

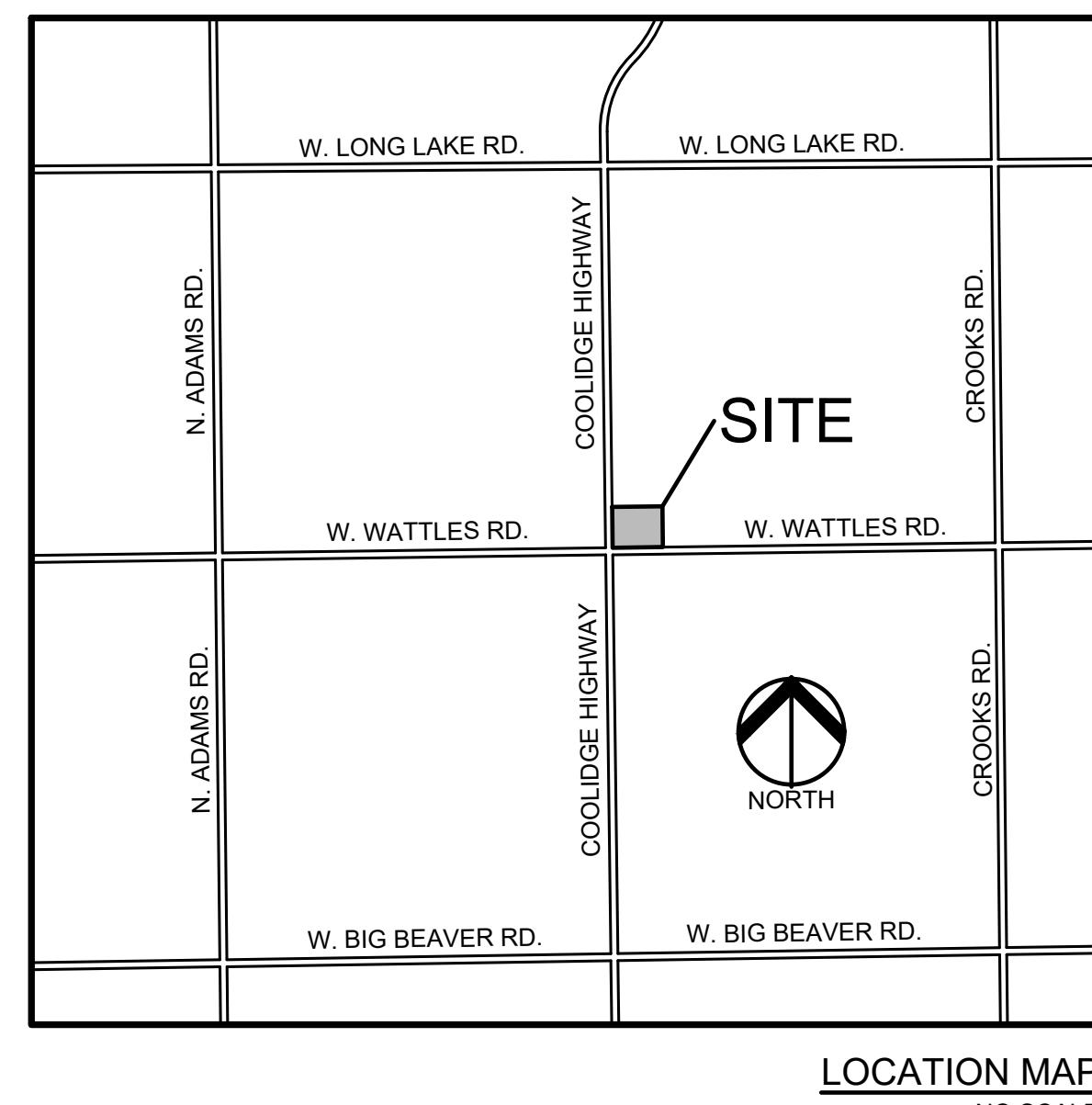
CONSTRUCTION PLANS

NOOR INTERNATIONAL ACADEMY

4050 COOLIDGE HIGHWAY

CITY OF TROY, OAKLAND COUNTY, MICHIGAN

PERMIT / APPROVAL SUMMARY		
DATE SUBMITTED	DATE APPROVED	PERMIT / APPROVAL
		CITY OF TROY ENGINEERING APPROVAL
		CITY OF TROY SOIL EROSION PERMIT
		EGLE WATER MAIN PERMIT



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F	STANDARD SOIL EROSION CONTROL DETAILS
G	STANDARD STORM SEWER DETAILS
H	STANDARD LOCAL ROAD PAVING DETAILS
I	O.C.W.R.C. STANDARD DETAILS
J	SOIL EROSION AND SEDIMENTATION CONTROL DETAILS

1 OF 1

DESIGN TEAM

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PEA
GROUP

REVISIONS		
DESCRIPTION	DATE	
ISSUED FOR PERMITS	8/17/2022	



LEGAL DESCRIPTION
 THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF OAKLAND, CITY OF TROY, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:
 PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, DESCRIBED AS BEGINNING AT THE POINT IN THE WEST LINE OF SAME SECTION 17, THENCE DUE NORTH 03° 23' 00" FEET; THENCE DUE EAST 00° 00' 00" FEET; THENCE DUE SOUTH 09° 44' 00" FEET; THENCE DUE NORTH ON SECTION LINE 330.0 FEET TO A POINT; THENCE SOUTH 09° 44' 00" EAST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.0 FEET; THENCE NORTH 09° 44' 00" WEST 889.10 FEET TO THE POINT OF BEGINNING, EXCEPT PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS NORTH 02° 57' 04" WEST 551.00 FEET ALONG THE WEST LINE OF SECTION 17 AND NORTH 87° 19' 00" EAST 60.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 17; THENCE NORTH 02° 57' 04" WEST 551.00 FEET; THENCE NORTH 09° 44' 00" EAST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.0 FEET; THENCE SOUTH 09° 44' 00" EAST 831.00 FEET; THENCE SOUTH 02° 57' 04" EAST 330.0 FEET; THENCE SOUTH 07° 19' 00" WEST 396.00 FEET; THENCE NORTH 02° 57' 04" WEST 318.00 FEET; THENCE SOUTH 07° 19' 00" WEST 435.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET DEED TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 123, OAKLAND COUNTY RECORDS, AND EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET DEED TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 132, OAKLAND COUNTY RECORDS.

TOPOGRAPHIC AND BOUNDARY SURVEY DISCLAIMER:
 TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES WAS PROVIDED BY KEM-TEC
 PEA, INC. WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS/OMISSIONS RESULTING FROM SURVEY INACCURACIES.

BENCHMARKS

JDM200 - ARROW ON TOP OF HYDRANT,
 LOCATED APPROXIMATELY 120' SOUTH OF THE
 NORTHWEST CORNER OF SUBJECT PARCEL.
 ELEVATION = 810.40'

GENERAL DEMOLITION NOTES:

THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT:

- ALL MATERIAL TO BE REMOVED, WHETHER SPECIFICALLY NOTED IN THE PLANS OR NOT, SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A LEGAL MANNER. NO ON-SITE BURY OR BURN PITS SHALL BE ALLOWED.
- ALL DEMOLITION WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES.
- STAGING/PHASING OF DEMOLITION AND CONSTRUCTION IS TO BE COORDINATED WITH THE OWNER AND THE CONTRACTOR PRIOR TO CONSTRUCTION.
- SPECIFIC DEMOLITION ITEMS HAVE BEEN INDICATED ON THE PLANS AS A GUIDE FOR THE ENTHUSIASM OF THE WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY THAT THESE ITEMS SHALL BE COMPLETELY REMOVED BY THE CONTRACTOR ABOVE AND BELOW GROUND, UNLESS SPECIFICALLY NOTED OTHERWISE, AND THAT DEMOLITION WILL INCLUDE BUT NOT NECESSARILY BE LIMITED TO THESE ITEMS. CONTRACTOR SHALL VISIT SITE TO VERIFY EXISTING CONDITIONS AND EXTENTS OF THE DEMOLITION SITE THAT WILL BE REQUIRED PRIOR TO SUBMITTING A BID.
- REMOVE ALL STRUCTURES DESIGNED FOR REMOVAL ACCORDING TO THE DEMOLITION PLAN. THIS INCLUDES FOUNDATIONS, FOOTINGS, FOUNDATION WALLS, FLOOR SLABS, UNDERGROUND UTILITIES, CONCRETE, ASPHALT, TREES, ETC.
- REFER TO LANDSCAPE PLANS FOR TREE PROTECTION DETAILS.
- THE CONTRACTOR SHALL, AS A MINIMUM, PROVIDE TREE PROTECTION FENCING AROUND EXISTING TREES TO BE SAVED THAT ARE WITHIN 15 FEET OF CONSTRUCTION ACTIVITIES AND AS INDICATED IN THE PLANS OR PER LOCAL AGENCY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP, NOISE, DUST CONTROL, STREET SWEEPING AND HOURS OF OPERATION IN ACCORDANCE WITH THE LOCAL CODES.
- THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, MARKINGS, LIGHTS AND OTHER TRAFFIC CONTROL DEVICES TO PROTECT THE WORK ZONE AND SAFELY MAINTAIN TRAFFIC PER AGENCY REQUIREMENTS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL CONTACT THE APPROPRIATE UTILITY COMPANIES TO CONFIRM THAT UTILITY LEADS HAVE BEEN TAKEN OUT OF SERVICE PRIOR TO DEMOLITION.
- ALL BUILDING GAS LEADS, METERS AND ASSOCIATED EQUIPMENT SHALL BE REMOVED AS SHOWN ON THE PLANS. COORDINATE ALL ASSOCIATED WORK WITH THE APPROPRIATE UTILITY COMPANY.
- REMOVE ALL OVERHEAD AND UNDERGROUND ELECTRICAL LINES WITHIN THE AREA OF THE PROPERTY. COORDINATE ALL PLANNED REMOVALS WITH THE APPROPRIATE COMPANY (NOTE: PHONE AND CABLE T.V. SERVICES MAY ALSO BE LOCATED ON OVERHEAD LINES).
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND REPLACEMENT OF SIGNS AND SUPPORTS IN THE WORK AREA AS NECESSARY TO FACILITATE CONSTRUCTION. SIGNS SHALL BE PREPARED FOR STORE OR FOR USE AS SPECIFIED IN THE PLANS OR AS REQUIRED BY THE AGENCY OF JURISDICTION. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SIGNS AND SUPPORTS AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

DEMOLITION LEGEND:

ITEM TO BE PROTECTED	
ITEM TO BE REMOVED	
CURB/WALL REMOVAL	
CONCRETE PAVEMENT AND SIDEWALK REMOVAL	
AREA OR ITEMS TO BE REMOVED	
UTILITY REMOVAL	
ASPHALT REMOVAL	
TREE REMOVAL	
SAWCUT LINE	



t: 844.813.2949
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LUCAS DRIESINGER
 License No. 6201309300
 LICENSED PROFESSIONAL ENGINEER



0 15 30 60
 SCALE: 1" = 30'



CAUTION!
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE EXACT LOCATION OF THESE UTILITIES. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
HAMADEH EDUCATIONAL SERVICES
 P.O BOX 1440
 DEARBORN, MI 48121

PROJECT TITLE
NOOR INTERNATIONAL ACADEMY
 4050 COOLIDGE HWY.
 CITY OF TROY, OAKLAND COUNTY, MICHIGAN

REVISIONS

ISSUED FOR PERMITS 8/17/22

ORIGINAL ISSUE DATE: AUGUST 17, 2022

DRAWING TITLE: DEMOLITION PLAN

PEA JOB NO. 2021-0688
 P.M. JPB
 DN. AJM
 DES. LGD
 DRAWING NUMBER:

C-2.0

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PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, DESCRIBED AS BEGINNING AT THE POINT IN THE WEST LINE OF SAME SECTION 17, THENCE DUE NORTH 03° 23' 00" FEET; THENCE DUE WEST 330.0 FEET; THENCE DUE SOUTH 02° 57' 00" FEET; THENCE DUE NORTH ON SECTION LINE 330.0 FEET TO A POINT, THENCE SOUTH 09° 44' 00" EAST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.0 FEET; THENCE NORTH 09° 44' 00" WEST 889.10 FEET TO THE POINT OF BEGINNING, EXCEPT PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS NORTH 02° 57' 04" WEST 551.00 FEET ALONG THE WEST LINE OF SECTION 17 AND NORTH 87° 19' 00" EAST 60.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 17; TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS NORTH 04° 12' 30" WEST 551.00 FEET; THENCE NORTH 09° 44' 00" WEST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.00 FEET; THENCE NORTH 09° 44' 00" WEST 889.10 FEET TO THE POINT OF BEGINNING, EXCEPT PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS NORTH 02° 57' 04" WEST 551.00 FEET ALONG THE WEST LINE OF SECTION 17 AND NORTH 87° 19' 00" EAST 60.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 17; TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS NORTH 04° 12' 30" WEST 551.00 FEET; THENCE NORTH 09° 44' 00" WEST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.00 FEET; THENCE NORTH 09° 44' 00" WEST 889.10 FEET TO THE POINT OF BEGINNING, EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET OF THE NORTH 04° 12' 30" WEST 551.00 FEET DEeded TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 123, OAKLAND COUNTY RECORDS, AND EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET OF THE NORTH 04° 12' 30" WEST 551.00 FEET DEeded TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 132, OAKLAND COUNTY RECORDS.

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TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES WAS PROVIDED BY KEM-TEC
PEA, INC. WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS/OMISSIONS RESULTING FROM SURVEY INACCURACIES.

BENCHMARKS
JDN200 - ARROW ON TOP OF HYDRANT, LOCATED APPROXIMATELY 120' S OF THE NORTHWEST CORNER OF SUBJECT PARCEL.
ELEVATION = 810.40'

GENERAL NOTES:
THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.
1. ALL CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT OSHA, MDOT AND MUNICIPALITY STANDARDS AND REGULATIONS.
2. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.
3. THE CONTRACTOR SHALL CONTACT THE ENGINEER SHOULD THEY ENCOUNTER ANY DESIGN ISSUES DURING CONSTRUCTION. IF THE CONTRACTOR MAKES DESIGN MODIFICATIONS WITHOUT THE WRITTEN DIRECTION OF THE DESIGN ENGINEER, THE CONTRACTOR DOES SO AT HIS OWN RISK.
4. ALL NECESSARY PERMITS, TESTING, BONDS AND INSURANCES ETC., SHALL BE PAID FOR BY THE CONTRACTOR. THE OWNER SHALL PAY FOR ALL CITY INSPECTION FEES.
5. THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE 811/ONE CALL UTILITY LOCATING CENTER, THE CITY ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION 3 BUSINESS DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION. IF NO NOTIFICATION IS GIVEN AND DAMAGE RESULTS, SAID DAMAGE WILL BE REPAIRED AT SOLE EXPENSE OF THE CONTRACTOR. IF EXISTING UTILITY LINES ARE ENCOUNTERED THAT CONFLICT IN LOCATION WITH NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
6. CONTRACTOR SHALL VERIFY THAT THE PLANS AND SPECIFICATIONS ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHERMORE, VERIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN APPROVED. ALL ITEMS CONSTRUCTED BY THE CONTRACTOR PRIOR TO RECEIVING FINAL APPROVAL, HAVING TO BE ADJUSTED OR RE-DONE, SHALL BE AT THE CONTRACTOR'S EXPENSE. SHOULD THE CONTRACTOR ENCOUNTER A CONFLICT BETWEEN THESE PLANS AND/OR SPECIFICATIONS, THEY SHALL SEEK CLARIFICATION IN WRITING FROM THE ENGINEER BEFORE COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
7. ANY WORK WITHIN THE STREET OR HIGHWAY RIGHTS-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION AND SHALL NOT BEGIN UNTIL ALL NECESSARY PERMITS HAVE BEEN ISSUED FOR THE WORK.
8. ALL PROPERTIES OR FACILITIES IN THE SURROUNDING AREAS, PUBLIC OR PRIVATE, DESTROYED OR OTHERWISE DISTURBED DUE TO CONSTRUCTION, SHALL BE REPLACED AND/OR RESTORED TO THE ORIGINAL CONDITION BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BARRICADES, SIGNAGE, LIGHTS AND TRAFFIC CONTROL DEVICES TO PROTECT THE WORK AND SAFELY MAINTAIN TRAFFIC IN ACCORDANCE WITH LOCAL REQUIREMENTS AND THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION). THE DESIGN ENGINEER, OWNER, CITY AND STATE SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
10. THE USE OF CRUSHED CONCRETE IS PROHIBITED ON THE PROJECT WITHIN 100 FEET OF ANY WATER COURSE (STREAM, RIVER, COUNTY DRAIN, ETC.) AND LAKE, REGARDLESS OF THE APPLICATION OR LOCATION OF THE WATER COURSE OR LAKE RELATIVE TO THE PROJECT LIMITS.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST THE TOP OF ALL EXISTING AND PROPOSED STRUCTURES (MANHOLES, CATCH BASINS, INLETS, GATE WELLS ETC.) WITHIN GRADED AND /OR PAVED AREAS TO FINAL GRADE SHOWN ON THE PLANS. ALL SUCH ADJUSTMENTS SHALL BE INCIDENTAL TO THE JOB AND WILL NOT BE PAID FOR SEPARATELY.

