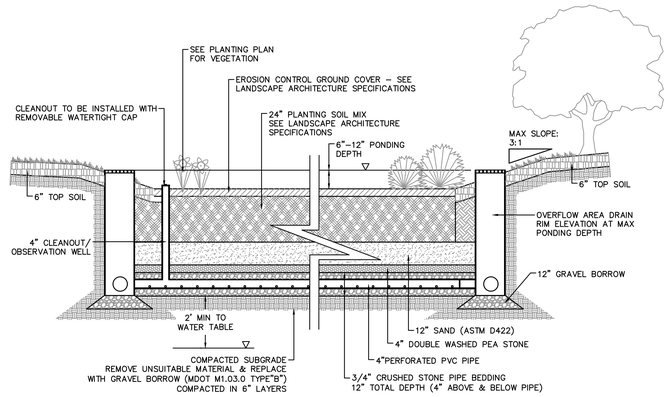
No.	Description	Date



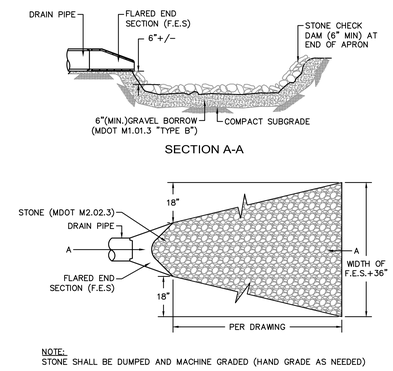
RAIN GUARDIAN TURRET DETAIL
NOT TO SCALE



BIORETENTION BASIN #2 INLET DETAIL
NOT TO SCALE

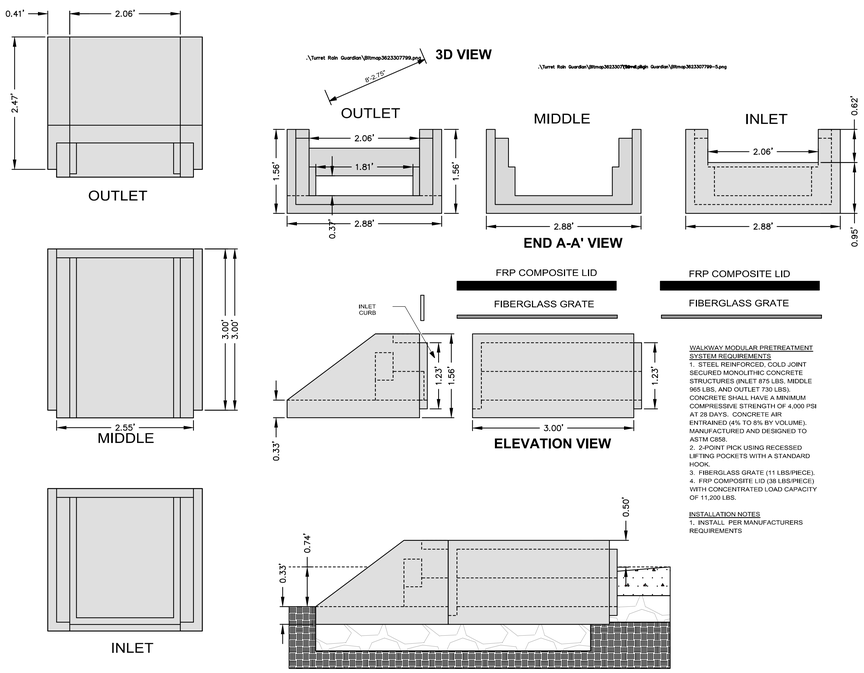


BIORETENTION BASIN
NOT TO SCALE

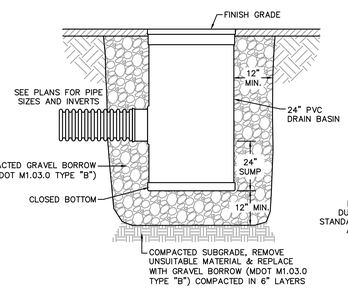


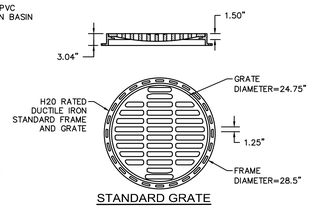
NOTE:
STONE SHALL BE DUMPED AND MACHINE GRADED (HAND GRADE AS NEEDED)

STONE APRON DETAIL
NOT TO SCALE



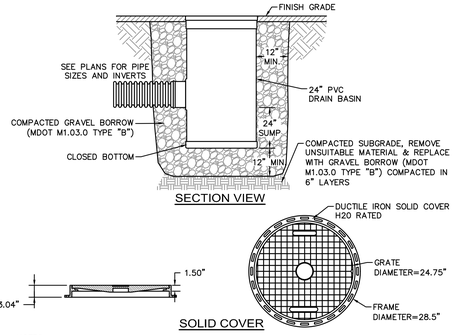
MODULAR PRETREATMENT CHAMBER - GUARDIAN FOXHOLE OR APPROVED EQUAL
NOT TO SCALE





NOTES:
1. FRAME AND GRATE SHALL BE DUCTILE IRON CONFORMING TO ASTM A536 GRADE 70–50–05.
2. 24" AREA DRAINS SHALL BE NYLOPLAST MODEL 2824 AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC., OR APPROVED EQUAL.
3. AREA DRAINS SHALL BE CUSTOM MANUFACTURED ACCORDING TO THE PLANS AND DETAIL.
4. CASTINGS SHALL BE FURNISHED WITH A BLACK PAINT.
5. SEE PLANS FOR LAYOUT AND ELEVATIONS OF DRAIN PIPES TO AREA DRAINS.

24" AREA DRAIN DETAIL
NOT TO SCALE



NOTES:
1. FRAME AND COVER SHALL BE DUCTILE IRON CONFORMING TO ASTM A536 GRADE 70–50–05.
2. 24" ACCESS BASINS SHALL BE NYLOPLAST MODEL 2824 AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC., OR APPROVED EQUAL.
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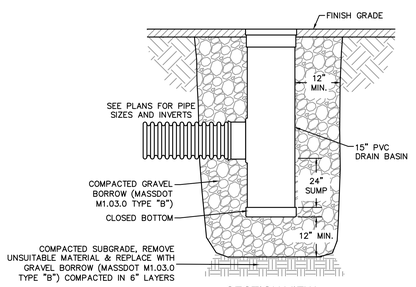
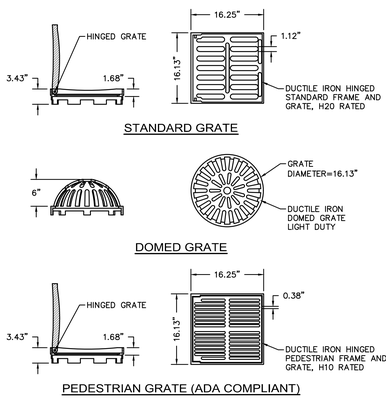
5. SEE PLANS FOR LAYOUT AND ELEVATIONS OF DRAIN PIPES TO ACCESS BASINS.

24" ACCESS BASIN DETAIL
NOT TO SCALE





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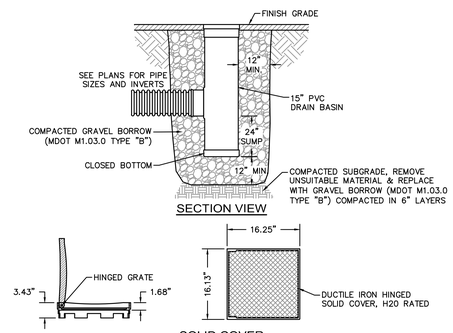
15" AREA DRAIN DETAIL
NOT TO SCALE



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15" ACCESS BASIN DETAIL
NOT TO SCALE

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527

PLANNING BOARD SUBMISSION

TITLE:
CIVIL DETAILS

JOB NUMBER: 18-08

DRAWN BY: JCZ

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: N/A

SHEET NO:
C11.04

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

DP-3

DP-1

DP-2

DP-6

SEE INSET

DESIGN POINT 1
IMPERVIOUS AREA = 153,106 SF

DESIGN POINT 1
PERVIOUS AREA = 134,698 SF

DESIGN POINT 2
IMPERVIOUS AREA = 17,407 SF

DESIGN POINT 2
PERVIOUS AREA = 64,336 SF

DESIGN POINT 3
IMPERVIOUS AREA = 13,627 SF

DESIGN POINT 3
PERVIOUS AREA = 223,944 SF

DESIGN POINT 4
IMPERVIOUS AREA = 70,731 SF

DESIGN POINT 4
PERVIOUS AREA = 21,594 SF

DESIGN POINT 5
IMPERVIOUS AREA = 8,935 SF

DESIGN POINT 5
PERVIOUS AREA = 2,863 SF

DESIGN POINT 6
IMPERVIOUS AREA = 0 SF

DESIGN POINT 6
PERVIOUS AREA = 82,198 SF

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

DP-4

DP-5

INSET

SCALE:
1" = 80'
80 40 0 80 160

Turowski2 Architecture

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STAMP:

COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER

05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527

PLANNING BOARD SUBMISSION

TITLE:
EXISTING DRAINAGE AREA PLAN

JOB NUMBER:
18-08

DRAWN BY:
JCZ, RL

CHECKED BY:
SAB

DATE:
MAY 25, 2020

SCALE:
AS NOTED

SHEET NO:
DA-EX

NITSCH PROJECT #12936

PLANNING BOARD APPROVALS

DP-3

DP-1

DP-2

DP-4

DP-5

DP-6

SEE INSET

INSET

DESIGN POINT 1
IMPERVIOUS AREA = 148,934 SF

DESIGN POINT 1
PERVIOUS AREA = 311,477 SF

DESIGN POINT 2
IMPERVIOUS AREA = 34,388 SF

DESIGN POINT 2
PERVIOUS AREA = 48,670 SF

DESIGN POINT 3
IMPERVIOUS AREA = 41,613 SF

DESIGN POINT 3
PERVIOUS AREA = 59,798 SF

DESIGN POINT 4
IMPERVIOUS AREA = 68,218 SF

DESIGN POINT 4
PERVIOUS AREA = 22,750 SF

DESIGN POINT 5
IMPERVIOUS AREA = 8,898 SF

DESIGN POINT 5
PERVIOUS AREA = 2,859 SF

DESIGN POINT 6
IMPERVIOUS AREA = 2,682 SF

DESIGN POINT 6
PERVIOUS AREA = 43,202 SF

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

SCALE:
1" = 80'
80 40 0 80 160

Turowski2 Architecture

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STAMP:

COMMONWEALTH OF MASSACHUSETTS
SANDRA A. BROCK
CIVIL
No. 39417
REGISTERED PROFESSIONAL ENGINEER
05/01/2020 #12936

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE: PROPOSED DRAINAGE AREA PLAN

JOB NUMBER: 18-08

DRAWN BY: JCZ, RL

CHECKED BY: SAB

DATE: MAY 25, 2020

SCALE: AS NOTED

SHEET NO: DA-PR

NITSCH PROJECT #12936

NORTH

SOUTH

LEGEND

- BLACK LOCUST DECKING
- POURED IN PLACE RUBBER PLAY SURFACING
- RAIN GARDEN
- ENGINEERED WOOD FIBER PLAY SURFACING
- STABILIZED STONE DUST
- SKINNED INFIELD
- VEHICULAR LAWN
- ASPHALT PAVING
- CIP CONCRETE PAVING
- GRAVEL
- ARTIFICIAL TURF
- ROOF PAVERS
- PICKET FENCE
- CHAIN LINK FENCE
- LOGS
- STEPPING STUMPS
- BENCH
- RECEPTACLES
- BIKE RACK
- PROPOSED TREE
- EXISTING TREE TO REMAIN
- LIMIT OF WORK
- SITE LIGHTING

NOTES

1. PRIOR TO CLEARING THE SITE FOR CONSTRUCTION, GENERAL CONTRACTOR TO HOST A PRE-CONSTRUCTION CONFERENCE TO REVIEW LAYOUT.

2. LAYOUT OF PATHS, WALKS, GRADES, SLOPES, AND PLAY STRUCTURES MUST BE IN STRICT CONFORMANCE WITH SITE PLANS. NO DEVIATIONS FROM CONTRACT GEOMETRIES WILL BE ACCEPTED UNLESS APPROVED BY LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IN THE FIELD. LAYOUTS SHOULD BE BASED UPON CAD DOCUMENTS PROVIDED BY LANDSCAPE ARCHITECT AND CIVIL ENGINEER.

3. ALL LAYOUTS, MATERIALS, SITE FURNISHINGS, AND GRADES MUST COMPLY WITH THE U.S. ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD'S GUIDE TO ADA ACCESSIBILITY GUIDELINES FOR PLAY AREAS AND THE U.S. CONSUMER PRODUCT SAFETY COMMISSION'S PUBLIC PLAYGROUND SAFETY HANDBOOK.

4. ALL CENTERLINES OF PAVED AREAS, GRADE BREAKS TO BE STAKED IN THE FIELD WITH GRADE STAKES AND STRING LINES FOR APPROVAL PRIOR TO CONSTRUCTION

5. INSTALL CENTERLINES OF ALL PATHS USING A DIGITAL LAYOUT PROGRAM IN THE FIELD

6. INSTALL ALL GRADE BREAKS AND RIDGE LINES USING A DIGITAL LAYOUT PROGRAM IN THE FIELD

7. PROVIDE CURB CUTS AT ALL CROSS WALKS

8. REFER TO LANDSCAPE LEGEND FOR CLARIFICATION OF COMPONENTS AND LABELS.

9. PROVIDE EDGE RESTRAINTS FOR ALL LOOSE HARDSCAPE MATERIALS AND RUBBERIZED SURFACES

10. PROVIDE EXPANSION JOINTS AT THE INTERSECTION OF PAVING AND OTHER STRUCTURES, WALLS, OR FOUNDATIONS. PROVIDE EXPANSION JOINTS AT REGULAR INTERVALS NO MORE THAN 20' APART

12. UNLESS OTHERWISE NOTED, ALL AREA DISTURBED BY CONSTRUCTION SHALL RECEIVE HYDROSEED LAWN MIX ON PREPARED TOPSOIL OF A DEPTH AND QUALITY INDICATED BY DRAWINGS AND SPECIFICATIONS.

13. THIS PLAN WAS DEVELOPED BASED ON A SURVEY PREPARED BY NITSCH ENGINEERING IN 2020 AND PROVIDED TO T2 ARCHITECTURE FOR USE IN THIS PROJECT.

PLANNING BOARD APPROVALS

Turowski2 Architecture

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CONSULTANT:
DODSON & FLINKER
Landscape Architecture and Planning
40 Main St. Suite 101
Florence, MA 01062
www.dodsonflinker.com

STAMP:

PERMITTING DRAWING

NOT FOR CONSTRUCTION

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:

LANDSCAPE KEY PLAN

JOB NUMBER: 18-08

DRAWN BY: NB, AG, DS

CHECKED BY: NB

DATE: 05/25/2020

SCALE: 1" = 40'
0" 1" N

SHEET NO: L1.0

5/25/2020 9:19:35 AM

LEGEND

- BLACK LOCUST DECKING
- POURED IN PLACE RUBBER PLAY SURFACING
- BIORETENTION/ CONSTRUCTED WETLAND
- ENGINEERED WOOD FIBER PLAY SURFACING
- STABILIZED STONE DUST
- SKINNED INFIELD
- VEHICULAR LAWN
- ASPHALT PAVING
- CIP CONCRETE PAVING
- GRAVEL
- ARTIFICIAL TURF
- ROOF PAVERS

- PICKET FENCE
- CHAIN LINK FENCE
- LOGS
- STEPPING STUMPS
- BENCH
- RECEPTACLES
- BIKE RACK
- LIMIT OF WORK
- PROPOSED TREE
- EXISTING TREE TO REMAIN
- SITE LIGHTING

