

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY
THIS PROJECT, LOCATED IN THE LOWER SOUTHEAST HEIGHTS OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE PROPOSED COURTYARD DEVELOPMENT IS COMPRISED OF NEW PAVING WITH ASSOCIATED PRIVATE STORM DRAIN AND LANDSCAPING IMPROVEMENTS. THE EXISTING COURTYARD CURRENTLY LACKS POSITIVE DRAINAGE AND IS PLAGUED BY NOISE AND PONDING. THE PROPOSED STORM DRAIN IMPROVEMENTS WILL PROVIDE POSITIVE DRAINAGE FROM THE COURTYARD TO QUINCY STREET SE.

THIS SUBMITTAL IS MADE IN SUPPORT OF GRADING, PAVING AND SO/19 PERMITS WITHIN THE JURISDICTION OF THE CITY OF ALBUQUERQUE.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SCHOOL SITE OCCUPIES THE BLOCK BOUNDED ON THE NORTH BY KATHRYN AVENUE SE, ON THE EAST BY TRUMAN STREET SE, ON THE SOUTH BY ANDERSON AVENUE SE AND ON THE WEST BY QUINCY STREET SE. THE CURRENT LEGAL DESCRIPTION IS TRACT A, BLOCK 7A, RIDGECREST ADDITION, KNOWN AS WHITTIER ELEMENTARY SCHOOL. AS SHOWN BY PANEL 354 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 28, 2008, THIS SCHOOL SITE LIES ADJACENT TO AN ADJACENT 1 DESIGNATED FLOOD HAZARD ZONE THAT COINCIDES WITH TRUMAN STREET SE AND KATHRYN AVENUE SE. WHERE THE FLOOD ZONE IS CONFINED TO THE STREET. THIS APPARENT STREET FLOODING DOES NOT IMPACT THE PROJECT SITE THAT IS LOCATED ON THE WEST SIDE OF THE CAMPUS, AWAY FROM THE STREETS IDENTIFIED BY THE FLOODPLAIN MAPPING.

III. BACKGROUND DOCUMENTS

- THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS:
- TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 AND UPDATED 04-03-2012. THIS REFERENCED SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE PROJECT SITE.
 - DRAINAGE SUBMITTAL FOR KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS AT WHITTIER ELEMENTARY SCHOOL (PHASE 1) PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 8547) DATED 07-28-2011. THIS PRIOR SUBMITTAL REPRESENTS PHASE 1 DRAINAGE IMPROVEMENTS ON THE WHITTIER ELEMENTARY SCHOOL CAMPUS FOCUSED UPON MITIGATING DRAINAGE PROBLEMS ON THE SITE. PHASE 2 IS AN EXTENSION OF THE INITIAL PROJECT. UPON COMPLETION OF PHASE 2, BOTH PHASES WILL BE CERTIFIED BY THE ENGINEER OF RECORD AS A COMBINED SUBMITTAL FOR ACCEPTANCE OF THE GRADING AND DRAINAGE IMPROVEMENTS.
 - WHITTIER ELEMENTARY SCHOOL GRADING AND DRAINAGE PLAN PREPARED BY ISAACSON AND ARMAN (NMPS 7322) DATED 10-19-2005. THIS PLAN INCLUDED THE INSTALLATION OF TWO FRENCH DRAINS IN THE COURTYARD BETWEEN THE ADMINISTRATION BUILDING, MEDIA BUILDING AND CLASSROOM BUILDING. THE APPARENT DESIGN INTENT WAS TO COLLECT AND INFILTRATE THE RUNOFF THAT COLLECTS IN THIS LOW AREA. HOWEVER, THE INLETS HAVE FAILED AND ARE CLOGGED WITH SEDIMENT; RUNOFF DRAINING TO THE FAILED FRENCH DRAINS IS PONDING WITHIN THE COURTYARD, WITH THE OVERFLOW ENCRoACHING ONTO DESIGNATED SIDEWALK AREAS AND RENDERING THE COURTYARD UNUSABLE FOR SCHOOL ACTIVITIES.
 - PLATE L17, STORM FACILITIES MAPS, CITY OF ALBUQUERQUE, JULY 30, 2002. THIS MAPPING VERIFIED THE PRESENCE OF LARGE DIAMETER PUBLIC STORM DRAIN FACILITIES (30" AND 66") WITHIN KATHRYN AVENUE SE. DESPITE THE PRESENCE OF THESE FACILITIES, KATHRYN AVENUE SE EXISTS AS A DESIGNATED FLOOD HAZARD ZONE AO.
 - PLATE L17, THE ALBUQUERQUE MASTER DRAINAGE STUDY (AMDS) PREPARED BY BOHANNAN-HUSTON FOR THE CITY OF ALBUQUERQUE DATED JANUARY, 1981. THE AMDS PROVIDES BACKGROUND INFORMATION RELATIVE TO THE MASTER PLAN CORRECTION OF FLOODING IN THE VICINITY OF THE WHITTIER SCHOOL CAMPUS. BY CROSS-REFERENCING WITH THE COA STORM FACILITIES MAP (SEE ABOVE), IT APPEARS THE STORM DRAIN IMPROVEMENTS PROPOSED IN THE AMDS DOWNSTREAM OF THIS SITE HAVE NOT BEEN CONSTRUCTED, NECESSITATING THE CONTINUATION OF CONTROLLED DISCHARGE TO KATHRYN AVENUE SE.