PAVING NOTES:
1. IN AREAS WHERE NEW PAVEMENTS ARE BEING CONSTRUCTED, THE TOPSOIL AND SOIL CONTAINING ORGANIC MATTER SHALL BE REMOVED PRIOR TO PAVEMENT CONSTRUCTION.
2. REFER TO ARCHITECTURAL PLANS FOR DETAILS OF FROST SLAB AT EXTERIOR BUILDING DOORS.
3. CONSTRUCTION TRAFFIC SHOULD BE MINIMIZED ON THE NEW PAVEMENT. IF CONSTRUCTION TRAFFIC IS ANTICIPATED ON THE PAVEMENT STRUCTURE, THE INITIAL LIFT THICKNESS COULD BE INCREASED AND PLACEMENT OF THE FINAL LIFT COULD BE DELAYED UNTIL THE MAJORITY OF THE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED. THIS ACTION WILL ALLOW REPAIR OF LOCALIZED FAILURE, IF ANY DOES OCCUR, AS WELL AS REDUCE LOAD DAMAGE ON THE PAVEMENT SYSTEM.
4. ALL EXPANSION JOINTS AND CONCRETE PAVEMENT JOINTS TO BE SEALED.
5. CONCRETE PAVEMENT JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION:
5.1. WHERE PROPOSED CONCRETE ABUTS A STRUCTURE, PROVIDE A MINIMUM 1/2" EXPANSION JOINT. THE JOINT FILLER BOARD MUST BE AT LEAST THE FULL DEPTH OF THE CONCRETE AND HELD DOWN A 1/2" TO ALLOW FOR SEALING.
5.2. WHERE PROPOSED CONCRETE ABUTS EXISTING CONCRETE OR IN BETWEEN POOLS OF PROPOSED CONCRETE (THE PROPOSED PAVEMENT), PROVIDE 5/8 DOWELS EVERY 30" CENTER TO CENTER HALF WAY ALONG THE THICKNESS OF THE CONCRETE. ALTERNATE DOWELS SIZES AND SPACING MUST BE APPROVED THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
5.3. WHERE PROPOSED CONCRETE ABUTS EXISTING OR PROPOSED SIDEWALK OR CURBING, PROVIDE A MINIMUM 1/2" EXPANSION JOINT.
5.4. CONTROL, LONGITUDINAL AND /OR TRANSVERSE JOINTS SHALL BE PLACED TO PROVIDE PANELS WITHIN THE PAVEMENT AS SQUARE AS POSSIBLE WITH THE FOLLOWING MAXIMUM SPACING PARAMETERS:
5.4.1. 6-INCH THICK CONCRETE PAVEMENT: 12' X 12'
5.4.2. 8-INCH THICK CONCRETE PAVEMENT: 15' X 15'
5.5. CONCRETE SIDEWALKS AND PANELS MAY REQUIRE THE USE OF REINFORCING MESH OR FIBER MESH AS DETERMINED BY THE ENGINEER. THE USE OF MESH MUST BE APPROVED THE ENGINEER PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
5.6. IF A JOINT PLATE IS NOT PROVIDED IN THE PLANS, THE CONTRACTOR SHALL SUBMIT ONE TO THE ENGINEER FOR REVIEW PRIOR TO COMMENCING WORK AND VIA THE SUBMITTAL PROCESS.
6. CONCRETE CURBING JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION
6.1. JOINTS WHEN ADJACENT TO ASPHALT PAVEMENT
6.1.1. PLACE CONTRACTION JOINTS AT 10' INTERVALS
6.1.2. PLACE 1/2" EXPANSION JOINT AT CATCH BASINS, EXISTING AND PROPOSED SIDEWALK OR EXISTING CURBING.
6.1.3. PLACE 1/2" EXPANSION JOINT AT SPECIFIC POINTS, INTERSECTIONS OR ONE OF THE END OF RADIUS LOCATIONS IN A CURVE
6.1.3.2. AT 400' MAXIMUM INTERVALS ON STRAIGHT RUNS
6.1.3.3. AT THE END OF RADIUS AT OPPOSITE ENDS IN A CURBED LANDSCAPE ISLAND
6.2. JOINTS WHEN TIED TO CONCRETE PAVEMENT
6.2.1. PLACE CONTRACTION JOINTS OPPOSITE ALL TRANSVERSE CONTRACTION JOINTS IN PAVEMENT
6.2.2. PLACE 1/2" EXPANSION JOINT AT CATCH BASINS, EXISTING AND PROPOSED SIDEWALK OR EXISTING CURBING
6.2.3. PLACE 1/2" EXPANSION JOINT AT MAXIMUM OF 100' SPACING
6.3. IN BETWEEN POOLS OF PROPOSED CONCRETE CURBING (CONSTRUCTION JOINT):
6.3.1. CARRY THE REBAR CONTINUOUSLY BETWEEN POOLS
6.3.2. IF THE REBAR IS NOT LONG ENOUGH TO CARRY CONTINUOUSLY, THEN TIE TWO PIECES OF REBAR PER THE LATEST MDOT SPECIFICATIONS
7. CONCRETE SIDEWALK JOINTING - UNLESS SHOWN OTHERWISE IN THE PLANS OR REQUIRED BY THE AUTHORITY HAVING JURISDICTION
7.1. PLACE TRANSVERSE CONTRACTION JOINTS EQUAL TO THE WIDTH OF THE WALK WHEN WIDTH IS LESS THAN 8'
7.2. PLACE TRANSVERSE AND LONGITUDINAL CONTRACTION JOINTS EQUAL TO 1/2 THE WIDTH OF THE WALK WHEN WIDTH IS EQUAL TO OR GREATER THAN 8'
7.3. PLACE 1" EXPANSION JOINT WHERE ABUTTING SIDEWALK RAMP AND/OR RADIUS IN INTERSECTION
7.4. PLACE TRANSVERSE 1/2" EXPANSION JOINT AT MAXIMUM OF 100' SPACING
7.5. PLACE 1/2" EXPANSION JOINT WHEN ABUTTING A FIXED STRUCTURE, OTHER PAVEMENT (CONCRETE PAVEMENT AND DRIVE APPROACHES), UTILITY STRUCTURES, LIGHT POLE BASES AND COLUMNS

PROJECT 52021-0201-0050 COOLIDGE - PAVING CONSTRUCTION (C-3) SITE 1 8/15/2022 PLOT DATE: 8/15/2022

10:47 AM BT/Lucas Drawings

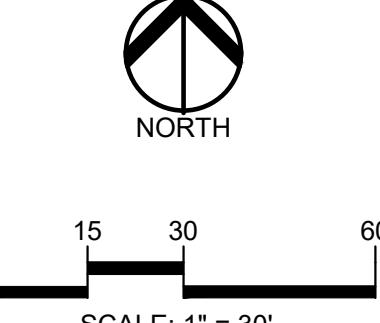
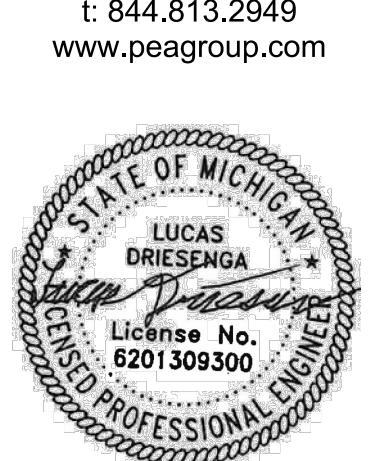
SITE AREA: 3.18 ACRES (138,328 SF.) NET AND GROSS
ZONING: R-1B ONE-FAMILY RESIDENTIAL
PROPOSED USE: EDUCATIONAL (36,269 SF)
BUILDING INFORMATION:
MAXIMUM ALLOWABLE BUILDING HEIGHT = 30 FT.(2.5 STORIES)
PROPOSED BUILDING HEIGHT = 30 FT.
BUILDING FOOTPRINT AREA = 28,240 SF.
BUILDING LOT COVERAGE = 28,240/ 138,328 = 20%
SETBACK REQUIREMENTS: REQUIRED: PROPOSED:
FRONT (WEST) 18' 0" 18' 0"
SIDE (NORTH) 18' 0" 58.65'
SIDE (SOUTH) 18' 0" 100.65'
REAR (EAST) 45' 0" 46.28'
PARKING CALCULATIONS:
PRIMARY/ SECONDARY SCHOOL = 1 SPACE PER TEACHER, EMPLOYEE, OR ADMINISTRATOR IN ADDITION TO THE REQUIREMENTS FOR SEPARATE AUDITORIUM OR STADIUM SEATING
NUMBER OF TEACHERS, EMPLOYEES, AND ADMINISTRATORS = 34
CHILD CARE AND PRESCHOOLS = 2 SPACES + 1 ADDITIONAL SPACE FOR EACH 8 CHILDREN OF LICENSED AUTHORIZED CAPACITY.
NUMBER OF CHILDREN = 30
TOTAL PARKING REQUIRED = (34+1)+2+(30/8) = 40 SPACES REQUIRED
TOTAL PROPOSED PARKING SPACES = 54 SPACES INC. 3 BARRIER FREE SPACES

GENERAL NOTES:
THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT.
1. ALL DIMENSIONS SHOWN ARE TO BACK OF CURB FACE OF SIDEWALK, OUTSIDE FACE OF BUILDING PROPERTY LINE CENTER OF MANHOLE/CATCH BASIN OR CENTERLINE OF PIPE UNLESS OTHERWISE NOTED.
2. REFER TO NOTES & DETAILS SHEET FOR ON-SITE PAVING DETAILS.

SIDEWALK RAMP LEGEND:
SIDEWALK RAMP 'TYPE R' ⓘ
SIDEWALK RAMP 'TYPE F' ⓘ
SIDEWALK RAMP 'TYPE P' ⓘ
CURB DROP ONLY ⓘ
REFER TO LATEST MDOT R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS

SIGN LEGEND:
'NO PARKING FIRE LANE' SIGN ⓘ
'STOP' SIGN ⓘ
'BARRIER FREE PARKING' SIGN ⓘ
'VAN ACCESSIBLE' SIGN ⓘ
'CROSSWALK' SIGN ⓘ
REFER TO DETAIL SHEET FOR SIGN DETAILS

LEGEND:
CONCRETE PAVEMENT ⓘ
ASPHALT PAVEMENT ⓘ
GRAVEL ⓘ
WETLAND ⓘ
CONCRETE CURB AND GUTTER ⓘ
REVERSE GUTTER PAN ⓘ
SETBACK LINE ⓘ
SIGN ⓘ
LIGHTPOLE ⓘ
FENCE ⓘ
GUARD RAIL ⓘ



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HAMADEH EDUCATIONAL SERVICES
P.O. BOX 1440
DEARBORN, MI 48121

PROJECT TITLE
NOOR INTERNATIONAL ACADEMY
4050 COOLIDGE HWY.
CITY OF TROY, OAKLAND COUNTY, MICHIGAN

REVISIONS
ISSUED FOR PERMITS 8/17/22

ORIGINAL ISSUE DATE:
AUGUST 17, 2022

DRAWING TITLE
DIMENSION AND PAVING PLAN

PEA JOB NO. 2021-0688
P.M. JPB
DN. AJM
DES. LGD
DRAWING NUMBER:

C-3.0

LEGAL DESCRIPTION
 THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF OAKLAND, CITY OF TROY, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:
 PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, DESCRIBED AS BEGINNING AT A POINT IN THE WEST LINE OF SAME SECTION 17, THENCE DUE NORTH 03° 00' 00" WEST 233.0 FEET; THENCE DUE WEST 090.30 FEET; THENCE DUE SOUTH 090.30 FEET; THENCE DUE NORTH 090.30 FEET; THENCE DUE EAST 090.30 FEET; THENCE DUE NORTH ON SECTION LINE 330.0 FEET TO A POINT; THENCE SOUTH 09° 44' 00" EAST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.0 FEET; THENCE NORTH 09° 44' 00" WEST 889.10 FEET TO THE POINT OF BEGINNING, EXCEPT PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS NORTH 02° 57' 04" WEST 551.00 FEET ALONG THE WEST LINE OF SECTION 17 AND NORTH 87° 19' 00" EAST 60.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 17; TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN; THENCE NORTH 02° 57' 04" WEST 11.00 FEET; THENCE NORTH 02° 57' 04" WEST 330.00 FEET; THENCE SOUTH 02° 57' 04" EAST 330.00 FEET; THENCE SOUTH 07° 19' 00" EAST 831.00 FEET; THENCE NORTH 02° 57' 04" EAST 318.00 FEET; THENCE SOUTH 07° 19' 00" WEST 396.00 FEET; THENCE NORTH 02° 57' 04" WEST 318.00 FEET; THENCE SOUTH 07° 19' 00" WEST 435.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET OF THE NORTH 310 FEET DEeded TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 122, OAKLAND COUNTY RECORDS, AND EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET OF THE WEST 310 FEET DEeded TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 132, OAKLAND COUNTY RECORDS.

TOPOGRAPHIC AND BOUNDARY SURVEY DISCLAIMER:
 TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES WAS PROVIDED BY KEM-TEC
 PEA, INC. WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS/OMISSIONS RESULTING FROM SURVEY INACCURACIES.

BENCHMARKS

JPM200 - ARROW ON TOP OF HYDRANT,
 LOCATED APPROXIMATELY 120' SOUTH OF THE
 NORTHWEST CORNER OF SUBJECT PARCEL.
 ELEVATION = 810.40'



0 15 30 60
SCALE: 1" = 30'



CAUTION!!
 THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT DRAWN TO SCALE. APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THESE LOCATIONS. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

CLIENT
HAMADEH EDUCATIONAL SERVICES
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 DEARBORN, MI 48121

PROJECT TITLE
NOOR INTERNATIONAL ACADEMY
 4050 COOLIDGE HWY.
 CITY OF TROY, OAKLAND COUNTY, MICHIGAN

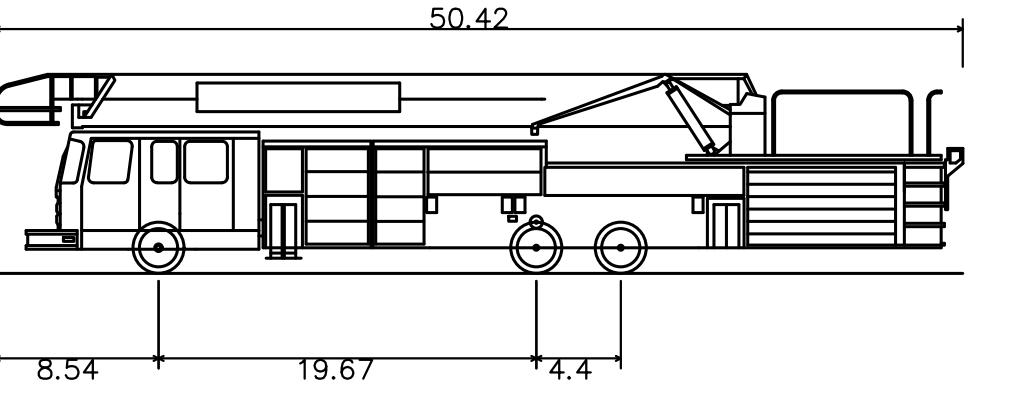
REVISIONS
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ORIGINAL ISSUE DATE:
 JULY 22, 2022