NOTES

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2. LAYOUT OF PATHS, WALKS, GRADES, SLOPES, AND PLAY STRUCTURES MUST BE IN STRICT CONFORMANCE WITH SITE PLANS. NO DEVIATIONS FROM CONTRACT GEOMETRIES WILL BE ACCEPTED UNLESS APPROVED BY LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IN THE FIELD. LAYOUTS SHOULD BE BASED UPON CAD DOCUMENTS PROVIDED BY LANDSCAPE ARCHITECT AND CIVIL ENGINEER.
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6. INSTALL ALL GRADE BREAKS AND RIDGE LINES USING A DIGITAL LAYOUT PROGRAM IN THE FIELD
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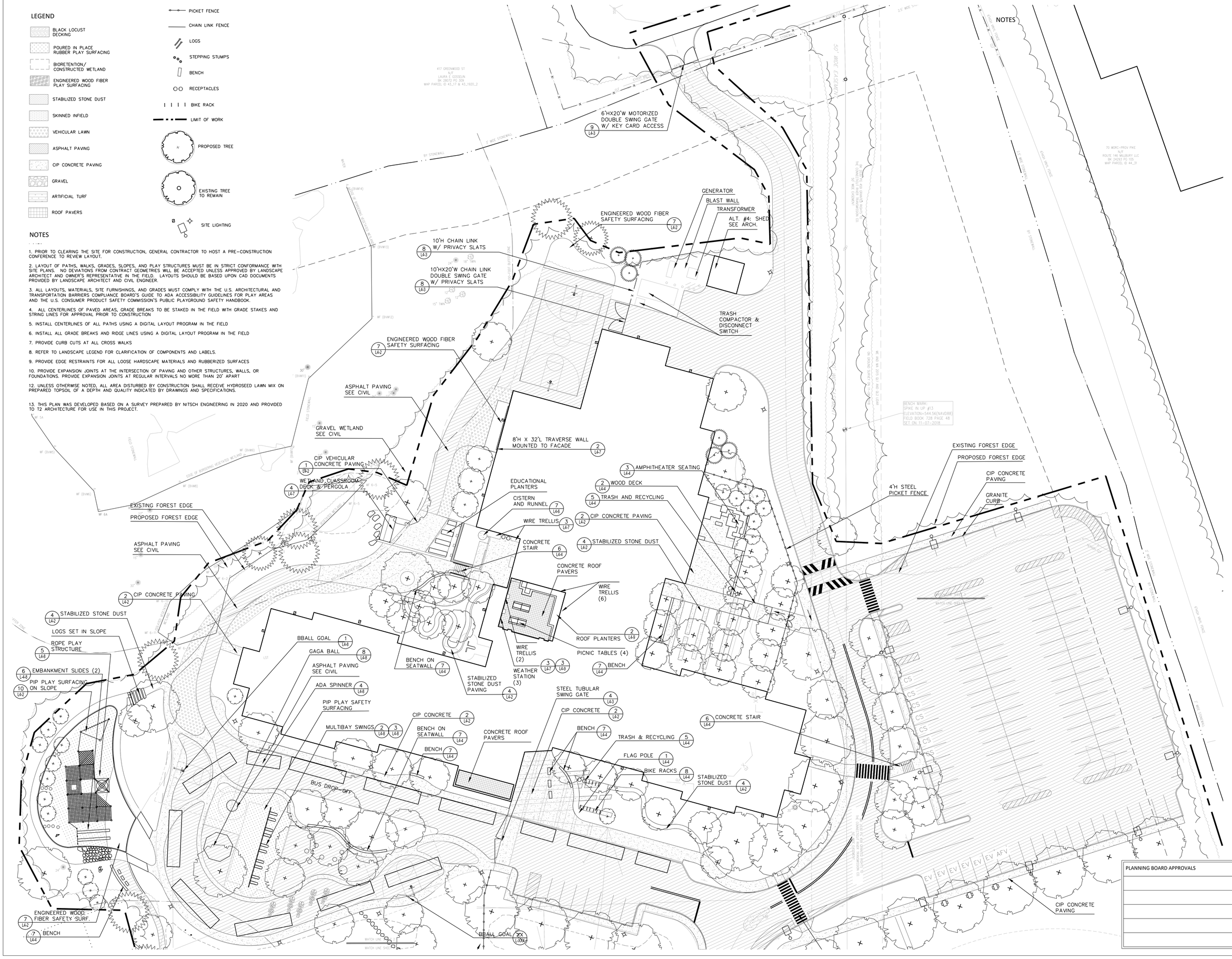
8. REFER TO LANDSCAPE LEGEND FOR CLARIFICATION OF COMPONENTS AND LABELS.
9. PROVIDE EDGE RESTRAINTS FOR ALL LOOSE HARDSCAPE MATERIALS AND RUBBERIZED SURFACES
10. PROVIDE EXPANSION JOINTS AT THE INTERSECTION OF PAVING AND OTHER STRUCTURES, WALLS, OR FOUNDATIONS. PROVIDE EXPANSION JOINTS AT REGULAR INTERVALS NO MORE THAN 20' APART
12. UNLESS OTHERWISE NOTED, ALL AREA DISTURBED BY CONSTRUCTION SHALL RECEIVE HYDROSEED LAWN MIX ON PREPARED TOPSOIL OF A DEPTH AND QUALITY INDICATED BY DRAWINGS AND SPECIFICATIONS.
13. THIS PLAN WAS DEVELOPED BASED ON A SURVEY PREPARED BY NITSCH ENGINEERING IN 2020 AND PROVIDED TO T2 ARCHITECTURE FOR USE IN THIS PROJECT.

NOTES



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REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

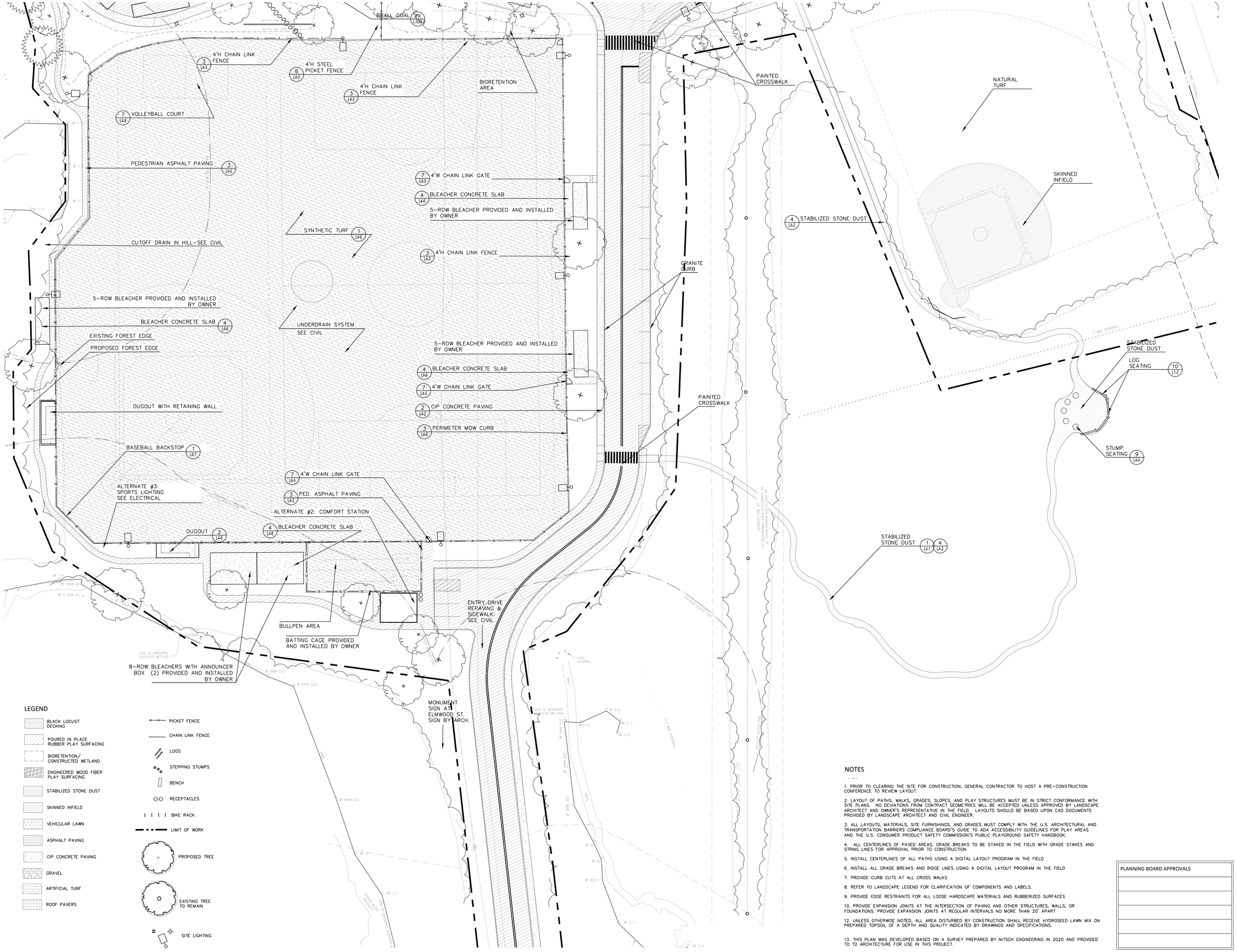
TITLE:

LANDSCAPE LAYOUT (NORTH)