DRAWING TITLE
FIRE TRUCK TURNING PLAN

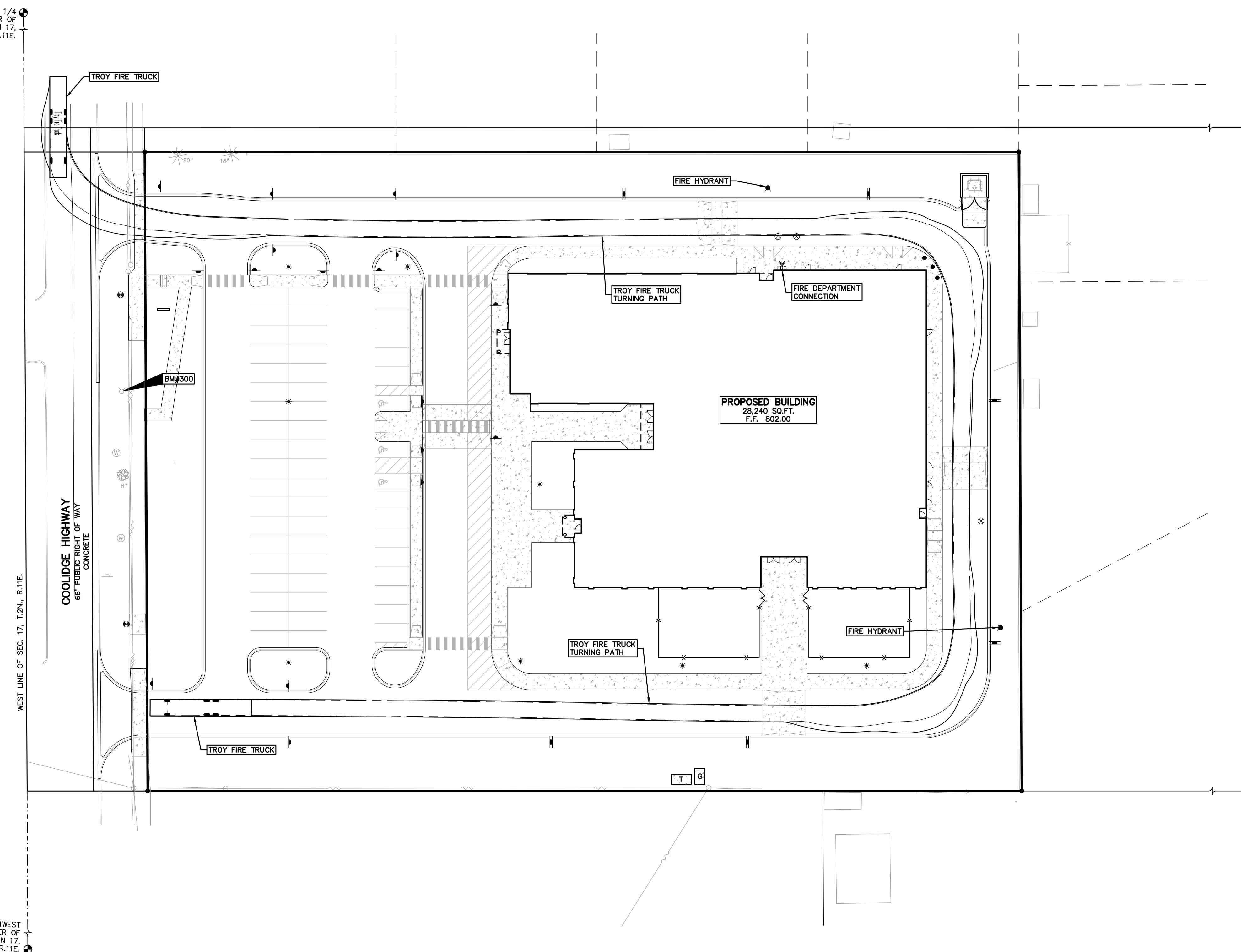
PEA JOB NO. 2021-0688
P.M. JPB
DN. AJM
DES. LGD
DRAWING NUMBER:

C-3.1



Troy Fire Truck

Overall Length	50.420ft
Overall Width	8.330ft
Overall Body Height	10.363ft
Min Body Ground Clearance	0.794ft
Track Width	7.610ft
Lock-to-lock time	5.00s
Max Steering Angle (Virtual)	40.00°





GRADING LEGEND:	
622.50	EXISTING SPOT ELEVATION
670	EXISTING CONTOUR
922	PROPOSED CONTOUR
- - -	PROPOSED REVERSE GUTTER PAN
- - -	PROPOSED RIDGE LINE
- - -	PROPOSED SWALE/DITCH
ABBREVIATIONS:	
T/C	TOP OF CURB
T/P	TOP OF PAVEMENT
T/S	TOP OF SIDEWALK
RIM	RIM ELEVATION
B/W	BOTTOM OF WALL
BENCHMARKS (NAVD 88 DATUM)	
#BM0300	ARROW ON TOP OF HYDRANT, LOCATED APPROXIMATELY 120' S OF THE NORTHWEST CORNER OF SUBJECT PARCEL.
ELEVATION = 810.40'	
SIDEWALK RAMP LEGEND:	
(R)	SIDEWALK RAMP 'TYPE R'
(F)	SIDEWALK RAMP 'TYPE F'
(P)	SIDEWALK RAMP 'TYPE P'
(X)	CURB DROP ONLY
REFER TO LATEST MDOT R-28 STANDARD RAMP AND DETECTABLE WARNING DETAILS	

GENERAL GRADING AND EARTHWORK NOTES:
 THESE NOTES APPLY TO ALL CONSTRUCTION ACTIVITIES ON THIS PROJECT

- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING TREES AND BRUSH AND REMOVE ALL THAT ARE NECESSARY TO GRADE SITE.
- ALL GRADES ARE TO TOP OF PAVEMENT UNLESS OTHERWISE NOTED.
- THE STAGING OF CONSTRUCTION ACTIVITIES SHALL OCCUR ONLY WITHIN THE SITE BOUNDARIES. ANY CONSTRUCTION ACTIVITIES OUTSIDE OF THE SITE BOUNDARIES SHALL BE AT THE SOLE RESPONSIBILITY AND RISK OF THE CONTRACTOR.
- ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL MEET THE REQUIREMENTS OF THE AUTHORIZED PUBLIC AGENCY OF JURISDICTION. AN EROSION CONTROL PERMIT MUST BE SECURED FROM THE CITY OF TROY PRIOR TO CONSTRUCTION.
- ALL EARTHWORK AND GRADING OPERATIONS SHALL BE PERFORMED IN ACCORDANCE WITH THE SOILS INVESTIGATION AND REPORT PERFORMED BY PEA GROUP.
- REFER TO SOIL EROSION CONTROL PLAN FOR ADDITIONAL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND NOTES.
- THE DETENTION BASIN SIDE SLOPES AND ALL SLOPE EXCEEDING 1:6 MUST BE STABILIZED BY SODDING OR BY PLACING A MULCH BLANKET PEGGED IN PLACE OVER SEED.
- ALL DISTURBED AREAS SHALL BE SEDED AND MULCHED OR SODDED IN ACCORDANCE WITH THE LANDSCAPE PLANS. PROVIDE A MINIMUM OF 3" OF TOPSOIL IN THESE AREAS UNLESS OTHERWISE NOTED.
- ON-SITE FILL CAN BE USED IF THE SPECIFIED COMPACTION REQUIREMENTS CAN BE ACHIEVED. IF ON-SITE SOIL IS USED, IT SHOULD BE CLEAN AND FREE OF FROZEN SOIL, ORGANICS, OR OTHER DELETERIOUS MATERIALS.
- THE FINAL SUBGRADE/EXISTING AGGREGATE BASE SHOULD BE THOROUGHLY PROFROLLED USING A FULLY LOADED TANDEM AXLE TRUCK OR FRONT END LOADER UNDER THE OBSERVATION OF A GEOTECHNICAL/PAVEMENT ENGINEER. DO NOT USE A BACKHOE OR DOZER AS THEY CAN DAMAGE MECHANICALLY STABILIZED SOIL. STABILIZED SOIL SHOULD BE REFORCED USING GEOTEXTILE OR REINFORCED AND REPLACED WITH ENGINEERED FILL OR AS dictated BY FIELD CONDITIONS.
- SUBGRADE UNDERCUTTING, INCLUDING BACKFILLING SHALL BE PERFORMED TO REFLECT MATERIALS AVAILABLE TO FRESH HEAVING AND UNSTABILIZED SOIL CONDITIONS. EXCAVATION THAT MAY BE REQUIRED BECAUSE OF THE TOPSOIL IN FILL AREAS OR BELOW SUBGRADE IN CUT AREAS WILL BE CLASSIFIED AS SUBGRADE UNDERCUTTING.
- SUBGRADE UNDERCUTTING SHALL BE PERFORMED WHERE NECESSARY AND THE EXCAVATED MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR. ANY SUBGRADE UNDERCUTTING SHALL BE BACKFILLED AS RECOMMENDED IN THE GEOTECHNICAL ENGINEERING REPORT FOR THE PROJECT.
- ANY SUB-GRADE WATERING REQUIRED TO ACHIEVE REQUIRED DENSITY SHALL BE CONSIDERED INCIDENTAL TO THE JOB.



SCALE: 1" = 20'
811 Know where's below. Call before you dig.

CAUTION!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE INFORMATION PROVIDED. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

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P.O BOX 1440
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PROJECT TITLE
NOOR INTERNATIONAL ACADEMY
4050 COOLIDGE HWY.
CITY OF TROY, OAKLAND COUNTY, MICHIGAN

REVISIONS
ISSUED FOR PERMITS 8/17/22

ORIGINAL ISSUE DATE:
AUGUST 17, 2022

DRAWING TITLE
GRADING PLAN

PEA JOB NO. 2021-0688
P.M. JPB
DN. AJM
DES. LGD
DRAWING NUMBER:

C-4.0

t: 844.813.2949



11

SCALE: 1" = 30'

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

ION!!
TIONS AND ELEVATIONS OF EXISTING UNDERGROUND
AS SHOWN ON THIS DRAWING ARE ONLY
ATE. NO GUARANTEE IS EITHER EXPRESSED OR
EST TO THE COMPLETENESS OR ACCURACY THEREOF.
TRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR
ING THE EXACT UTILITY LOCATIONS AND ELEVATIONS
THE START OF CONSTRUCTION.

**MADEH
EDUCATIONAL
SERVICES**
OX 1440
DRN, MI 48121

JECT TITLE
**OR
TERNATIONAL
ADEMY**
COOLIDGE HWY.
TROY, OAKLAND COUNTY, MICHIGAN

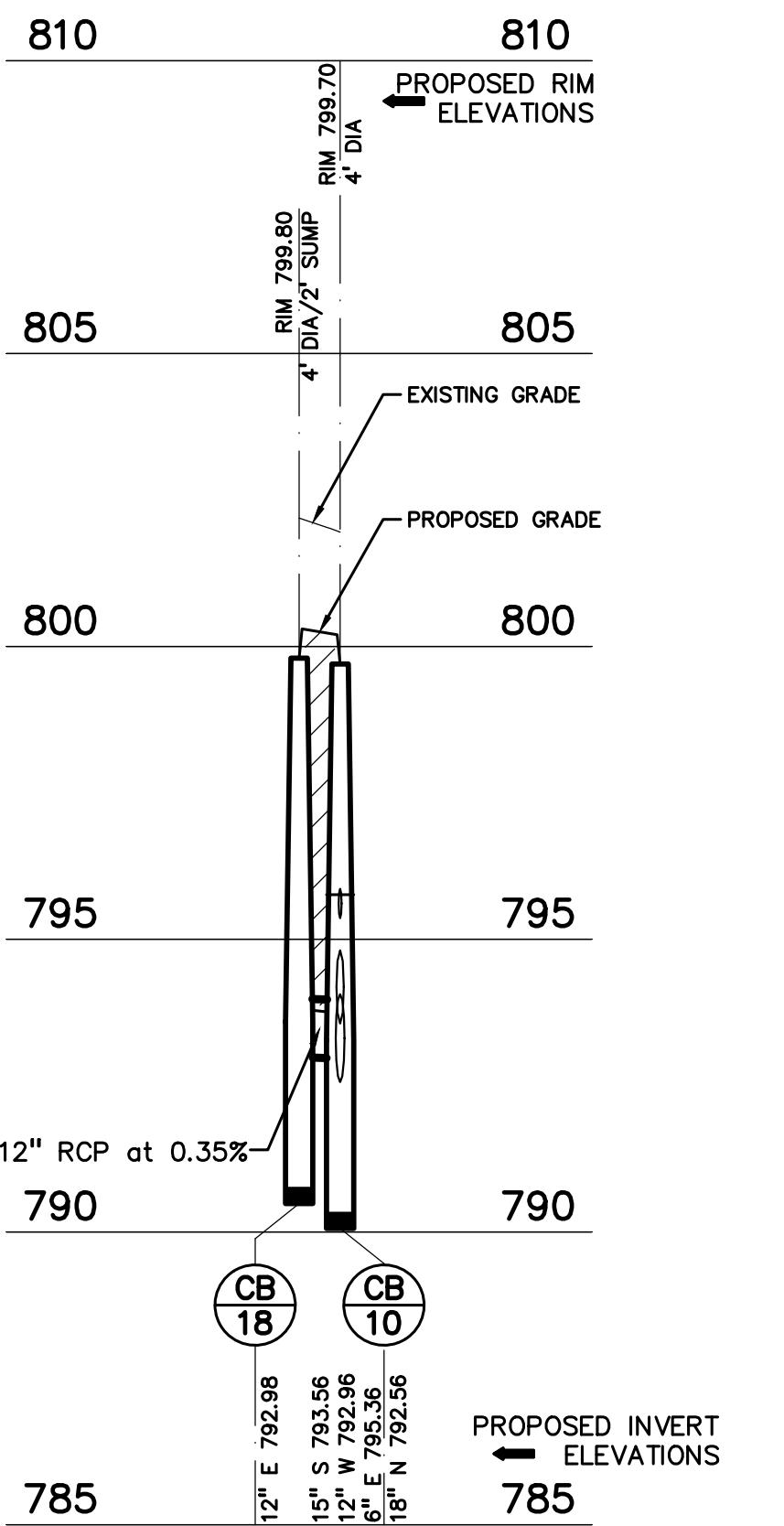
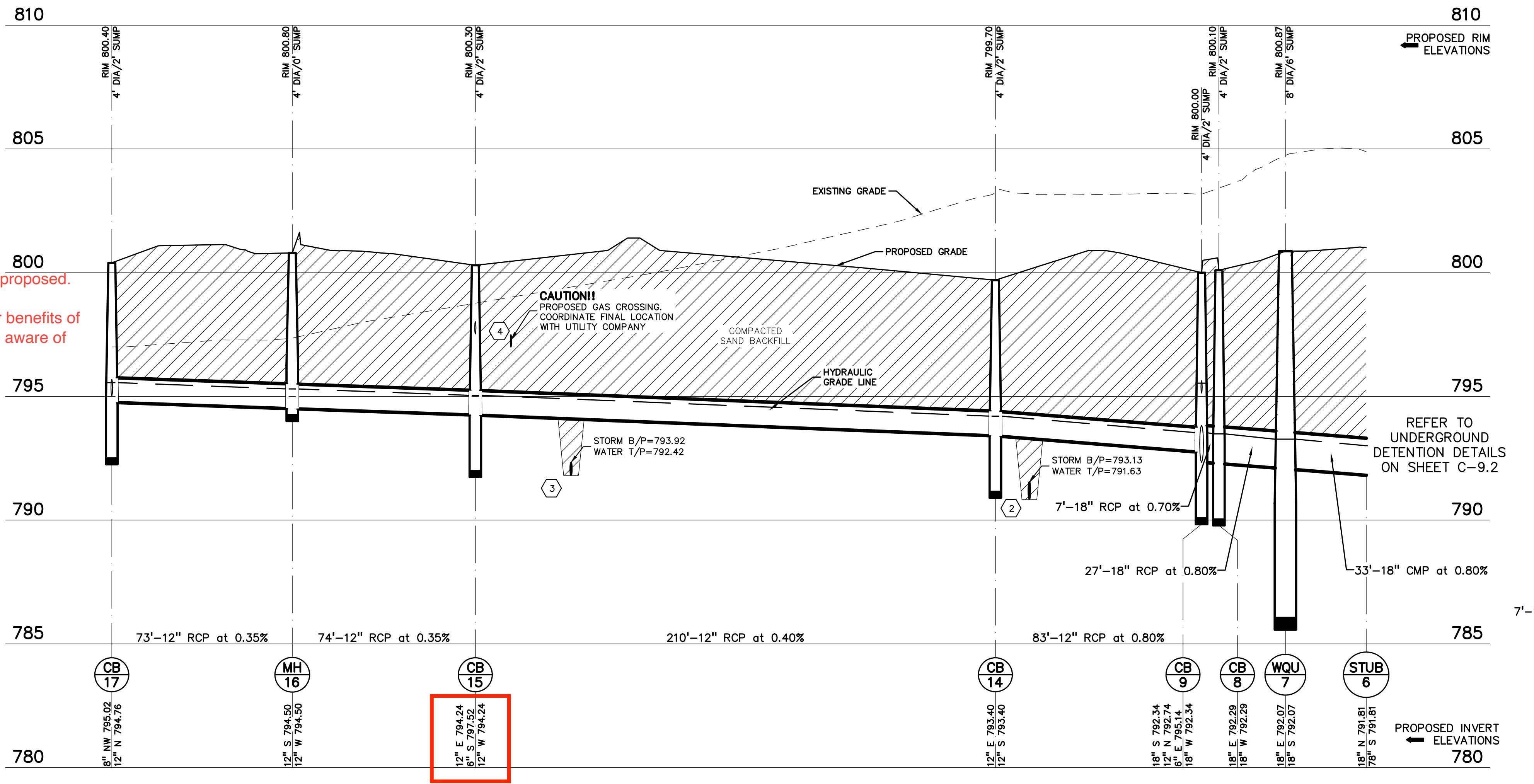
SIONS
D FOR PERMITS 8/17/2

FINAL ISSUE DATE:
JULY 17, 2022

WING TITLE **STORM SEWER PROFILES**

JOB NO. 2021-0688
JPI
AJM
LGD
WING NUMBER:

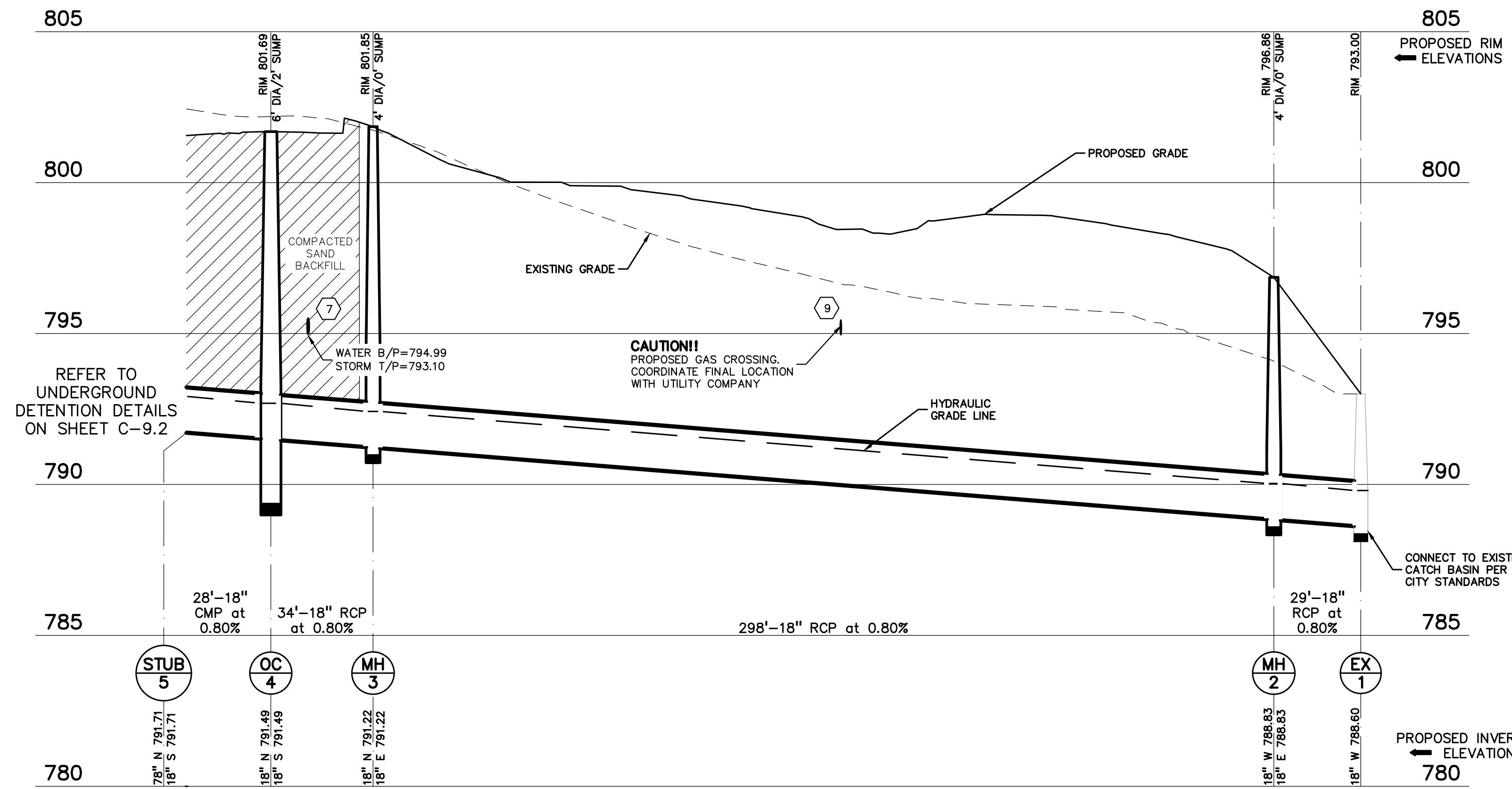
C-7.0



ST 6-17 PROFILE

HORIZ: 1" = 30'
VERT: 1" = 3'

also interesting to render the precast concrete?



ST 5-1 PROFILE

HORIZ: 1" = 30'
VERT: 1" = 3'



A circular arrow symbol with the word "NORTH" written below it.

SCALE: 1" = 30'

AUTION!!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS DRAWING ARE ONLY PROXIMATE. NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT UTILITY LOCATIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

AUTION!!
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THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR

**HAMADEH
EDUCATIONAL
SERVICES**
P.O. BOX 1440
EARBORN, MI 48121

PROJECT TITLE

**NOOR
INTERNATIONAL
ACADEMY**

**5050 COOLIDGE HWY.
TOWNSHIP OF TROY, OAKLAND COUNTY, MICHIGAN**

EVISIONS

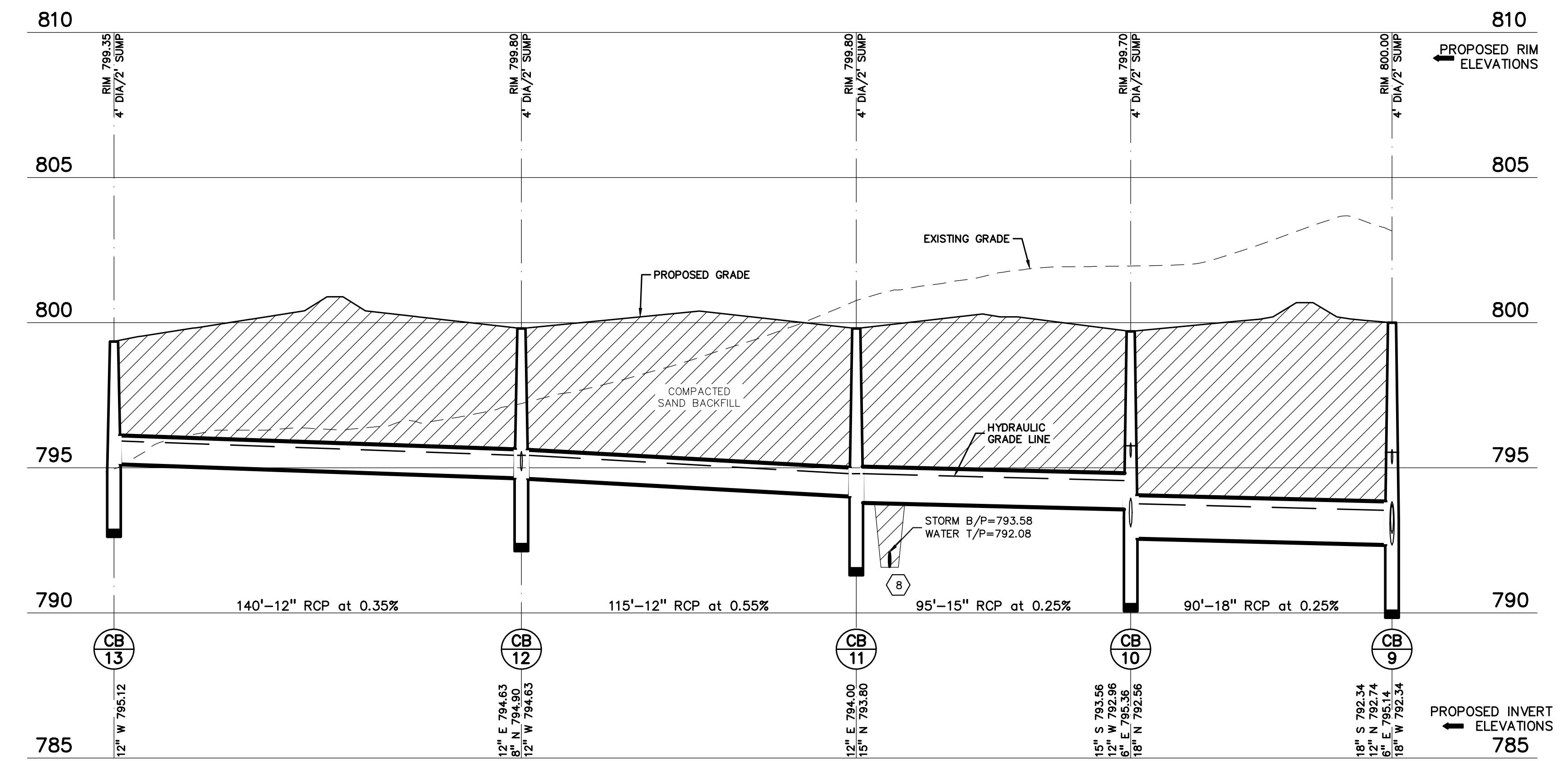
SUED FOR PERMITS 8/17/22

ORIGINAL ISSUE DATE:
AUGUST 17, 2022

DRAWING TITLE
**STORM SEWER
PIPELINES**

EA JOB NO. 2021-0688
M. JPB
N. AJM
ES. LGD
RAWING NUMBER:

C-7.1

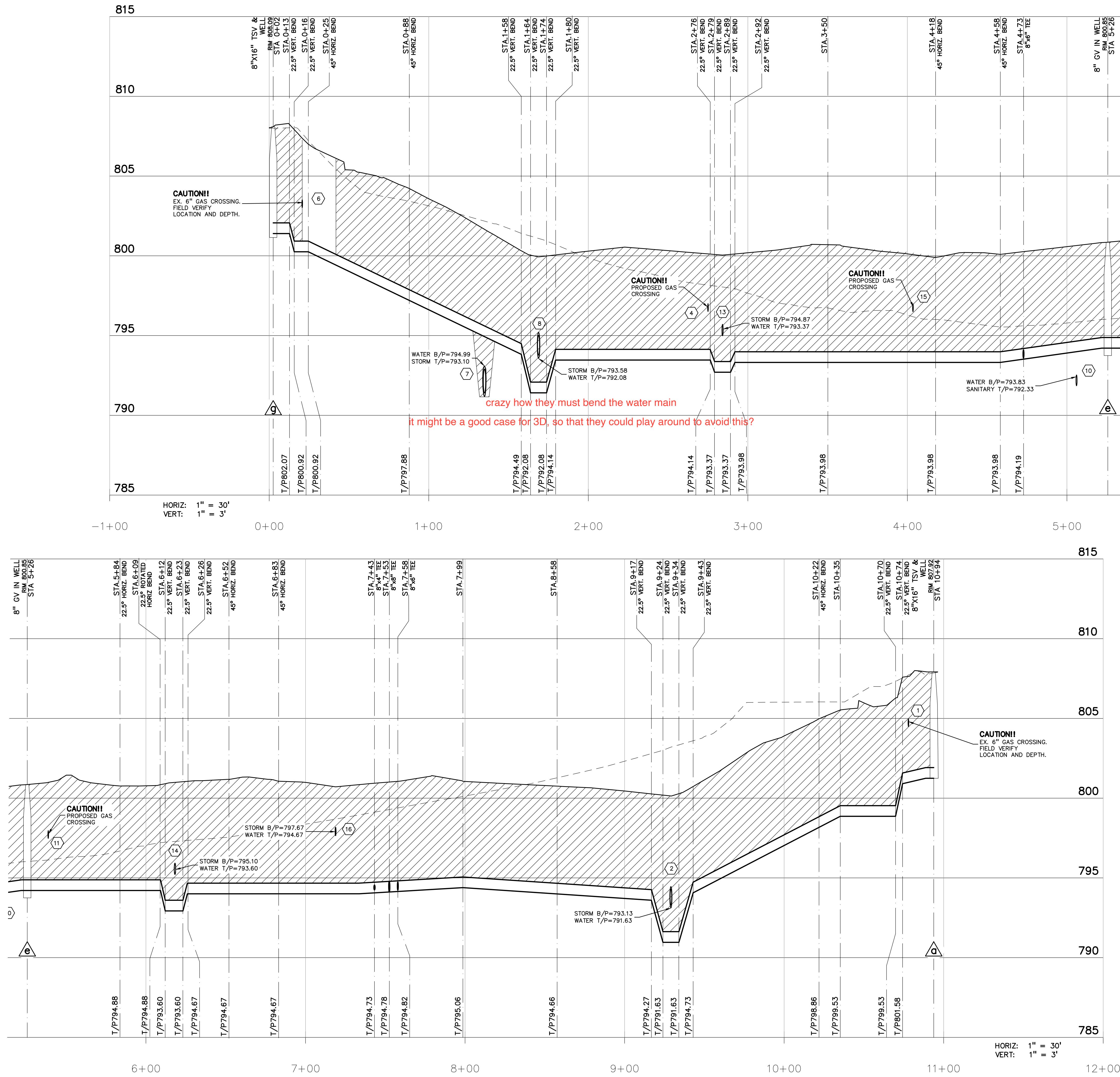


ST 9-13 PROFILE

HORIZ: 1" = 30'
VERT: 1" = 3'



CAUTION!!
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S:\PROJECTS\2021\2021-0688_4050_COOLIDGE-JPB\DWG\CONSTRUCTION\C-8.0\MMPROF-210688.dwg PLOT DATE: 8/16/2022

CONSTRUCTION MATERIAL SUBMITTALS

UNLESS REQUIRED OTHERWISE IN THE PROJECT SPECIFICATIONS, THE CONTRACTOR SHALL ONLY SUBMIT THE FOLLOWING CONSTRUCTION MATERIAL SUBMITTALS, AS APPLICABLE TO THE PLANS, FOR REVIEW BY THE ENGINEER. UNLESS APPROVED IN ADVANCE AND IN WRITING BY THE ENGINEER, ANY MATERIAL SUBMITTALS PROVIDED TO THE ENGINEER FOR REVIEW IN ADDITION TO THIS LIST SHALL BE RETURNED TO THE CONTRACTOR WITHOUT A REVIEW BEING PERFORMED.

1. SOIL EROSION AND SEDIMENTATION CONTROL MEASURES
2. UTILITY TRENCH BACKFILL MATERIAL WITH ALL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER
3. STORM AND SANITARY SEWER PIPING INCLUDING JOINTS
4. STORM AND SANITARY SEWER STRUCTURES
5. STORM AND SANITARY SEWER STRUCTURE FRAME AND COVERS INCLUDING CLEAN OUTS
6. WATER DISTRIBUTION SYSTEM PIPING INCLUDING JOINTS
7. WATER DISTRIBUTION SYSTEM STRUCTURES
8. WATER DISTRIBUTION SYSTEM STRUCTURE FRAME AND COVERS
9. WATER DISTRIBUTION SYSTEM SHUT OFF BOXES
10. WATER DISTRIBUTION SYSTEM FIRE HYDRANTS
11. WATER DISTRIBUTION SYSTEM GATE VALVES
12. STORM WATER MANAGEMENT OUTLET CONTROL STRUCTURES INCLUDING COVERS OR GRATES
13. STORM WATER MANAGEMENT MECHANICAL PRE-TREATMENT UNITS INCLUDING COVERS
14. STORM WATER MANAGEMENT UNDERGROUND DETENTION SYSTEM MATERIAL AND SHOP DRAWINGS DEPICTING THE LAYOUT OF THE SYSTEM
15. PAVEMENT AGGREGATE BASE MATERIAL WITH ALL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER
16. PAVEMENT UNDERDRAIN MATERIAL AND BACKFILL WITH ALL BACKFILL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER
17. PAVEMENT MIX DESIGNS SUBMITTED FOR REVIEW BY THE ENGINEER MUST FOLLOW THE CURRENT MDOT REVIEW CHECKLISTS AS SUMMARIZED BELOW AND ALL MATERIAL DATA INCLUDED IN THE SUBMITTAL BEING DATED WITHIN 60 DAYS OF THE SUBMITTAL UNLESS APPROVED OTHERWISE BY THE ENGINEER:
 - 8.1. CONCRETE MIX DESIGN REVIEW CHECKLIST (FORM 2000)
 - 8.2. SUPERPAVE MIX DESIGN CHECKLIST (FORM 1862)
 - 8.3. MARSHALL MIX DESIGN CHECKLIST (FORM 1849)
18. SITE FENCING AND GATES INCLUDING FOOTINGS
19. SITE RAILINGS INCLUDING FOOTING OR EMBEDMENTS
20. ANY ITEMS SHOWN IN THE PLANS OR DETAIL SHEETS THAT SPECIFICALLY STATE FOR THE CONTRACTOR TO SUBMIT A SHOP DRAWING TO THE ENGINEER FOR REVIEW. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO:
 - ANY SPECIALTY ITEMS SHOWN IN THE PLANS OR DETAIL SHEETS THAT SPECIFICALLY DO NOT STATE FOR THE CONTRACTOR SHALL SUBMIT A SHOP DRAWING TO THE ENGINEER FOR REVIEW BUT THE CONTRACTOR REQUESTS TO BE REVIEWED. THE CONTRACTOR'S REQUEST FOR REVIEW MUST BE IN WRITING AND APPROVED BY THE ENGINEER PRIOR TO SUBMITTING THE INFORMATION.