JOB NUMBER: 18-08
DRAWN BY: NB, AG, DS
CHECKED BY: NB
DATE: 05/25/2020
SCALE: 1" = 20'
0" 1"
N

SHEET NO: L1.1

6/1/2020 9:55:38 AM



NOTES

1. PRIOR TO CLEARING THE SITE FOR CONSTRUCTION, GENERAL CONTRACTOR TO HOST A PRE-CONSTRUCTION CONFERENCE TO REVIEW LAYOUT.
2. LAYOUT OF PATHS, WALKS, GRADES, SLOPES, AND PLAY STRUCTURES MUST BE IN STRICT CONFORMANCE WITH SITE PLANS. NO DEVIATIONS FROM CONTRACT GEOMETRIES WILL BE ACCEPTED UNLESS APPROVED BY LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IN THE FIELD. LAYOUTS SHOULD BE BASED UPON CAD DOCUMENTS PROVIDED BY LANDSCAPE ARCHITECT AND CIVIL ENGINEER.
3. ALL LAYOUTS, MATERIALS, SITE FURNISHINGS, AND GRADES MUST COMPLY WITH THE U.S. ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD'S GUIDE TO ADA ACCESSIBILITY GUIDELINES FOR PLAY AREAS AND THE U.S. CONSUMER PRODUCT SAFETY COMMISSION'S PUBLIC PLAYGROUND SAFETY HANDBOOK.
4. ALL CENTERLINES OF PAVED AREAS, GRADE BREAKS TO BE STAKED IN THE FIELD WITH GRADE STAKES AND STRING LINES FOR APPROVAL PRIOR TO CONSTRUCTION
5. INSTALL CENTERLINES OF ALL PATHS USING A DIGITAL LAYOUT PROGRAM IN THE FIELD
6. INSTALL ALL GRADE BREAKS AND RIDGE LINES USING A DIGITAL LAYOUT PROGRAM IN THE FIELD
7. PROVIDE CURB CUTS AT ALL CROSS WALKS
8. REFER TO LANDSCAPE LEGEND FOR CLARIFICATION OF COMPONENTS AND LABELS.
9. PROVIDE EDGE RESTRAINTS FOR ALL LOOSE HARDSCAPE MATERIALS AND RUBBERIZED SURFACES
10. PROVIDE EXPANSION JOINTS AT THE INTERSECTION OF PAVING AND OTHER STRUCTURES, WALLS, OR FOUNDATIONS. PROVIDE EXPANSION JOINTS AT REGULAR INTERVALS NO MORE THAN 20' APART
12. UNLESS OTHERWISE NOTED, ALL AREA DISTURBED BY CONSTRUCTION SHALL RECEIVE HYDROSEED LAWN MIX ON PREPARED TOPSOIL OF A DEPTH AND QUALITY INDICATED BY DRAWINGS AND SPECIFICATIONS.
13. THIS PLAN WAS DEVELOPED BASED ON A SURVEY PREPARED BY NITSCH ENGINEERING IN 2020 AND PROVIDED TO T2 ARCHITECTURE FOR USE IN THIS PROJECT.

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REVISIONS:

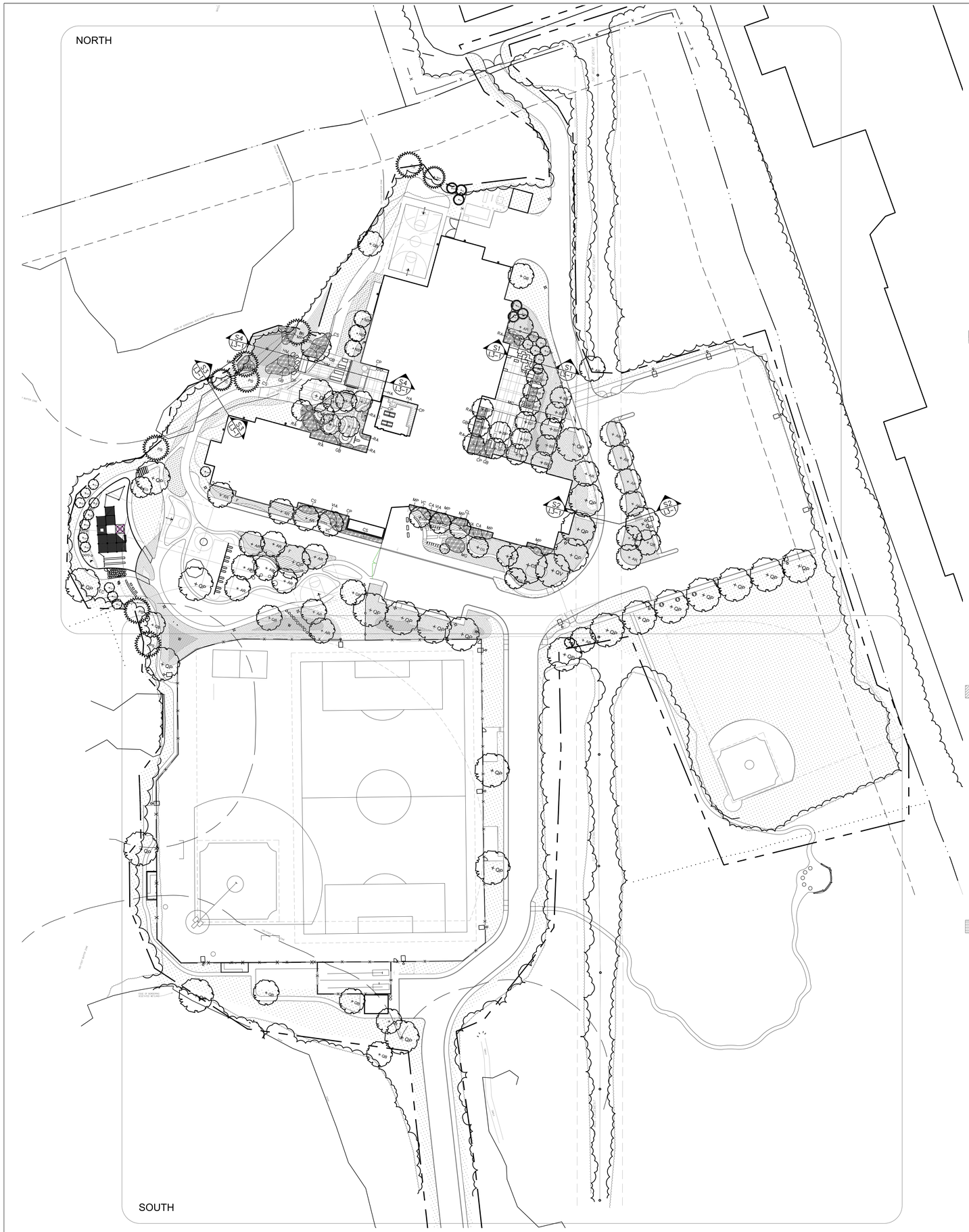
No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
LANDSCAPE LAYOUT (SOUTH)

JOB NUMBER: 18-08
DRAWN BY: NB, AG, DS
CHECKED BY: NB
DATE: 05/25/2020
SCALE: 1" = 20'
SHEET NO: L1.2

5/7/2020 9:33:30 AM



PLANTING SCHEDULE

TREES

QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	CONDITION	SPACING
16	BP	Betula populifolia 'white spire'	Whitespire gray birch	2–3" cal.	B & B	AS SHOWN
6	JV	Juniperus virginiana	Eastern red cedar	1.5" cal.	B & B	AS SHOWN
3	NS	Nyssa sylvatica	Black gum	3"–3.5" cal.	B & B	AS SHOWN
6	PS	Pinus strobus	Eastern white pine	2"–3" cal.	B & B	AS SHOWN
11	CF	Cornus florida	Flowering dogwood	1.5" cal.	B & B	AS SHOWN
25	AR	Acer rubrum	Red maple	3"–3.5" cal.	B & B	AS SHOWN
11	AA	Amelanchier arborea	Serviceberry	1.5" cal.	B & B	AS SHOWN
28	QP	Quercus palustris	Pin oak	3"–3.5" cal.	B & B	AS SHOWN
9	QB	Quercus bicolor	Swamp white oak	1.5" cal.	B & B	AS SHOWN
x	QR	Quercus rubra	Northern red oak	3"–3.5" cal.	B & B	AS SHOWN
1	QV	Quercus velutina	Black oak	3"–3.5" cal.	B & B	AS SHOWN
3	TC	Tsuga canadensis	Eastern hemlock	2"–3" cal.	B & B	AS SHOWN
8	PT	Populus tremuloides	Quaking aspen	1.5" cal.	B & B	AS SHOWN
1	PD	Populus deltoides	Cottonwood	2"–3" cal.	B & B	AS SHOWN
4	CO	Carya ovata	Shagbark hickory	2"–3" cal.	B & B	AS SHOWN
3	CG	Carya glabra	Pignut hickory	2"–3" cal.	B & B	AS SHOWN
1	CD	Castanea spp. (hybrid)	Hybrid Chestnut	3"–3.5" cal.	B & B	AS SHOWN