Oakland County 1-Year Peak Flow

Project: NOOR Academy
Location: Troy, MI

Area (acres): 2.70
Runoff Coefficient, C: 0.82
 T_c (min): 12.6

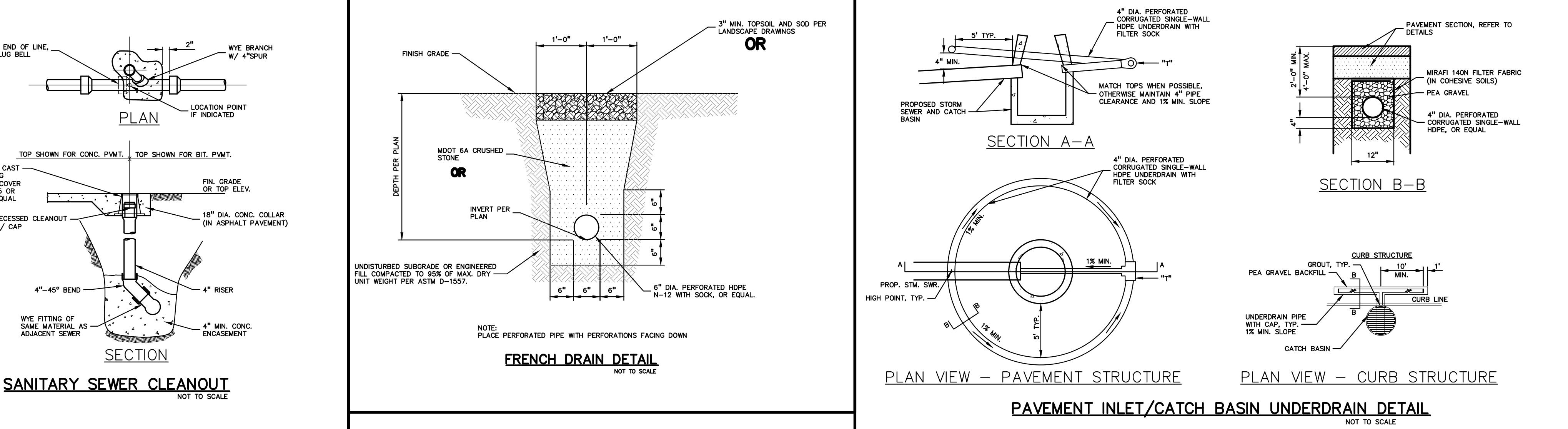
1-year I₁ = 30.20 / (T_c + 9.61) = 2.49 in/hr
1-year Peak Flow = Q_{req} = C x I₁ x A = 5.51 cfs

Recommended Model: CS-8

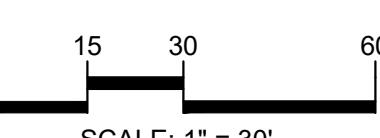
CASCADE SEPARATOR™ MODEL SPECIFICATIONS PER NJDEP

Model	Manhole Diameter (ft)	MITFR (cfs)	50% Maximum Sediment Storage Area Volume (ft³)
CS-4	4	1.80	9.4
CS-5	5	2.31	14.7
CS-6	6	4.05	21.2
CS-8	8	7.20	37.7
CS-10	10	11.3	58.9
CS-12	12	16.2	84.8

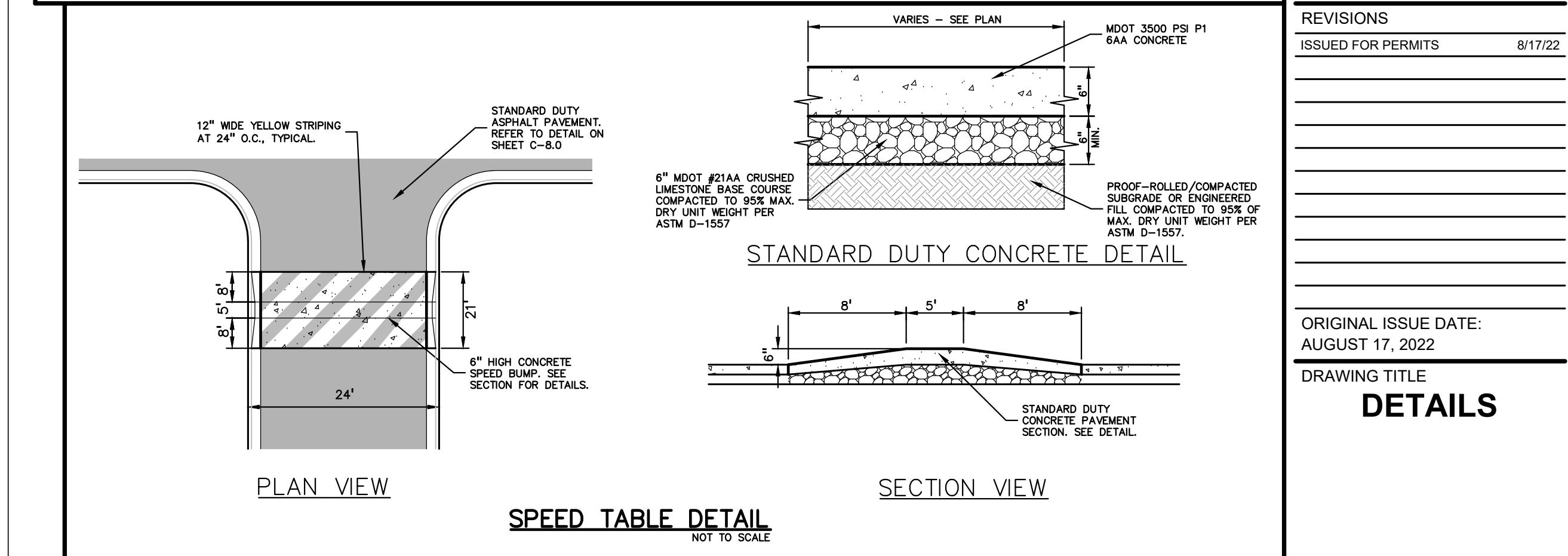
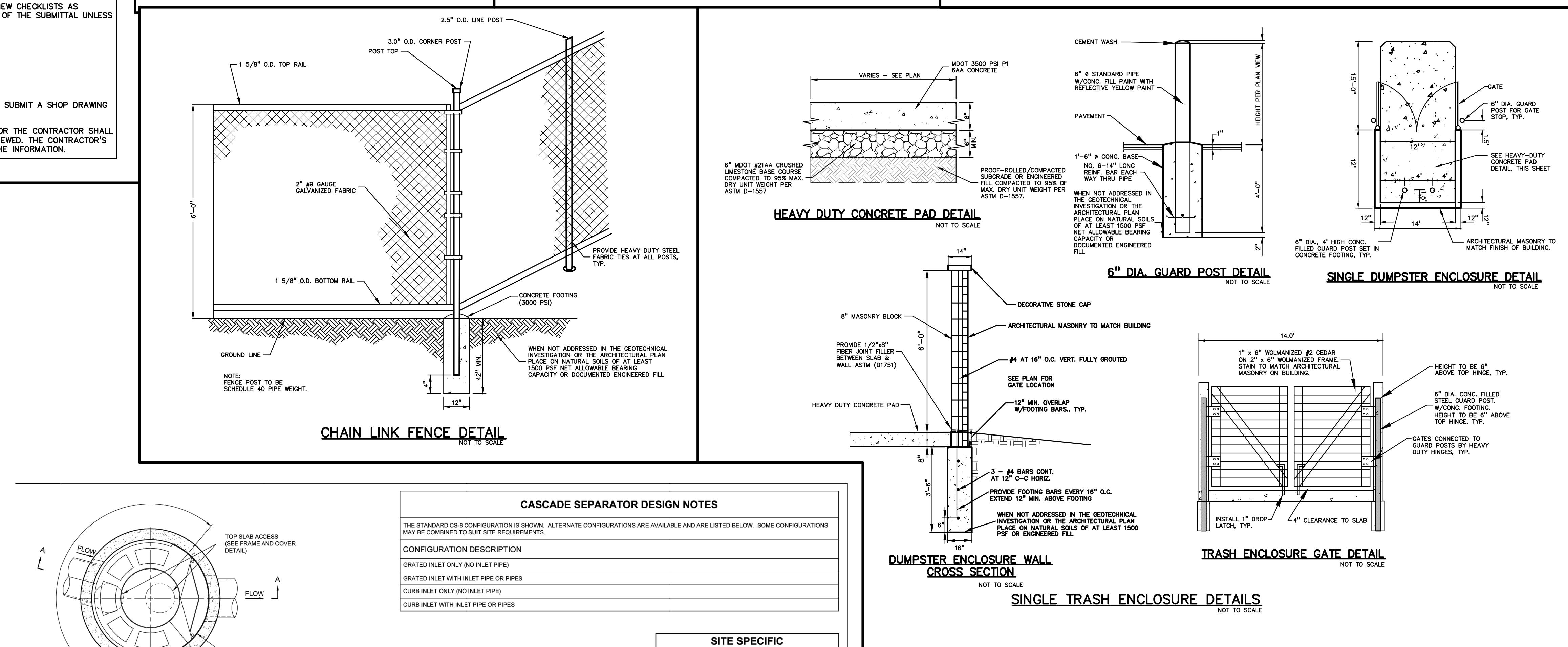
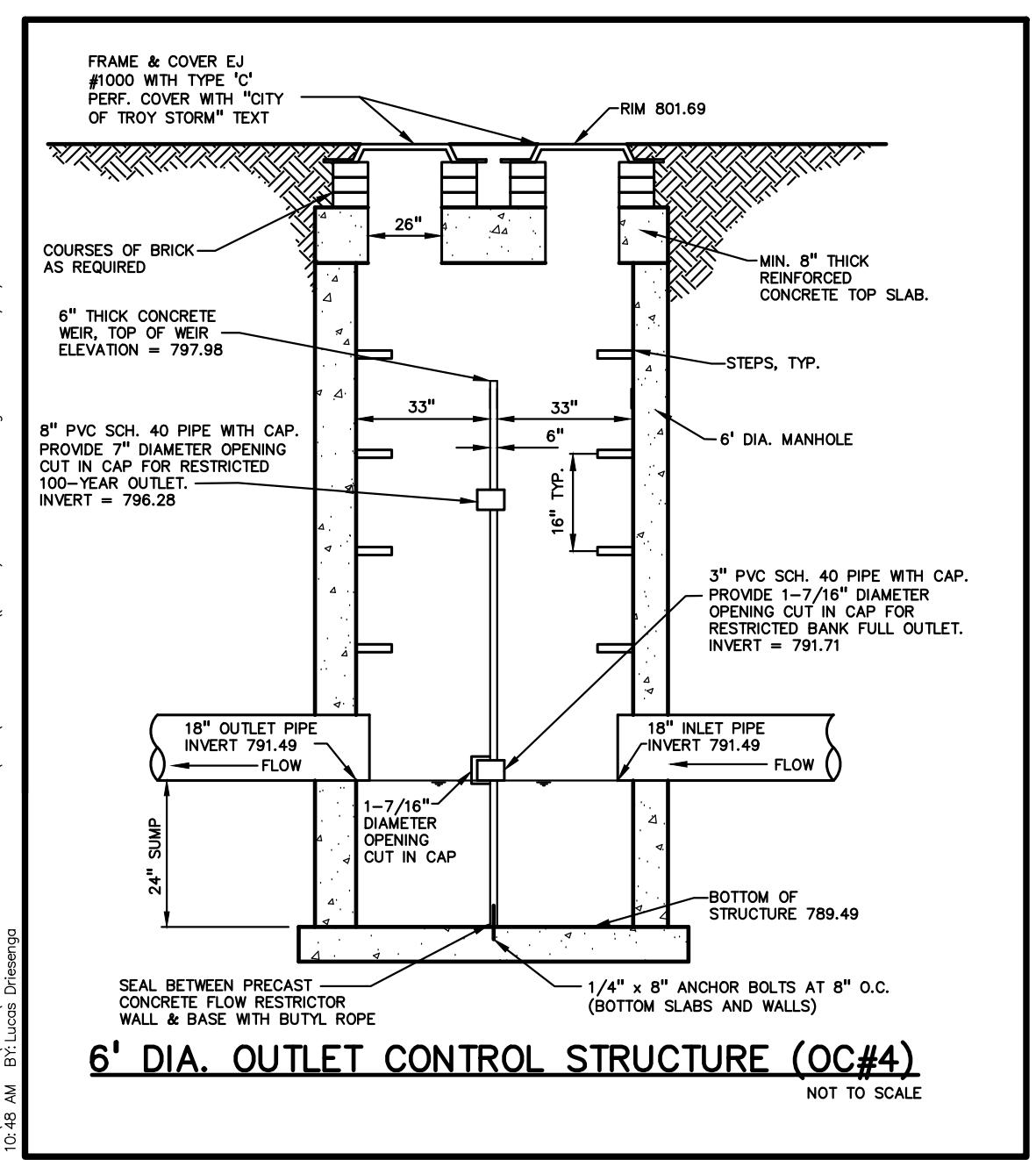
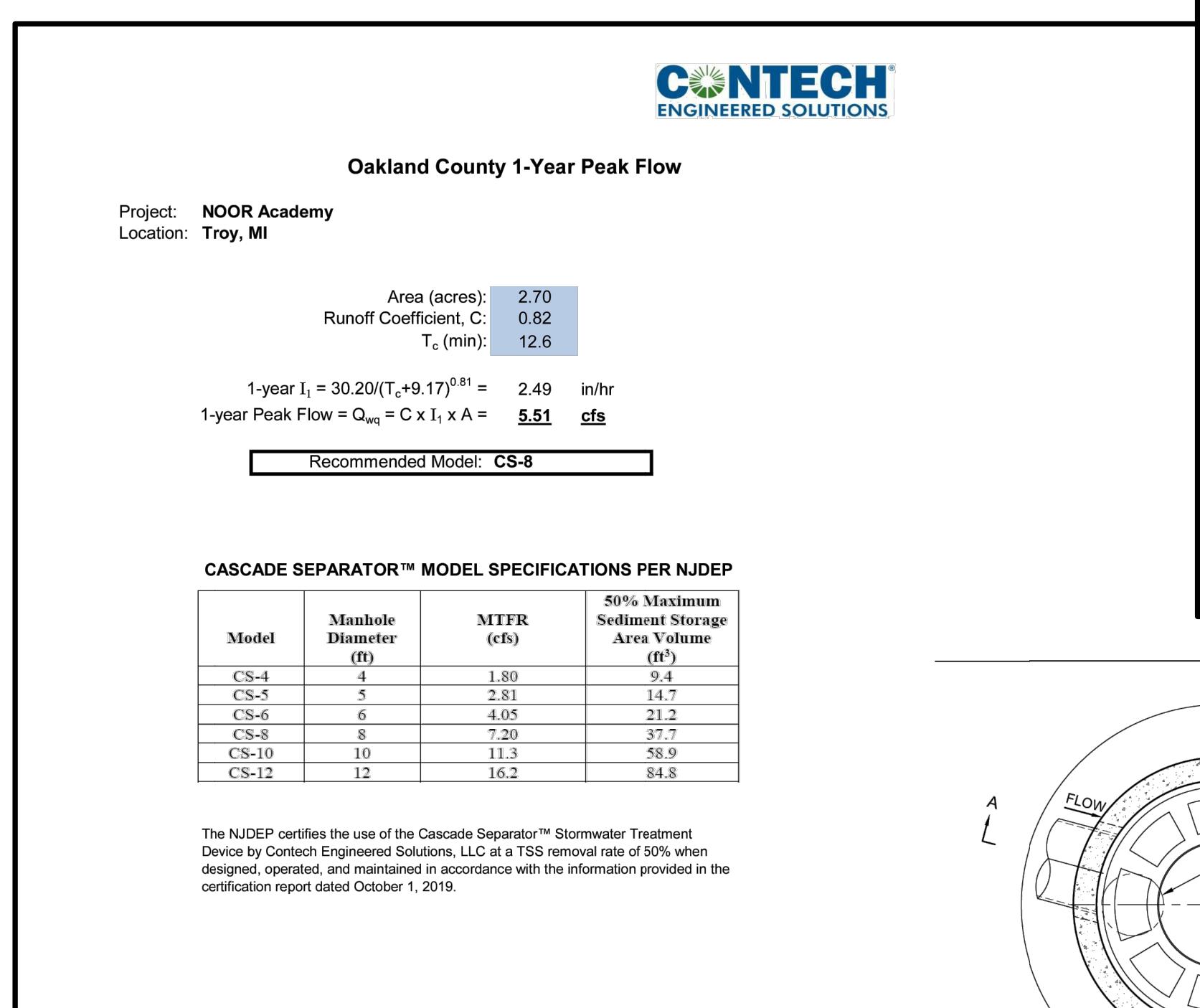
The NJDEP certifies the use of the Cascade Separator™ Stormwater Treatment Device by ConTech Engineered Solutions, LLC at a TSS removal rate of 90% when designed, operated, and maintained in accordance with the information provided in the certification report dated October 1, 2019.



t: 844.813.2949
www.peagroup.com



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REVISIONS
ISSUED FOR PERMITS 8/17/22

ORIGINAL ISSUE DATE: AUGUST 17, 2022
DRAWING TITLE: DETAILS

PEA JOB NO. 2021-0688
P.M. JPB
DN. AJM
DES. LGD
DRAWING NUMBER: C-9.1



C-9.1



0 15 30 60
SCALE: 1" = 30'



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APPROXIMATE, NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THE INFORMATION.
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PRIOR TO THE START OF CONSTRUCTION.

NOTES:
• ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS SHALL BE VERIFIED BY THE CONTRACTOR ON RECORD PRIOR TO RELEASING FOR FABRICATION.
• ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A572 GRADE 50.
• ALL RISERS AND STUBS ARE 25° x 1/2" CORRUGATION AND 16 GAUGE UNLESS OTHERWISE NOTED.
• RISERS TO BE FIELD TRIMMED TO GRADE.
• QUANTITY OF BACKFILL IS DETERMINED TO PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR DYODS SYSTEMS ARE DESIGNED TO PLACEMENT OF AN OUTLET PIPE STUB FOR CONNECTION TO EXISTING PIPE. IF ADDITIONAL CONNECTIONS ARE NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
• BACKFILL TO BE DETERMINED UPON FINAL DESIGN.
• THE PROJECT SUMMARY IS REFLECTIVE OF THE DYODS DESIGN. QUANTITIES ARE APPROX. AND SHOULD NOT BE USED FOR PERMITTING AND APPROVAL. FOR EXAMPLE, TOTAL EXCAVATION DOES NOT CONSIDER ALL VARIABLES SUCH AS SHORING AND BACKFILL. THE CONTRACTOR IS RESPONSIBLE FOR THE ESTIMATED EXCAVATION FOOTPRINT.
• THESE DRAWINGS ARE FOR CONCEPTUAL PURPOSES AND ARE NOT TO SCALE. FOR SPECIFIC PREFERENCES OR REGULATIONS, PLEASE CONTACT YOUR LOCAL CONTECH REP OR ENGINEER.

CONTRACTOR COMMENTS: DRAFT DATE: 07/20/2021

DATE: REVISION DESCRIPTION: BY: SHEET NO.: 1

CONTECH[®]
ENGINEERED SOLUTIONS LLC
www.ConTechPS.com

CONTECH[®]
CMP DETENTION SYSTEMS
DYODS DRAWING

DYO19765 Noor Academy - 4050 Coolidge Hwy
78" CMP Detention
Troy, MI
DETENTION SYSTEM

PROJECT NO.: 12009
REQ. NO.: 19765
DATE: 8/2/2022
DESIGNED BY: DYO
DRAWN BY: DYO
CHECKED BY: DYO
APPROVED BY: DYO

CONTRACTOR COMMENTS: DRAFT DATE: 07/20/2021

DATE: REVISION DESCRIPTION: BY: SHEET NO.: 1

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CONTRACTOR COMMENTS: DRAFT DATE: 07/20/2021

DATE: REVISION DESCRIPTION: BY: SHEET NO.: 1

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CMP DETENTION SYSTEMS
DYODS DRAWING

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78" CMP Detention
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APPROVED BY: DYO

CONTRACTOR COMMENTS: DRAFT DATE: 07/20/2021

DATE: REVISION DESCRIPTION: BY: SHEET NO.: 1

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CONTECH[®]
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DESIGNED BY: DYO
DRAWN BY: DYO
CHECKED BY: DYO
APPROVED BY: DYO

CONTRACTOR COMMENTS: DRAFT DATE: 07/20/2021

DATE: REVISION DESCRIPTION: BY: SHEET NO.: 1

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ENGINEERED SOLUTIONS LLC
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CMP DETENTION SYSTEMS
DYODS DRAWING

DYO19765 Noor Academy - 4050 Coolidge Hwy
78" CMP Detention
Troy, MI
DETENTION SYSTEM

PROJECT NO.: 12009
REQ. NO.: 19765
DATE: 8/2/2022
DESIGNED BY: DYO
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0 15 30 60
SCALE: 1" = 30'



CAUTION!
THE LOCATIONS AND ELEVATIONS OF EXISTING UNDERGROUND UTILITIES ARE APPROXIMATE AND NOT EXACT.
APPROXIMATE, NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE ACCURACY OF THESE LOCATIONS.
THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE LOCATIONS AND ELEVATIONS
PRIOR TO THE START OF CONSTRUCTION.

CLIENT
HAMADEH EDUCATIONAL SERVICES
P.O. BOX 1440
DEARBORN, MI 48121

PROJECT TITLE
NOOR INTERNATIONAL ACADEMY
4050 COOLIDGE HWY.
CITY OF TROY, OAKLAND COUNTY, MICHIGAN

REVISIONS
ISSUED FOR PERMITS 8/17/22

ORIGINAL ISSUE DATE:
AUGUST 17, 2022

DRAWING TITLE
DRAINAGE MAP

PEA JOB NO. 2021-0688
P.M. JPB
D.N. AJM
DES. LGD
DRAWING NUMBER:

C-10.0

LEGAL DESCRIPTION
THE LAND REFERRED TO IN THIS COMMITMENT, SITUATED IN THE COUNTY OF OAKLAND, CITY OF TROY, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:
PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, DESCRIBED AS BEGINNING AT A POINT IN THE WEST LINE OF SAID SECTION 17, THENCE DUE NORTH 03° 57' 00" WEST 330.00 FEET, THENCE DUE SOUTH 09° 44' 00" EAST 890.30 FEET; THENCE SOUTH 0° 12' 30" WEST 330.00 FEET; THENCE NORTH 89° 44' 00" WEST 889.10 FEET TO THE POINT OF BEGINNING, EXCEPT PART OF THE SOUTHWEST 1/4 OF SECTION 17, TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT A POINT WHICH IS 87° 19' 00" EAST 60.00 FEET FROM THE SOUTHWEST CORNER OF SECTION 17; TOWN 2 NORTH, RANGE 11 EAST, CITY OF TROY, OAKLAND COUNTY, MICHIGAN, THENCE 02° 57' 04" WEST 12.00 FEET; THENCE NORTH 87° 19' 00" EAST 831.00 FEET; THENCE SOUTH 02° 57' 04" EAST 330.00 FEET; THENCE SOUTH 87° 19' 00" WEST 396.00 FEET; THENCE NORTH 02° 57' 04" WEST 318.00 FEET; THENCE SOUTH 87° 19' 00" WEST 435.00 FEET TO THE POINT OF BEGINNING, EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET OF THE NORTH 310 FEET DEeded TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 123, OAKLAND COUNTY RECORDS, AND EXCEPT THE EAST 27 FEET OF THE WEST 60 FEET OF THE WEST 310 FEET DEeded TO THE CITY OF TROY, AS DISCLOSED BY INSTRUMENT RECORDED IN LIBER 6756, PAGE 132, OAKLAND COUNTY RECORDS.

Rainfall Intensity	12.70 min
Time of Concentration (T_c)	
Since $T_c \leq 15$ min, $I_1 = 2.0$ in/hr	
$I_1 = 30.2 / [(T + 9.17)^{.81}]$	2.00 in/hr
$I_{10} = 60 / [(T + 9.17)^{.81}]$	4.93 in/hr
$I_{100} = 83.3 / [(T + 9.17)^{.81}]$	6.84 in/hr
CPVC: Channel Protection Volume Control Volume	
$V_{CPVC} = (4719)CA$	10,448 cf
CPRC: Channel Protection Rate Control Volume: Extended Detention	
$V_{ED} = (6897)CA$	15,270 cf
100-Year Allowable Outlet Rate	
$Q_{VED} = V_{ED} / (48'60'60')$	0.09 cfs
Water Quality Control	
See Mechanical Separator Sizing Calculations, this sheet	
100-Year Allowable Outlet Rate	
Since $2 < A < 100$, $Q_{VW} = 1.1055 - 0.206x(\ln A)$	
$Q_{VW} = 0.90$ cfs/ac	
100-Year Peak Allowable Discharge	
$Q_{100P} = Q_{VW}A$	2.43 cfs
100-Year Runoff Volume	
$V_{100R} = (18,985)CA$	42,033 cf
100-Year Peak Inflow	
$Q_{100IN} = C(100)A$	15.14 cfs
Storage Curve Factor (V_s/V_r)	
$R = 0.206 - 0.15 \times \ln(Q_{100P}/Q_{100IN})$	0.480
100-Year Storage Volume	
$V_s = R(V_{100R})$	20,176 cf
No Infiltration will be provided, so no CPVC deduction is taken.	
$V_{100} = V_s$	20,176 cf
V_{flood} must be larger or equal to V_{ED} :	
Is $V_{100} \geq V_{ED}$?	Yes
$V_{flood} =$	20,176 cf

Storage in Circular Pipe Detention System	
Effective End Area of Pipe:	33.18 sf
Effective Diameter of Pipe:	6.50 ft
Effective Invert of System:	791.71
CPRC Volume	15,270 cf
Fill Area of CPRC Storage Volume (CPRC/L):	24.83 sf
Enter Φ :	228 degrees
Φ radians:	3.98 radians
Fill Area:	24.94 sf
Effective Fill Depth (per method above):	4.57 ft
V_{EP} Storage Elevation:	796.28
Fill Depth:	4.57 ft
Q_{ED} Outlet Rate:	0.09 cfs
Avg. Head over Orifice (Hw):	h=0.5y
Area of Orifice (A):	0.0117 sf
$A = Q_{ED} / (0.62^2 \sqrt{2gHw})$	
Enter Outlet Hole Diameter:	1.4375 in
Restriction Hole Area:	0.0113 sf
Enter Number of Restriction Holes:	1
Set orifice elevation at:	791.71
Total Restriction Hole Area:	0.011 sf
Actual Discharge (Q):	0.085 cfs
$Q = 0.62 * A * (2 * G * Hw)^{0.5}$	
Must be detained for at least 48 hours:	
Drain Time:	50.05 hrs
100-year Volume	20,176 cf
Fill Area of 100-Year Storage Volume:	32.81 sf
Enter Φ :	317 degrees
Φ radians:	5.53 radians
Fill Area:	32.82 sf
Effective Fill Depth (per method above):	6.27 ft
V_{100} Storage Elevation:	797.98
Fill Depth:	6.27 ft
Q_{VW} Outlet Rate:	2.43 cfs
Flow through Q_{ED} Orifice at this head:	0.140 cfs
Q_{100P} Allowed:	2.29 cfs
Avg. Head over Orifice (Hw):	h=0.5y
Area of Orifice (A):	0.2601 sf
$A = Q_{ED} / (0.62^2 \sqrt{2gHw})$	
Outlet Hole Diameter:	7 in
Restriction Hole Area:	0.2671 sf
Number of Restriction Holes:	1
Set orifice elevation at:	796.28
Total Restriction Hole Area:	0.2671 sf
Actual Discharge (Q):	2.35 cfs
$Q = 0.62 * A * (2 * G * Hw)^{0.5}$	
Is this less than the Q_{VW} of:	2.43 cfs?
Drain Time:	50.60 hrs

TOPOGRAPHIC AND BOUNDARY SURVEY DISCLAIMER:
TOPOGRAPHIC AND BOUNDARY SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, EXISTING ELEVATIONS, EXISTING PHYSICAL FEATURES AND STRUCTURES WAS PROVIDED BY KEM-TEC
PEA, INC. WILL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OF THE SURVEY OR FOR DESIGN ERRORS/OMISSIONS RESULTING FROM SURVEY INACCURACIES.

BENCHMARKS

(NAVD 88 DATUM)

JDN200 - ARROW ON TOP OF HYDRANT,
LOCATED APPROXIMATELY 120' SOUTH OF THE
NORTHWEST CORNER OF SUBJECT PARCEL.
ELEVATION = 810.40'

STORM SEWER SYSTEM DESIGN

Location: Oakland County

$I = B(T+D)^{.8}$ $B = 50.12$ $D = 9.17$ $E = 0.81$
 $C = \text{varies}$ $T = 10$ (min.) $\text{Pipe } n^{th} \text{ Value} = 0.013$ PVC 0.011

FROM STR	TO STR	AREA (A) (Acres)	COEF C	A x C	TOTAL AREA (AxC)	TOTAL AREA (Acres)	TIME t (min.)	INT. I (in/hr)	FLOW Q (cfs)	PIPE CAP. (cfs)	PIPE DIA. (in.)	PIPE LENGTH	PIPE SLOPE (%)	MIN HG PER "Q"	VEL. FULL (ft/sec)	TIME FLOW (min.)	H.G. ELEV. UP STREAM	RIM ELEV. UP STREAM	INVERT ELEV. UP STREAM	PIPE COVER UP STREAM	H.G. COVER UP STREAM					
5	4	0.00	0.00	0.00	2.21	2.70	12.70	4.12	9.09	9.40	18	28	0.80	0.75%	5.3	0.1	792.91	792.69	801.56	801.69	791.71	791.49	8.14	8.49	8.65	9.00
4	3	0.00	0.00	0.00	2.21	2.70	12.80	4.10	9.09	9.40	18	34	0.80	0.75%	5.3	0.1	792.69	792.42	801.69	801.85	791.49	791.24	8.49	8.93	9.00	9.44
3	2	0.00	0.00	0.00	2.21	2.70	12.90	4.09	9.09	9.40	18	298	0.80	0.75%	5.3	0.9	792.42	790.03	801.85	796.86	791.22	788.83	8.93	9.32	9.44	6.83
2	1	0.00	0.00	0.00	2.21	2.70	13.80	3.96	9.09	9.40	18	29	0.80	0.75%	5.3	0.1	790.03	789.80	796.86	793.00	788.83	788.60	2.69	6.83	3.20	
13	12	0.22	0.77	0.17	0.17	0.22	10.00	4.58	0.77	2.11	12	140	0.35	0.05%	2.7	0.9	795.92	795.35	799.80	795.12	794.63	794.43	3.06	4.00	3.43	4.37
12	11	0.21	0.61	0.13	0.58	0.73	10.90	4.42	2.58	2.64	12	115	0.55	0.52%	3.4	0.6	795.43	794.80	799.80	794.63	794.00	794.00	4.00	4.64	4.37	5.00
11	10	0.17	0.85	0.14	0.73	0.90	11.50	4.31	3.14	3.23	15	95	0.25	0.24%	2.6	0.6	794.80	794.56	799.80	797.70	793.80	793.56	4.57	4.70	5.00	5.14
10	9	0.19	0.78	0.15	1.18	1.47	12.10	4.21	4.96	5.25	18	90	0.25	0.22%	3.0	0.5	793.76	793.54	799.70	800.00	792.56	792.34	5.43	5.96	6.46	
9	8	0.09	0.92	0.09	2.01	2.46	12.60	4.13	8.29	8.79	18	7	0.70	0.62%	5.0	0.0	793.49	793.49	800.00	800.10	792.3					

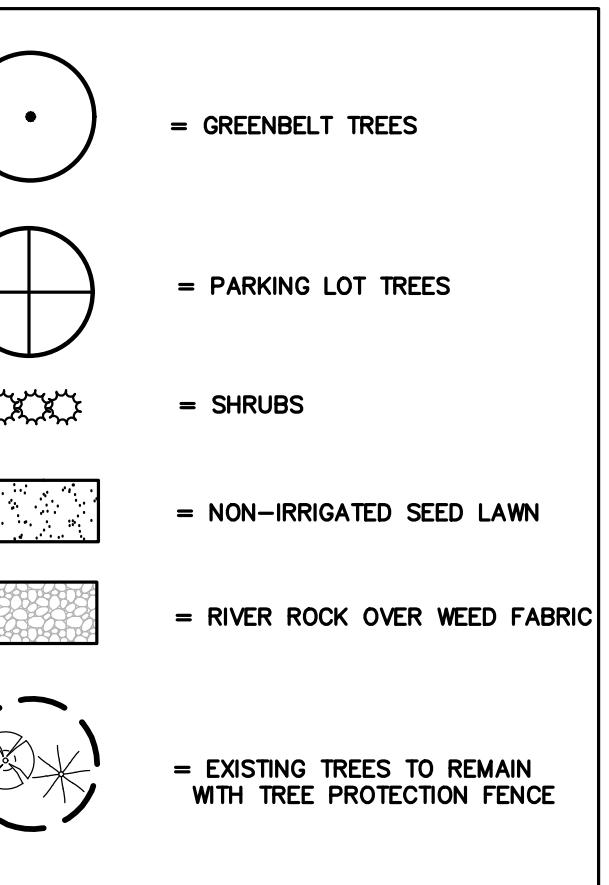


The North logo consists of a circular emblem with a stylized 'N' shape formed by two diagonal bars crossing each other. Below the circle, the word "NORTH" is written in a bold, sans-serif font.

A horizontal scale bar consisting of three black segments. The first segment is labeled '15' above it. The second segment is labeled '30' above it. The third segment is labeled '60' above it. Below the first segment, the text 'SCALE: 1" = 30'' is written.