SHRUB & GROUNDCOVER

QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	CONDITION	SPACING
137	CP	Comptonia peregrina	Sweet fern	1 gal.	Container	36" O.C.
3	CL	Callicarpa americana	Beautyberry	2 gal.	Container	36" O.C.
28	CA	Clethra alnifolia	Sweet pepperbush	2 gal.	Container	36" O.C.
7	HV	Hamamelis virginiana	Common witch hazel	5 gal.	Container	As shown
96	CS	Cornus sericea 'Kelseyi'	Kelsey's Dwarf Red Osier Dogwood	2 gal.	Container	36" O.C.
86	RA	Rhus aromatica 'Grow Low'	'Grow Low' Fragrant Sumac	2 gal.	Container	48" O.C.
66	MR	Mitchella repens	Partridgeberry	1 gal.	Container	24" O.C.
32	MG	Myrica gale	Sweet Gale	5 gal.	Container	48" O.C.
65	MP	Myrica pennsylvanica	Bayberry	5 gal.	Container	48" O.C.
19	HM	Hibiscus moscheutos	Swamp rose mallow	5 gal.	Container	36" O.C.
13	VC	Vaccinium corymbosum	Highbush blueberry	2 gal.	Container	36" O.C.
28	VA	Vaccinium angustifolium	Lowbush blueberry	2 gal.	Container	24" O.C.
146	GB	Gaylussia baccata	Black huckleberry	2 gal.	Container	24" O.C.
23	VIA	Viburnum acerifolium	Maple–leaved viburnum	2 gal.	Container	36" O.C.

W

WETLAND HYDROSEED MIX:
- FOX SEDGE (CAREX VULPINOIDEA)
- LURID SEDGE (CAREX LURIDA)
- BLUNT BROOM SEDGE (CAREX SCOPARIA)
- BLUE VERVAIN (VERBENA HASTATA)
- FOWL BLUEGRASS (POA PALUSTRIS)
- HOP SEDGE (CAREX LUPULINA)
- GREEN BULRUSH (SCIRPUS ATROVIRENS)
- CREEPING SPIKE RUSH (ELEOCHARIS PALUSTRIS)
- FRINGED SEDGE (CAREX CRINITA)
- SOFT RUSH (JUNCUS EFFUSUS)
- SPOTTED JOE PYE WEED (EUPATORIUM MACULATUM)
- RATTLESNAKE GRASS (GLYCERIA CANADENSIS)
- SWAMP ASTER (ASTER PUNICEUS)
- BLUEFLAG (IRIS VERSICOLOR)
- SWAMP MILKWEED (ASCLEPIAS INCARNATA)
- SQUARE STEMMED MONKEY FLOWER (MIMULUS RINGENS).

LAWN HYNDROSEED MIX SPECIES:
- TALL FESCUE (FESTUCA ARUNDINACEA)
- PERENNIAL RYE (LOLIUM PERENNE)
- KENTUCKY BLUEGRASS (POA PRATENSIS).
- INTERMEDIATE RYE (PANTERRA RYE) IF INSTALLED IN SUMMER

FLOWER MEADOW SEED MIX:
- LITTLE BLUESTEM (SCHIZACHYRIUM SCOPARIUM)
- RED FESCUE (FESTUCA RUBRA)
- INDIAN GRASS (SORGHASTRUM NUTANS)
- PARTRIDGE PEA (CHAMAECRISTA FASCICULATA)
- CANADA WILD RYE (ELYMUS CANADENSIS)
- RIVERBANK WILD RYE (ELYMUS RIPARIUS)
- BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA)
- BLACK EYED SUSAN (RUDBECKIA HIRTA)
- LANCE LEAVED COREOPSIS (COREOPSIS LANCEOLATA)
- OX EYE SUNFLOWER (HELIOPSIS HELIANTHOIDES)
- COMMON SNEEZEWEED (HELENIUM AUTUMNALE)
- MARSH BLAZING STAR (LIATRIS SPICATA)
- BLUE VERVAIN (VERBENA HASTATA)
- NEW ENGLAND ASTER (ASTER NOVAE–ANGLIAE)
- WILD BLUE FALSE INDIGO (BAPTISIA AUSTRALIS)
- HOLLOWSTEM JOE PYE WEED (EUPATORIUM FISTULOSUM/ EUTROCHIUM FISTULOSUM)
- EARLY GOLDENROD (SOLIDAGO JUNCEA).

VEHICULAR LAWN: SEE LAWN FOR SPECIES

GRASSES AND PERENNIALS – SUN MIX (2000 SF)

%	QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	CONDITION	SPACING
10	99	–	Sorghastrum nutans	Indian grass	1 gal.	Container	18" O.C.
10	222	–	Eragrostis spectabilis	Purple love grass	1 gal.	Container	12" O.C.
10	222	–	Schizachyrium scoparium	Little bluestem	1 gal.	Container	12" O.C.
10	222	–	Aralia nudicalis	Wild sarsaparilla	1 gal.	Container	12" O.C.
5	111	–	Asclepias quadrifolia	Four–leaved milkweed	1 gal.	Container	12" O.C.
5	111	–	Anemone americana	Blunt–lobed hepatica	1 gal.	Container	12" O.C.
5	111	–	Lupinus perennis	Sundial lupine	1 gal.	Container	12" O.C.
10	222	–	Liatris spicata	Common blazing–star	1 gal.	Container	18" O.C.
5	49	–	Gaillardia aristata	Blanketflower	1 gal.	Container	18" O.C.
10	99	–	Echinacea purpurea	Purple coneflower	1 gal.	Container	18" O.C.
5	28	–	Achillea millefollium 'paprika'	Yarrow	1 gal.	Container	24" O.C.
5	28	–	Solidago speciosa	Showy goldenrod	1 gal.	Container	24" O.C.
5	28	–	Baptisia sphaerocarpa	Yellow wild indigo	1 gal.	Container	24" O.C.
5	20	–	Vernonia fasciculata	Iron weed	1 gal.	Container	36" O.C.

GRASSES AND PERENNIALS – SHADE MIX (3220 SF)

%	QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	CONDITION	SPACING
10	358	–	Carex pensylvanica	Pennsylvania sedge	1 gal.	Container	12" O.C.
10	358	–	Carex vulpinoidea	Fox sedge	1 gal.	Container	12" O.C.
10	358	–	Carex lurida	Lurid sedge	1 gal.	Container	12" O.C.
10	358	–	Uvularia perfoliata	Perfoliate bellwort	1 gal.	Container	12" O.C.
5	179	–	Lobelia cardinalis	Cardinal flower	1 gal.	Container	12" O.C.
10	89	–	Onoclea sensibilis	Sensitive fern	1 gal.	Container	24" O.C.
10	358	–	Dryopteris marginalis	Marginal wood fern	1 gal.	Container	12" O.C.
10	89	–	Pteridum aquilinum	Bracken fern	1 gal.	Container	24" O.C.
10	89	–	Digitalis purpurea	Common foxglove	1 gal.	Container	24" O.C.
5	179	–	Dennstaedtia punctilobula	Hay scented fern	1 gal.	Container	12" O.C.

ROOF GARDEN VINES

QUANTITY	SYMBOL	SCIENTIFIC NAME	COMMON NAME	SIZE	CONDITION	SPACING
16	Cp	Clematis virginiana	Virgin's bower	2 GAL	CONTAINER	As shown
7	Ha	Hydrangea anomala	Climbing hydrangea	2 GAL	CONTAINER	As shown

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TITLE:

PLANTING KEY PLAN & SCHEDULE

JOB NUMBER: 18-08

DRAWN BY: NB, AG, DS

CHECKED BY: PF

DATE: 05/25/2020

SCALE: 1" = 40'

SHEET NO: L1.3

5/5/2020 9:33:28 AM

NORTH

LEGEND

SEE L1.3 FOR PLANT SCHEDULE

- WETLAND HYDROSEED MIX
- LAWN HYNDROSEED MIX
- FLOWER MEADOW SEED MIX
- SHRUB AND GROUNDCOVER PLANTING AREA
- GRASSES AND PERENNIALS CONTAINER PLANTS – SUN MIX
- GRASSES AND PERENNIALS CONTAINER PLANTS – SHADE MIX
- PROPOSED TREE, TYP.
- SHRUB, TYP.