KEY:

<u>LANDSCAPE CALCULATIONS:</u> PER CITY OF TROY ZONING ORDINANCE; R1-B	
<u>GREENBELT</u>	
REQUIRED: 1 TREE / 30 LF OF FRONTAGE	
COOLIDGE HWY.: 318 LF FRONTAGE / 30 = 11 TREES	
PROVIDED: 8 TREES PROPOSED PLUS 3 EXISTING TO REMAIN	
<u>PARKING LOT LANDSCAPING</u>	
REQUIRED: 1 TREE / 8 PARKING SPACES 54 PARKING SPACES / 8 = 6.8 TREES	
PROVIDED: 7 TREES PROPOSED EXISTING BRICK SCREEN WALL TO REMAIN AT EAST AND NORTH PROPERTY LINE	
<u>GENERAL SITE LANDSCAPE</u>	
REQUIRED: 20% OF SITE AREA SHALL BE LANDSCAPE MATERIAL $138,330 \text{ SQ FT} * 20\% = 27,666 \text{ SQ FT}$	
PROVIDED: 43,176 SQ FT OF SOFT-SCAPE (31.6 % SOFT-SCAPE PROVIDED)	
<u>SCREENING</u>	
REQUIRED: EQUIPMENT AT GRADE MUST BE SCREENED USING EVERGREEN SHRUBS	
PROVIDED: 13 EVG SHRUBS	



A horizontal scale bar consisting of three segments. The first segment is labeled '15' above it. The second segment is labeled '30' above it. The third segment is labeled '60' above it. Below the scale bar, the text 'SCALE: 1" = 30'' is written.

SECTION!!
TIONS AND ELEVATIONS OF EXISTING UNDERGROUND
AS SHOWN ON THIS DRAWING ARE ONLY
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TRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR
NING THE EXACT UTILITY LOCATIONS AND ELEVATIONS
D THE START OF CONSTRUCTION.

NT
**MADEH
EDUCATIONAL
SERVICES**
BOX 1440
BROOKLYN, MI 48121

JECT TITLE
**DOR
TERNATIONAL
ADEMY**
COOLIDGE HWY.

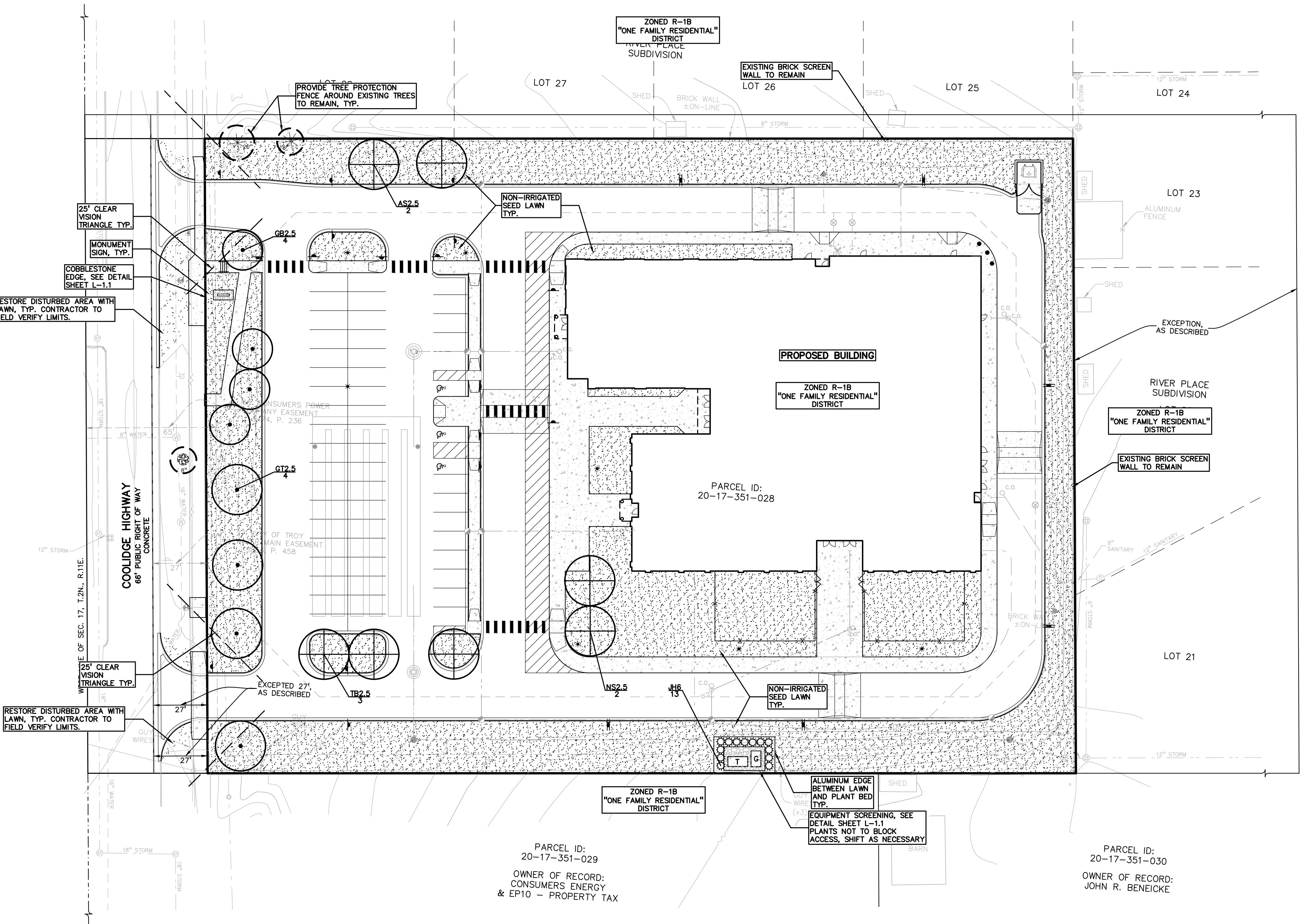
VISIONS

ORIGINAL ISSUE DATE:
JULY 17, 2022

WING TITLE **LANDSCAPE PLAN**

JOB NO. 2021-0688
JPB
BGG
BGG
WING NUMBER:

L-1.0





GENERAL LANDSCAPING REQUIREMENTS

- 1.0 GENERAL
- 1.1 SUMMARY
- 1.1.1 Includes But Not Limited To
 - 1. General procedures and requirements for Site Work.
- 2.0 PRODUCTS – Not Used
- 3.0 EXECUTION
- 3.1 PREPARATION
- 3.1.1 Protection
 - 1. Spillage:
 - A. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.
 - B. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.
 - 2. Erosion Control:
 - A. Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent properties, and into on-site or off-site drainage systems.
 - B. Develop, install, and maintain an erosion control plan if required by law.
 - C. Repair and correct damage caused by erosion.
 - 3. Existing Plants and Features:
 - A. Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain.
 - B. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Landscape Architect.
 - C. Do not damage other plants and features which are to remain.
- 3.1.2 If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from money due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the work.

END OF SECTION

LANDSCAPING PREPARATION

- 1.0 GENERAL
- 1.1 SUMMARY
- 1.1.1 Includes But Not Limited To
 - 1. General landscape work requirements.
 - 1.2 QUALITY ASSURANCE
 - 1.2.1 Comply with all applicable local, state and federal requirements, regarding materials, methods of work, and disposal of excess and waste materials.
 - 1.2.2 Obtain and pay for all required inspections, permits, and fees.
 - 1.2.3 Provide notices required by governmental authorities.
 - 1.3 PROJECT CONDITIONS
 - 1.3.1 Locate and identify existing underground and overhead services and utilities within contract limit work areas. (Call Miss Dig: 1-800-482-7171 in Michigan).
 - 1.3.2 Provide adequate means to protect utilities and services designated to remain.
 - 1.3.3 Repair utilities damaged during site work operations at Subcontractor's expense.
 - 1.3.4 When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.
 - 1.3.5 Locate, protect, and maintain benchmarks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Subcontractor's expense.
 - 1.3.6 Perform landscape work operations and the removal of debris and materials to assure minimum interference with streets, walks, and other adjacent facilities.
 - 1.3.7 Obtain governing authorities' written permission when required to close or obstruct streets, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.
 - 1.3.8 Protect and maintain street lights, utility poles and services, traffic signal control boxes, curb boxes, valves and other services, except items designated for removal.
 - 1.3.9 The General Contractor will occupy the premises and adjacent facilities during the entire period of construction. Perform landscape work operations to minimize conflicts and to facilitate General Contractor's use of the premises and conduct of his normal operations.
 - 1.3.10 Perform landscape preparation work before commencing landscape construction.
 - 1.3.11 Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain.
 - 1.3.12 Protect existing trees scheduled to remain against injury or damage including cutting, breaking or skinning of roots, trunks or branches, smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.
 - 2.0 PRODUCTS
 - 2.1 MATERIALS/EQUIPMENT
 - As selected by the General Contractor, except as indicated.
 - 1. Tree protection:
 - A. Wood fencing – Snow fencing 4' height.
 - B. Posts – Steel fence post.
 - C. Herbicide for lawn restoration – "Round-up" by Monsanto.
 - 2.2 EXCAVATION
 - 3.1 EXISTING UTILITIES
 - Call "MISS DIG" 811 before construction begins. Information on the drawings related to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities.
 - 3.2 CLEARING
 - Locate and suitably identify trees and improvements indicated to remain. Fencing/sod erosion fence is to be installed.
 - 3.2.3 Any equipment that compacts the soil in the areas of existing trees is not allowed.
 - 3.2.4 Protect trees scheduled to remain with 4' high snow fence per plans.

PROJECT NO.: 1021-1000-1000-1000 DATE: 8/16/2022

- 3.2.5 No vehicular traffic is permitted beneath drip line at any time. All lawn areas are to be worked by hand.
- 3.2.6 Clear and grub areas within contract limits as required for site access and execution of the work.
- 3.2.7 Remove trees, plants, undergrowth, other vegetation and debris, except items indicated to remain.
- 3.2.8 Treat planting and lawn areas as required with herbicide per manufacturer recommendations to kill existing vegetation prior to planting, seeding and sodding.
- 3.2.9 Remove stumps and roots to a clear depth of 36" below subgrades. Remove stumps and roots to their full depth within 50' of underground structures, utility lines, footings, and paved areas.
- 3.3 DISPOSAL OF WASTE MATERIALS
 - 3.3.1 Stockpile, haul from site and legally dispose of waste materials and debris. Accumulation is not permitted.
 - 3.3.2 Maintain disposal routes, clear, clean and free of debris.
 - 3.3.3 On site burning of combustible cleared materials is not permitted.
 - 3.3.4 Upon completion of landscape preparation work, clean areas within contract limits, remove tools and equipment. Site to be clear, clean and free of materials and debris and suitable for site work operations.
 - 3.3.5 Materials, items and equipment not scheduled for reutilization or salvaged for the General Contractor are the property of the Landscape Contractor. Remove cleared materials from the site as the work progresses. Storage and sale of Landscape Contractors salvage items on site is not permitted.

END OF SECTION

FINISH GRADING AND TOPSOIL PLACEMENT

- 1.0 GENERAL
- 1.1 SUMMARY
- 1.1.1 Includes But Not Limited To
 - 1. Furnish and install seeded lawn as described in Contract Documents.
 - 1.2 SUBMITTALS
 - 1.2.1 Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species.
 - 1.3 DELIVERY AND STORAGE
 - 1.3.1 Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.
 - 1.4 PROJECT CONDITIONS
 - 1.4.1 See Landscape Preparation section.
 - 1.4.2 Work notification: Notify Landscape Architect of General Contractor's representative at least seven (7) working days prior to start of seeding operation.
 - 1.4.3 Protect existing utilities, paving, and other facilities from damage caused by seeding operations.
 - 1.4.4 Perform seeding work only after planting and other work affecting ground surface has been completed.
 - 1.4.5 Provide hose and lawn watering equipment as required.
 - 1.4.6 The irrigation system will be installed prior to seeding. Locate, protect, and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Sub-Contractor's expense.
 - 1.5 WARRANTY
 - 1.5.1 See Landscape Maintenance and Warranty Section
 - 2.0 PRODUCTS
 - 2.1 MATERIALS
 - 2.1.1 Topsoil for Seeded Areas: See Topsill Placement and Drawings.
 - 2.1.2 Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.
 - 2.1.3 Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.
 - 2.1.4 Irrigated Lawn Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Kentucky Bluegrass	50%	90%	75%
Penn. Lawn Fescue	30%	80%	
Annual Ryegrass	20%	95%	80%

 - 2.1.5 Non-Irrigated Seed Mixture proportioned by volume indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Penn. Lawn Fescue	50%	90%	65%
Kentucky 28/ Common Bluegrass	20%	90%	90%
Pennfine Perennial Rye	20%	90%	90%

 - 2.1.6 Fertilizer: granular, non burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.
 - 2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve.
 - 2.1.8 Straw Mulch: Used in crimping process only. Clean oat or wheat straw well seasoned before bailing, free from mature seed-bearing status, or roots of prohibited or noxious weeds.
 - 2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.
 - 3.0 EXECUTION
 - 3.1 EXAMINATION
 - 3.1.1 Do not commence work of this Section until grading tolerances specified are met.
 - 3.2 PREPARATION
 - 3.2.2 Prior to grading, dig out weeds from planting areas by their roots and remove from site. Before placing top soil in landscape areas, remove rocks larger than 1 inch in any dimension, roots, sticks, and other foreign matter such as stones of 1" in any dimension, roots, sticks, and other foreign material not frozen or muddy. PH of soil range between 5.0 and 7.5.
 - 3.2.3 Soil shall not contain more than 2 percent of particles measuring over 2.0 mm in largest size.
 - 3.2.4 Prepared topsoil shall be used in planting mixtures as specified in Trees, Plants, and Ground Cover; all beds prepared as specified.
 - 3.3 PERFORMANCE
 - 3.3.1 Site Tolerances
 - 1. Total Topsill Depth –
 - A. Lawn And Groundcover Planting Areas – 3 inches minimum compacted.
 - B. Shrub Planting Areas – 12 inches minimum throughout entire shrub bed area.
 - 2. Elevation of topsill relative to walk or curbs –
 - A. Seeded Lawn Areas – 1/4 inch below
 - B. Sodded Lawn Areas – 1 1/2 inches below
 - C. Shrub And Ground Cover Areas – 3 inches below
 - 3.3.2 Do not expose or damage existing shrub or tree roots.
 - 3.3.3 Redistribute approved existing top soil stored on site as a result of rough grading. Remove organic material, rocks and clods greater than 1 inch in any dimension, and other objectionable materials. Provide additional approved imported topsill required for specified topsill depth and bring surface to specified elevation relative to walk or curb.

3.3.4 For trees, shrubs, ground cover beds and plant mix for beds see Exterior Plants section.

3.3.5 Provide earth berming where indicated on Plans.

3.3.6 Berming to be free flowing in shape and design, as indicated, and to blend into existing grades gradually so that the toe of slope is not readily visible. Landscape Architect or General Contractor's representative to verify final contouring before planting.

3.3.7 Regardless of finish grading elevations indicated, it is intended that grading be such that proper drainage of surface water away from buildings will occur and that no low areas are created to collect pooling. Subcontractor to consult the General Contractor or Landscape Architect regarding variations in grade elevations before rough grading is completed.

3.3.8 Slope grade away from building for 12 feet minimum from walls at slope of 1/2 inch per ft minimum, unless otherwise noted. High point of finish grade at the foot of slope shall be 1/2 inches minimum below finished floor level. Direct surface drainage in conformance to Drawings by moving surface to facilitate natural run-off of water. Fill low spots and pockets with top soil and grade to drain property.

3.3.9 Rake all topsill to remove clods, rocks, weeds, and debris.

3.3.10 Grade and shape areas to bring surface to true uniform planes free from irregularities and to provide proper drainage and slopes per plans.

CLEANING

- 3.4.1 Upon completion of topsill operations, clean areas within contract limits, remove tools, equipment, and haul all excess topsill off-site. Site shall be clear, clean, free of debris, and suitable for site work operations.

END OF SECTION

LAWN SEEDING

- 1.0 GENERAL

- 1.1 SUMMARY

- 1.1.1 Includes But Not Limited To

- 1. Perform finish grading and topsill placement required to prepare site for installation of landscaping as described in Contract Documents.

SUBMITTALS

- 1.2.1 Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and weed seed for each grass species.

DELIVERY AND STORAGE

- 1.3.1 Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.

PROJECT CONDITIONS

- 1.4.1 See landscape preparation section.

- 1.4.2 Work notification: Notify Landscape Architect of General Contractor's representative at least seven (7) working days prior to start of seeding operation.

- 1.4.3 Protect existing utilities, paving, and other facilities from damage caused by seeding operations.

- 1.4.4 Perform seeding work only after planting and other work affecting ground surface has been completed.

- 1.4.5 Provide hose and lawn watering equipment as required.

- 1.4.6 The irrigation system will be installed prior to seeding. Locate, protect, and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Sub-Contractor's expense.

WARRANTY

- 1.5.1 See Landscape Maintenance and Warranty Section

PRODUCTS

- 2.0 MATERIALS

- 2.1.1 Topsoil for Seeded Areas: See Topsill Placement and Drawings.

- 2.1.2 Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.

- 2.1.3 Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.

- 2.1.4 Irrigated Lawn Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Kentucky Bluegrass	50%	90%	75%
Penn. Lawn Fescue	30%	80%	
Annual Ryegrass	20%	95%	80%

- 2.1.5 Non-Irrigated Seed Mixture proportioned by volume indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Penn. Lawn Fescue	50%	90%	65%
Kentucky 28/ Common Bluegrass	20%	90%	90%
Pennfine Perennial Rye	20%	90%	90%

- 2.1.6 Fertilizer: granular, non burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.

- 2.1.7 Ground Limestone: Used if required by soil test report: Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve.

- 2.1.8 Straw Mulch: Used in crimping process only. Clean oat or wheat straw well seasoned before bailing, free from mature seed-bearing status, or roots of prohibited or noxious weeds.

- 2.1.9 Water: Free of substance harmful to seed growth. Hoses or other methods to transpiration furnished by Sub Contractor.

EXECUTION

- 3.0 EXAMINATION
 - 3.1.1 Do not commence work of this Section until grading tolerances specified are met.

PREPARATION

- 3.2.1 SURFACE PREPARATION
 - 1. Seven days maximum prior to seeding, –
 - A. Treat Lawn areas if required with "Round-Up" by Monsanto, per label direction to kill existing vegetation prior to seeding.
 - B. Loosen topsill areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.
 - C. Rake area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.
 - D. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required.
 - E. Apply limestone to supplied topsill if required by soil test report at rate determined by the soil test, to adjust pH of topsill to not less than 6.0 no more than 6.8. Distrib



EXTERIOR PLANTS

- 1.0 GENERAL
 1.1 SUMMARY
 1.1.1 Includes But Not Limited To
 1. Furnish and install landscaping plants as described in Contract Documents.
- 1.2 QUALITY ASSURANCE
 1.2.1 Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.
- 1.2.2 Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.
- 1.2.3 All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of two years.
- 1.2.4 Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable, at no additional charge. Larger plants shall not be cut back to size indicated.
- 1.2.5 Provide "specimen" plants with a special height, shape, or character of growth. Landscape Subcontractor is to tag specimen trees or shrubs at the source of supply. The Landscape Subcontractor shall furnish all material at source prior to Landscape Architect's approval. Landscape Subcontractor shall accompany Landscape Architect on final selection trip. The Landscape Architect will inspect specimen selections for suitability and adaptability to selected location. When specimen plants cannot be purchased locally, provide sufficient photographs of the proposed specimen plants for approval.
- 1.2.6 Plants may be inspected and approved at the place of growth for compliance with specification requirements for quality, size, and variety.
- 1.2.7 Approval of plant selection at the place of growth shall not impair the right of inspection and rejection upon delivery at the site or during progress of the work.
- 1.2.8 Provide percolation testing by filling plant pits with water and monitoring length of time for water to completely percolate into soil. Submit test results to Landscape Architect prior to starting work.
- 1.2.9 Before proceeding with work, check and verify dimensions and quantities. Report variations between Drawings and site to Landscape Architect before proceeding with work of this section.
- 1.2.10 Plant totals are for convenience only and are not guaranteed. Verify amounts shown on Drawings. All plantings indicated on Drawings are required unless indicated otherwise.
- 1.3 SUBMITTALS
 1.3.1 Provide and pay for material testing. Testing agency shall be acceptable to the Landscape Architect. Provide the following data:
 1. The loss of weight by ignition and moisture absorption capacity shall be tested for peat moss.
- 1.3.2 Submit the following material samples to Landscape Architect:
 1. Peat moss, shredded hardwood bark mulch, planting accessories, pre-emergent herbicides, and plant fertilizers.
- 1.3.3 Submit the following materials certification to Landscape Architect:
 1. Topsoil source and pH value, peat moss, and plant fertilizer.
- 1.4 DELIVERY, STORAGE, AND HANDLING
 1.4.1 Deliver fertilizer material in original, unopened and undamaged containers showing weight, analysis, and name of manufacturer. Store in manner to prevent wetting and deterioration.
- 1.4.2 Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected.
- 1.4.3 Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration.
- 1.4.4 Dig, pack, transport, and handle plants with care to ensure protection against injury.
- 1.4.5 Inspection certificates required by law shall accompany each shipment invoice or order to stock on arrival. The certificate shall be filed with the General Contractor's representative.
- 1.4.6 Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, shredded hardwood bark mulch, or in a manner acceptable to the General Contractor's representative.
- 1.4.7 Water heeded in planting daily.
- 1.4.8 No plant shall be bound with rope or wire in a manner that could damage or break the branches.
- 1.4.9 Cover plants transported on open vehicles with a protective covering to prevent wind burn.
- 1.4.10 Frozen or muddy topsoil is not acceptable.
- 1.5 PROJECT CONDITIONS
 1.5.1 See Landscape Preparation Section.
- 1.5.2 Work notification: notify Landscape Architect at least seven working days prior to installation of plant material.
- 1.5.3 Protect existing utilities, paving, and other facilities from damage caused by landscaping operations.
- 1.5.4 A complete list of plants, including a schedule of sizes, quantities, and other requirements is shown on the proposal form. In the event that quantity discrepancies or material omissions occur in the proposal form, Subcontractor shall notify the Landscape Architect during the proposal bidding process.
- 1.5.5 An irrigation system will be installed prior to planting. Locate, protect, and maintain the irrigation system during planting operations. Repair irrigation system components, damaged during planting operations, at the Landscape Subcontractor's expense.
- 1.5.6 The Landscape Subcontractor shall inspect existing soil conditions in all areas of the site where his operations will take place, prior to the beginning of work. It is the responsibility of the Landscape Subcontractor to notify the General Contractor's representative and the Landscape Architect in writing of any conditions which could affect the survivability of plant material to be installed.
- 1.6 WARRANTY
 1.6.1 See Landscape Maintenance and Warranty Standards.
- 2.0 PRODUCTS
 2.1 MATERIALS
 2.1.1 Plants: Provide plants typical of their species or variety, with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sunscald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces.
 1. Dig balled and burlapped plants with firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls are not acceptable.
 2. All trees shall have clay or clay loam balls. Trees with sand balls will be rejected.
 3. Provide tree species that mature at heights over 25'-0" with a single, main trunk. Trees that have the main trunk forming a "Y" shape are not acceptable.

4. Plants planted in rows shall be matched in form, (see specimen stock).
 5. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.

6. No pruning wounds shall be present with a diameter of more than 1" and such wounds must show vigorous bark on all edges.
 7. Evergreen trees shall be unsheared and branched to the ground.
 8. Shrubs and small plants shall meet the requirements for spread and height indicated on the drawings.
 9. Plant materials shall be subject to approval by the Landscape Architect as to size, health, quality, and character.
 10. Bare root trees are not acceptable.
 11. Provide plant materials from licensed nursery or grower.

2.1.2 Bare root plants: dug with adequate fibrous roots, to be covered with a uniform thick coating of mud by being budded immediately after they are dug or packed in moist straw or peat moss.

2.1.3 Container grown stock: grown in a container for sufficient length of time for the root system to have developed to hold its soil together, firm, and whole.

1. No plants shall be loose in the container.
 2. Container stock shall not be root bound.
 3. Single stemmed or thin plants will not be accepted.

4. Side branches shall be generous, well twiggled, and the plant as a whole well bushed to the ground.
 5. Plants shall be in a moist, vigorous condition, free from dead wood, bruises or other root or branch injuries.

2.1.4 Collected stock consists of plants growing under natural conditions in soils and climate as exist at location to be planted, in locations lending themselves to proper collecting practices. Root system (balls) to be at least twenty-five (25%) percent larger than specified for nursery grown material.

2.1.5 Specimen stock: all specimen designated plantings are to be nursery grown, fully developed, excellent quality, and typical example of the species. Plants designated to be planted in rows must be matched, symmetrical, and uniform in height, spread, caliper, and branching density.

1. Matched plantings should be obtained from the same nursery and, preferably, from the same row or line. All specimen material will be approved by the Landscape Architect at nursery.

2.1.6 Topsoil for planting mix: fertile, friable, natural topsoil of loamy character, without admixture of subsoil material, obtained from a well drained arable site, reasonably free from clay, lumps, coarse sands, stones, plants, roots, sticks, and other foreign materials with acidity range of between pH 6.0-6.8 for ericaceous plants.

2.1.7 Peat moss: brown to black in color, weed and seed free granulated raw peat.

1. Provide ASTM D2607 sphagnum peat moss with a pH below 6.0 for ericaceous plants.

2.1.8 Planting mixture Type A - trees: standard planting backfill shall be a mixture of ½ native soil (excavated from plant pits), ¼ topsoil, and ¼ sand. Add fertilizer Type "A" and "B" to planting mixture per manufacturer's requirements. Follow planting details. Planting mixture Type "A" for annual flower beds: same as type "B". Submit a sample to the Landscape Architect for approval prior to installation.

2.1.9 Planting mixture Type B for perennial flowers, groundcover beds, and ericaceous plants: planting backfill shall be a mixture of 1/3 screened topsoil, 1/3 sand and 1/3 peat. All existing soil shall be excavated and removed. Adding fertilizer types "A" and "B" to mixture per manufacturer's requirements. Following planting details. Planting mixture Type C for annual flower beds: same as type "B". Submit a sample to the Landscape Architect for approval prior to installation.

2.1.10 Plant fertilizer Type A to be "Drimurane" applied per manufacturer recommendations.

2.1.11 Plant fertilizer Type B to be "14-14-14". Apply per manufacturer recommendations.

2.1.12 Bone Meal - 5 lbs. per cubic yard of soil mixes.

2.1.13 Lime to be ground dolomitic limestone, ninety-five percent (95%) passing through #100 mesh screen. Use to adjust soil pH only, under direction of Landscape Architect.

2.1.14 Sand to be clean, coarse, ungraded conforming to ASTM-C-3 for fine aggregates.

2.1.15 Anti-Desiccant: protective film emulsion providing a protective film over plant surfaces; permeable to permit transpiration. Mixed and applied in accordance with Manufacturer's instructions.

2.1.16 Shredded bark mulch shall be double processed, dark shredded hardwood bark that is clean, free debris and sticks. Materials shall be uniform in size, shape and texture. Submit samples to Landscape Architect for approval prior to installation. Install mulch to finish grade, level smooth, without ridges, humps, or depressions.

2.1.17 Water: free of substances harmful to plant growth. Hoses or other methods of transportation shall be furnished by Sub Contractor.

2.1.18 Stakes for staking: (3) Three Hardwood, 2" x 2" x 8'-0" long. Driven a min. of 18" deep firmly into subgrade prior to backfilling. Stakes for guying: Hardwood, 2" x 2" x 36" long.

2.1.19 Guying/staking material: With 2"-3" wide fabric straps, connect from tree to stake. Remove after (1) year, allow for flexibility (do not use wire & hose).

2.1.20 Tree wrap: standard waterproof tree wrapping paper, 2-1/2" wide, made of 2 layers of crepe kraft paper weighing not less than 30 lbs. per ream, cemented together with asphalt. Secure tree wrap with biodegradable material at top and bottom. Remove after first winter.

2.1.21 Twine: two-ply jute material.

2.2 MEASUREMENTS

2.2.1 Measure height and spread of specimen plant materials with branches in their normal positions as indicated on Drawings or Plant List.

2.2.2 The measurements for height shall be taken from the ground level to the average height of the top of the plant and not the longest branch.

2.2.3 Measurement should be average of plant, not greatest diameter. For example, plant measuring 15 inches in widest direction and 9 inches in narrowest direction would be classified as 12 inch stock.

2.2.4 Plants properly trimmed and transplanted should measure same in every direction.

2.2.5 Measure caliper of trees 6 inches above surface of ground.

2.2.6 Where caliper or other dimensions of plant materials are omitted from Plant List, plant materials shall be normal stock for type listed.

2.2.7 Plant materials larger than those specified may be supplied, with prior written approval of Landscape Architect, and:

1. If complying with Contract Document requirements in all other respects.
 2. If at no additional cost to Owner.
 3. If sizes of roots or balls are increased proportionately.

2.2.8 The height of the trees, specified by height, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated on the drawings.

3.0 EXECUTION

3.1 INSPECTION

3.1.1 Landscape Architect or General Contractor's representative must approve proposed planting areas and conditions of installation. Do not start planting work until unsatisfactory conditions are corrected.

3.1.2 Individual plant locations shall be staked on the project site by the

Landscape Contractor and approved by the Landscape Architect before any planting pits are dug. The Landscape Architect reserves the right to adjust plant material locations to meet field conditions, without additional cost to the General Contractor / Owner.

3.1.3 Accurately stake plant material according to the Drawings. Stakes shall be above grade, painted a bright color, and labeled with the name of the plant material to be installed at that location.

3.2 TIME OF PLANTING

3.2.1 Evergreen material: Plant Evergreen materials between September 1 and October 15 or in spring before new growth begins. If project requirements require planting at other times, plants shall be sprayed with anti-desiccant prior to planting operations.

3.2.2 Deciduous material: Plant deciduous materials in a dormant condition. If deciduous trees are planted in leaf, they shall be sprayed with anti-desiccant prior to planting operation.

3.2.3 Planting times other than those indicated must be acceptable to the Landscape Architect.

3.3 PREPARATION

3.3.1 General: See Landscape Preparation Section

3.3.2 Vegetation Removal

1. Strip existing grass and weeds, including roots from all bed areas leaving the soil surface one ("1") inch below finish grade.

2. Herbicide: required to prepare area for new planting applied to all ground cover, evergreen and shrubbery beds and all mulch areas before application of preemergence herbicide, per manufacturer's recommendations. Clean area of all dead material after five (5) days.

3. Pre-Emergence Herbicide: applied per manufacturer recommendations to same area where "Herbicide" has been applied and to planting bed areas, after area is cleared of dead vegetation.

4. Herbicides to be applied by licensed applicator as required by the State.

5. Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide plant pits per planting details. Depth of pit shall accommodate the root system. Scarify the bottom of the pit to a depth of 6".

6. Roughen sides of excavations.

7. Provide premixed planting mixture Type "A" for use around the balls and roots of all deciduous and evergreen tree plantings.

3.3.3 Ground Cover Beds, Perennial Flower Beds, and Ericaceous Plant Beds

1. Excavate existing soil to 12" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Set plants according to drawings and backfill entire bed with premixed planting mixture "Type B". Ground Cover shall be planted after bed has been backfilled with plant mix and mulched. Plant ground cover through mulch and into plant mix.

3.3.4 Mass Shrub Beds / Hedge Beds:

1. Excavate existing soil to 18" depth over entire bed area and remove soil from site. Scarify bottom of the bed to a 4" depth. Set plants according to drawings and Specifications. Backfill entire bed with (premixed) specified planting mixture Type "A".

3.3.5 Annual Flower Beds:

1. Excavate existing soil to 8" depth over entire bed area and remove soil from site. Scarify bottom of bed to a 4" depth. Backfill entire bed to 8" depth with premixed planting mixture "Type B".

3.4 INSTALLATION

3.4.1 Planting shall be performed only by experienced workman familiar with planting procedures under the supervision of a qualified supervisor.

3.4.2 Planting pits shall be round, with vertical sides and flat bottoms, and sized in accordance with outlines and dimensions shown on the planting details.

3.4.3 See drawings for planting details.

3.4.4 If obstructions are encountered that are not indicated, do not proceed with planting operations until alternative plant locations have been selected and approved in writing by the Landscape Architect. Where location or spacing dimensions are not clearly shown, request clarification by the Landscape Architect.

3.4.5 Set plant material in the planting pit to proper grade and alignment.

1. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structure.

2. Set plant material so it is flush to finish grade after settling, or 1-2" higher in poorly drained soil, or as directed by Landscape Architect.

3. No filling will be permitted around the trunks or stems.

4. Do not cover top of root ball with soil.

5. Backfill pit with planting mixture. Do not use frozen or muddy mixtures for backfilling.

6. Form a ring of soil around the edge of the planting pit to retain water.

3.4.6 After balled and burlapped plants are set, tamp planting mixture around of balls and fill all voids and remove air pockets.

3.4.7 Remove all burlap, ropes, and wires from top 1/3 of balls.

3.4.8 Space ground cover plants in accordance with indicated dimensions. Adjust spacing as necessary to evenly fill planting bed with indicated quantity of plants. Plant to within 12" of trunks and shrubs and to within 6" of planting bed.

3.4.9 Spread and arrange roots of bare rooted plants in their natural position. Work in planting mixture. Do not melt roots together. Cut all broken and frayed roots before installing planting mixture.

3.4.10 Water immediately after planting.

3.4.11 Apply pre-emergent herbicide to bed areas per manufacturer's recommendations before mulching.

3.5 MULCHING

3.5.1 Mulch trees and shrub planting pits and shrub beds with shredded hardwood bark which 3" to 4" thick, applied immediately after planting. Leave 3" circle of bare soil around tree trunk. Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

3.5.2 Mulch shall not be placed in contact with trunks or stems.

3.5.3 Mulch ground cover beds with shredded bark mulch 2" to 3" deep prior to planting.

3.5.4 Plant ground cover through mulch.

3.6 WRAPPING, GUYING, AND STAKING

3.6.1 Inspect trees for injury to trunks, evidence of insect infestation and improper pruning before wrapping.

3.6.2 Wrap trunks of all trees spirally from bottom to top with specified tree wrap and secure in place.

3.6.3 Stake deciduous trees under 4" caliper. Stake ever