50' WIDE EASEMENT

50' WIDE EASEMENT

100-FOOT BUFFER ZONE

100-FOOT BUFFER ZONE

EDGE OF BORDERING VEGETATED WETLAND

EDGE OF BORDERING VEGETATED WETLAND

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MILLBURY, MA 01527

PLANNING BOARD SUBMISSION

TITLE:

PLANTING PLAN (NORTH)

JOB NUMBER: 18-08

DRAWN BY: NB, AG

CHECKED BY: PF

DATE: 05/25/2020

SCALE: 1" = 20'

SHEET NO: L1.4

5/25/2020 9:59:30 AM

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RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
PLANTING PLAN (SOUTH)

JOB NUMBER: 18-08
DRAWN BY: NB, AG
CHECKED BY: PF
DATE: 05/25/2020
SCALE: 1" = 20'
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SHEET NO: L1.5

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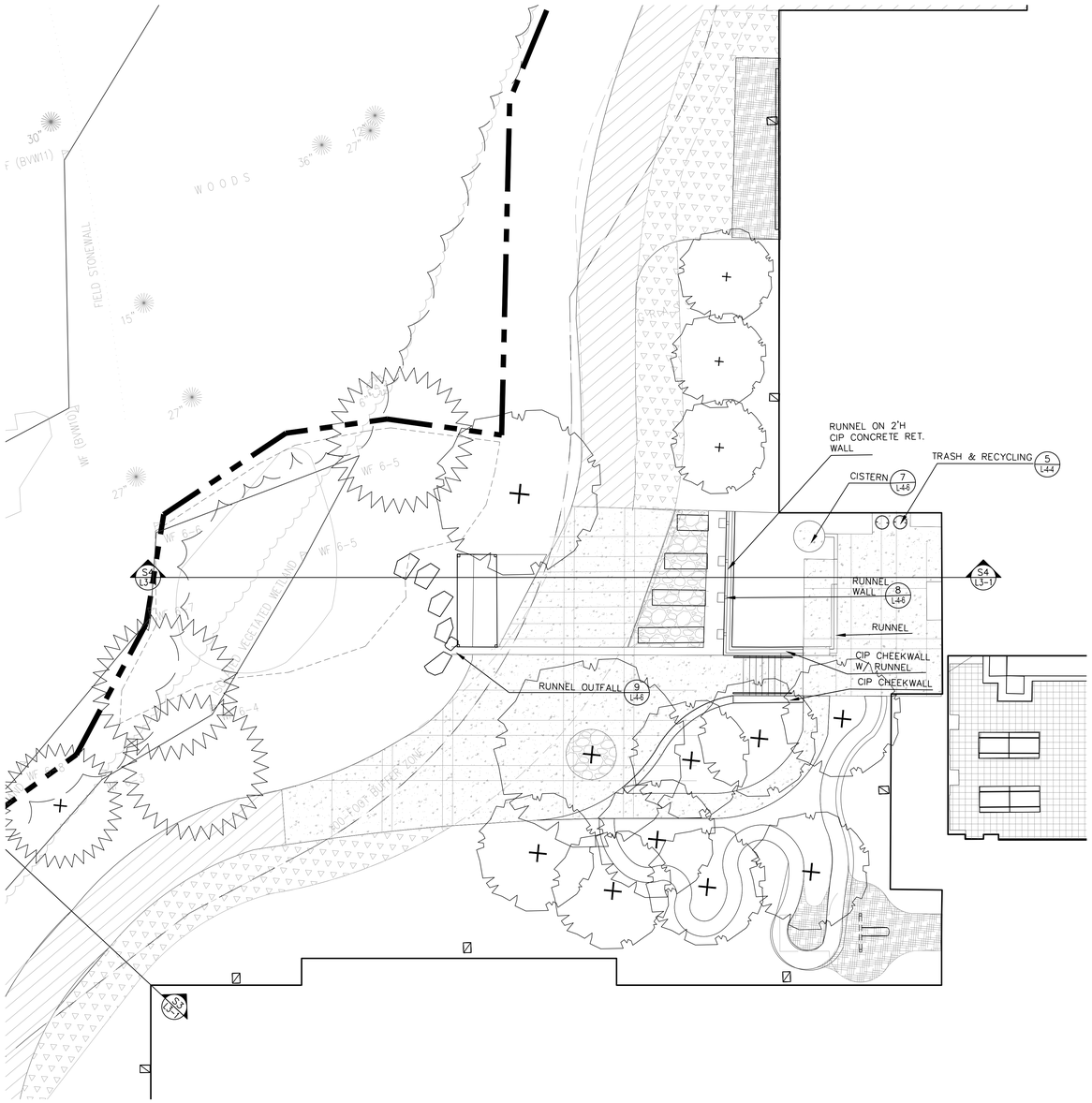
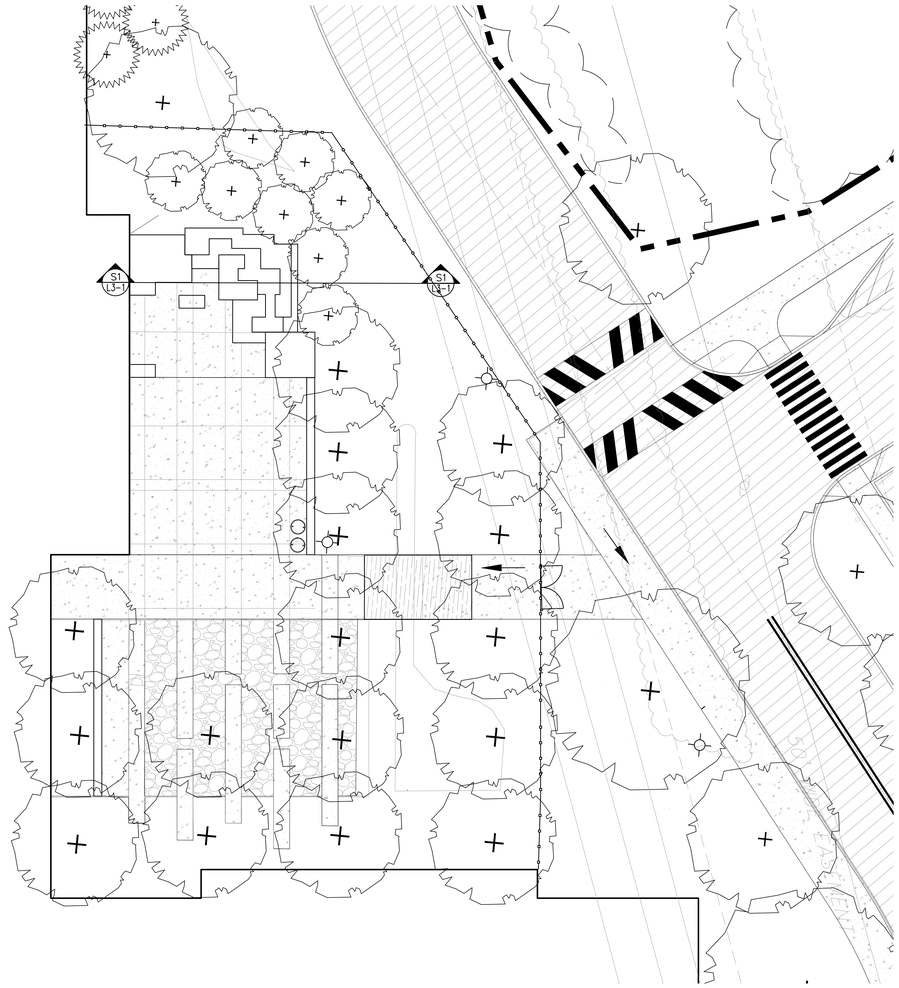
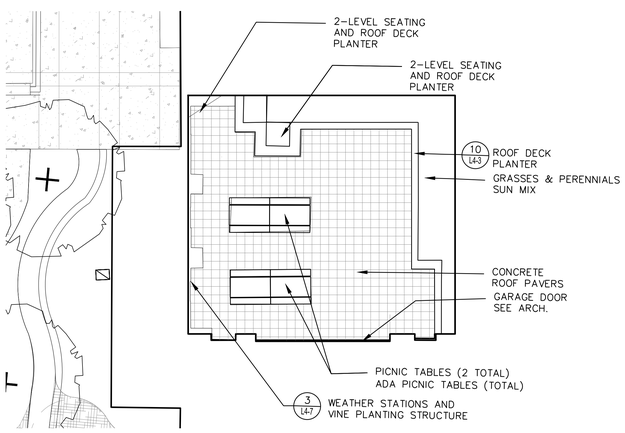


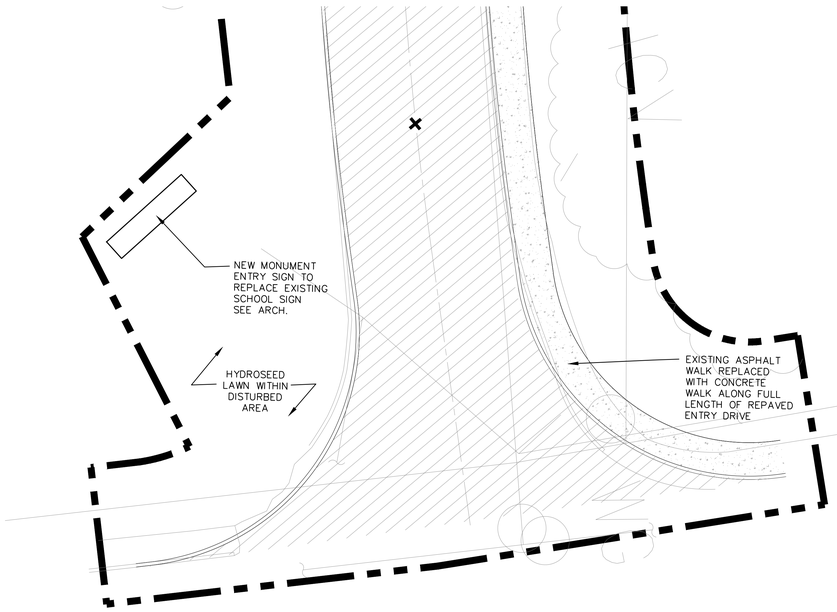
1 DETAIL PLAN: OUTDOOR CLASSROOM WEST
SCALE: 1" = 10'-0"



2 DETAIL PLAN: OUTDOOR CLASSROOM EAST
SCALE: 1" = 10'-0"



3 DETAIL PLAN: ROOFTOP CLASSROOM
SCALE: 1/8" = 1'



4 DETAIL PLAN: SITE ENTRY
SCALE: 1/8" = 1'

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RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527
PLANNING BOARD SUBMISSION

TITLE:
LANDSCAPE LAYOUT DETAIL PLANS

JOB NUMBER: 18-08
DRAWN BY: NB, AG, DS
CHECKED BY: NB
DATE: 05/25/2020
SCALE: 1" = 10'
0" 1"
SHEET NO: L2.1

5/25/2020 9:30:39 AM

1 DETAIL PLAN: PLAYGROUND
SCALE: 1" = 10'-0"

N

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PLANNING BOARD SUBMISSION

TITLE:

LANDSCAPE LAYOUT DETAIL PLANS

JOB NUMBER: 18-08

DRAWN BY: NB, AG, DS

CHECKED BY: NB

DATE: 05/25/2020

SCALE: 1" = 10'
0" 1"

SHEET NO: L2.2

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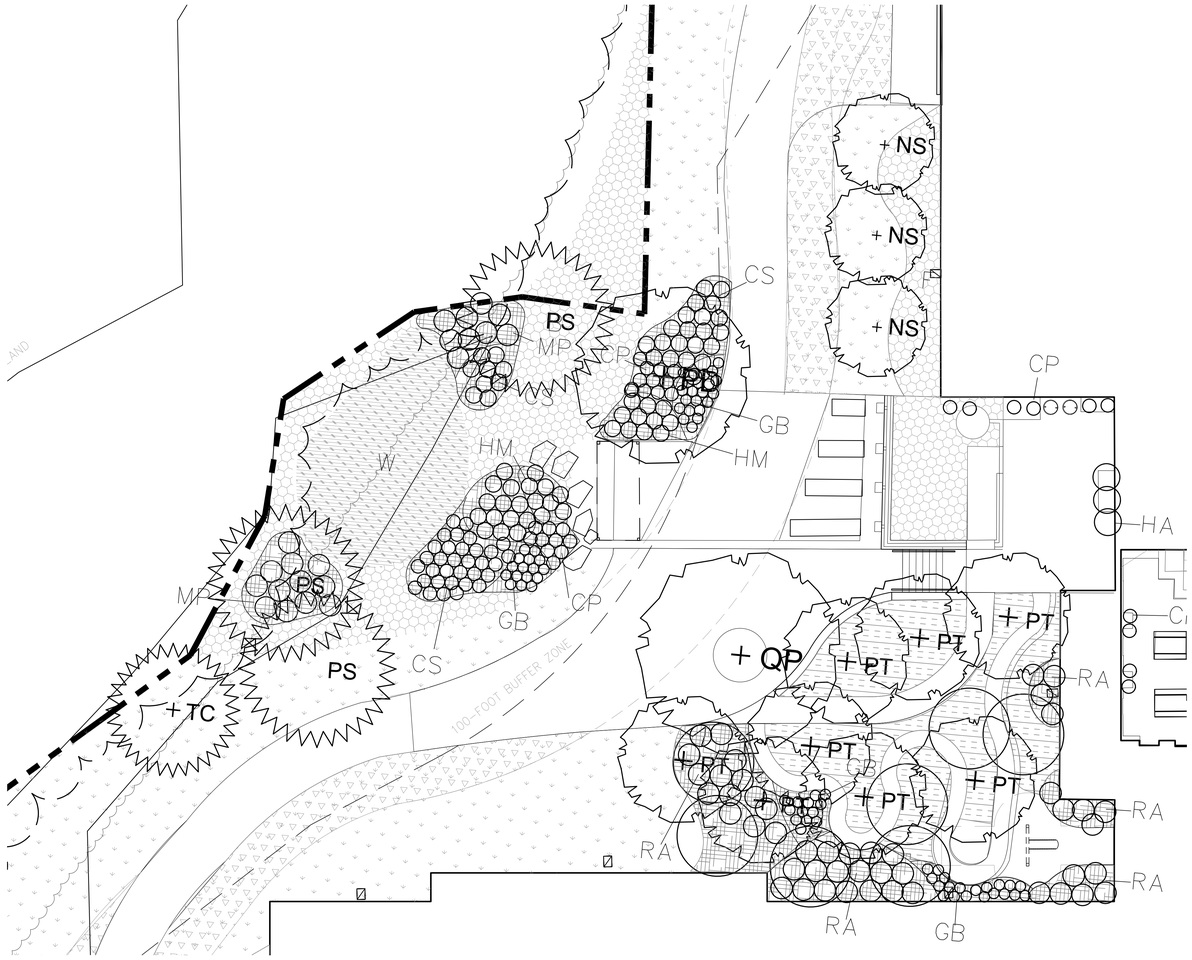

1 DETAIL PLAN: OUTDOOR CLASSROOM & RESTORATION AREA
SCALE: 1" = 10'-0" (SEE L1.3 FOR PLANTING SCHEDULE)

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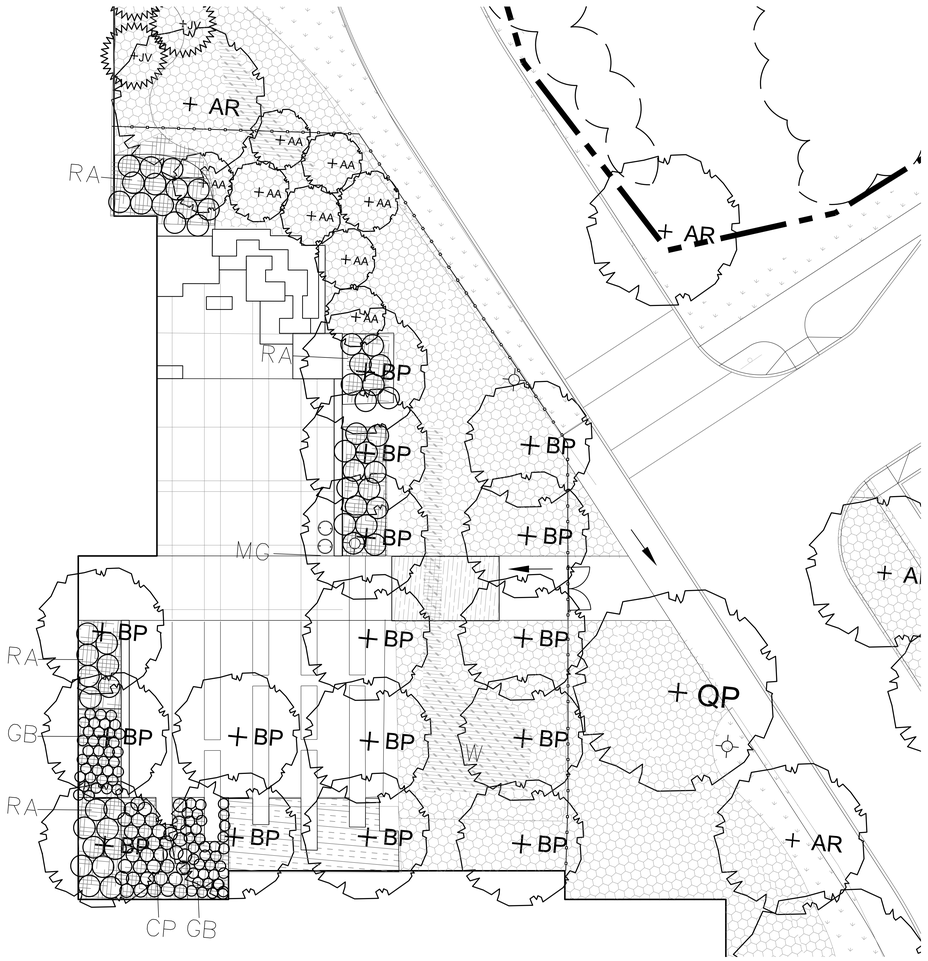

3 DETAIL PLAN: RAIN GARDEN & OUTDOOR CLASSROOM
SCALE: 1" = 10'-0" (SEE L1.3 FOR PLANTING SCHEDULE)

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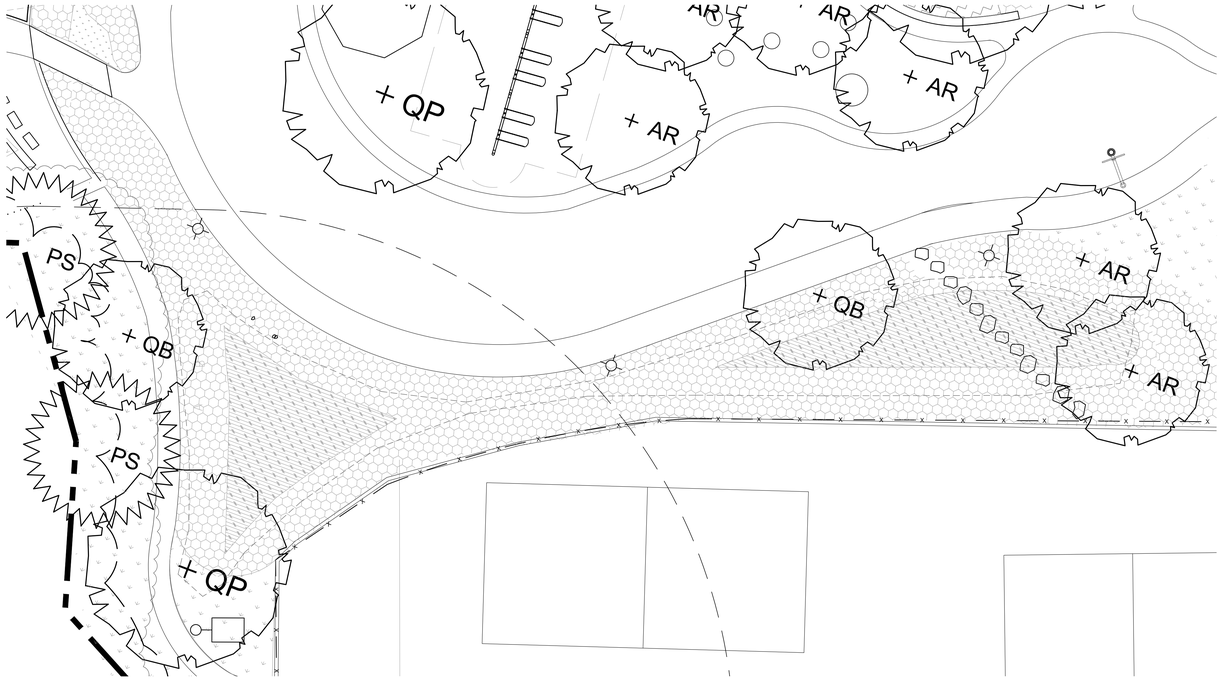

2 DETAIL PLAN: BIORETENTION AREA #2
SCALE: 1" = 10'-0" (SEE L1.3 FOR PLANTING SCHEDULE)

N

4 DETAIL PLAN: BIORETENTION AREA #1
SCALE: 1" = 10'-0" (SEE L1.3 FOR PLANTING SCHEDULE)

N

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PLANTING DETAIL PLANS

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DATE: 05/25/2020
SCALE: 1" = 10'
0" 1"
SHEET NO: L2.3

6/3/2020 9:59:39 AM

1 LC1.0 SITE LIGHTING CALCULATION PLAN
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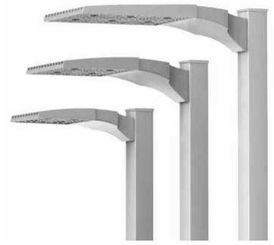

2 LC1.0 FIXTURE TYPE "SL1/3" & "SL1/4HS"
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3 LC1.0 FIXTURE TYPE "SL1/PT"
SCALE: NONE

4 LC1.0 FIXTURE TYPES "SL4" & "SL5"
SCALE: NONE

5 LC1.0 FIXTURE TYPE "SL7"
SCALE: NONE

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	MODEL / SERIES	MTG.	VOLTAGE	LIGHTING SOURCE			DESCRIPTION
					LUMENS	WATTS	SOURCE/CCT	
SL1/3	US ARCHITECTURAL	RZR-PLED-III-M-40LED-350MA-NW-277-*-TPR7	POLE	277 VOLT	6408	42	LED/4000K	POLE FIXTURE W/ TYPE III DISTRIBUTION MOUNTED ON 17.5' ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS, *=COLOR BY ARCH. PROVIDE WITH 7 PIN RECEPTACLE
SL1/4HS	US ARCHITECTURAL	RZR-PLED-IV-FT-40LED-350MA-NW-277-*-TPR7	POLE	277 VOLT	6408	42	LED/4000K	POLE FIXTURE W/ TYPE IV FORWARD DISTRIBUTION MOUNTED ON 17.5' ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS, *=COLOR BY ARCH. PROVIDE WITH 7 PIN RECEPTACLE
SL1/PT	US ARCHITECTURAL	RZR-PTY-PLED-V-SQ-W-40LED-350MA-NW-277-*-TPR7	POLE	277 VOLT	6408	45	LED/4000K	POLE FIXTURE W/ TYPE V WIDE DISTRIBUTION MOUNTED ON 12' ROUND ALUMINUM TAPERED POLE RATED FOR 110MPH WIND CONDITIONS, *=COLOR BY ARCH. PROVIDE WITH 7 PIN RECEPTACLE
SL4	US ARCHITECTURAL	RZR-WM1-PLED-IV-20LED-350MA-NW-277-*	W	277 VOLT	2900	22	LED/4000K	LED WALL MOUNTED FIXTURE WITH TYPE IV DISTRIBUTION AND 0-10V DIMMING CAPABILITY IP65 RATED FOR USE IN WET LOCATION. *=COLOR BY ARCH.
SL5	US ARCHITECTURAL	RZR-WM1-PLED-III-20LED-350MA-NW-277-*	W	277 VOLT	2900	22	LED/4000K	LED WALL MOUNTED FIXTURE WITH TYPE III DISTRIBUTION AND 0-10V DIMMING CAPABILITY IP65 RATED FOR USE IN WET LOCATION. *=COLOR BY ARCH.
SL7	I2SYSTEMS	V4295-A-4-6-BBD-*	S	UNIVERSAL	451/W	5W/FT	LED/4000K	IP-65, SLIM PROFILE, LED ARCHITECTURAL STRIP FIXTURE WITH REMOTE DRIVER WITH ADJUSTABLE BRACKET

PLANNING BOARD APPROVALS

Turowski2 Architecture

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Marion, MA 02738

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STAMP:

REVISIONS:

No.	Description	Date

RAYMOND E. SHAW ELEMENTARY SCHOOL
58 ELMWOOD ST,
MILLBURY, MA 01527

PLANNING BOARD SUBMISSION

TITLE:
SITE
LIGHTING
CALCULATION

JOB NUMBER: 18-08
DRAWN BY: JR
CHECKED BY: DMP
DATE: 5/25//2020
SCALE: 1" = 40'-0"
SHEET NO: LC1.0

5/27/2020 10:06:49 AM