IV. EXISTING CONDITIONS

THE OVERALL SITE IS A DEVELOPED ELEMENTARY SCHOOL CAMPUS. AT PRESENT, THE SITE DRAINS TO THE ADJACENT CITY STREETS THAT SURROUND THE PROPERTY. ULTIMATELY, THE SITE DISCHARGES ITS RUNOFF TO KATHRYN AVENUE SE, AN AO DEPTH 1 DESIGNATED FLOOD HAZARD ZONE. THE PORTION OF THE SITE COVERED BY THIS SUBMITTAL CONSISTS OF A PARTIALLY DEVELOPED COURTYARD. THE COURTYARD GENERALLY DRAINS TO TWO (2) FRENCH DRAINS AT LOW POINTS THAT HAVE FAILED. RUNOFF DRAINAGE ENTERING THIS AREA PONDING AND EVENTUALLY OVERFLOWS TO THE NORTH ACROSS THE SIDEWALKS AND ONTO AN ADJACENT CITY-LEASED PARK WITHIN THE APS OWNED PROPERTY. THIS OVERFLOW ULTIMATELY DISCHARGES INTO QUINCY STREET SE AND KATHRYN AVENUE SE.

REVIEW OF THE CITY OF ALBUQUERQUE STORM DRAIN FACILITIES MAPS INDICATES THAT AN EXISTING 66" PUBLIC STORM DRAIN PARALLELS A 30" PUBLIC STORM DRAIN ALSO WITHIN KATHRYN AVENUE SE. DESPITE THE PRESENCE OF THESE PUBLIC FACILITIES, KATHRYN AVENUE SE EXISTS AS A DESIGNATED FLOOD HAZARD ZONE. THE PRESENCE OF THE DESIGNATED FLOOD HAZARD AREAS ADJACENT TO AND DOWNSTREAM OF THIS SITE DICTATE CONTROLLED DISCHARGE. OFFSITE FLOWS DO NOT IMPACT THE PROJECT SITE AS OFFSITE FLOWS APPEAR TO BE CONTAINED WITHIN THE PUBLIC ROADWAY CORRIDORS AS SUGGESTED BY THE FLOODPLAIN MAP.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF DEVELOPING THE COURTYARD AREA INTO AN OUTDOOR CLASSROOM SERVED BY A NEW PRIVATE STORM DRAIN SYSTEM. RUNOFF FROM THE OUTDOOR CLASSROOM AND ADJACENT ROOF AREAS WILL DRAIN TO NEW STORM INLETS CONNECTED BY SMALL DIAMETER PIPING. AN 8" PRIVATE STORM DRAIN WILL COLLECT AND DISCHARGE THIS RUNOFF WEST TO QUINCY STREET WHERE IT WILL DISCHARGE VIA 12" SIDEWALK CULVERT TO BE CONSTRUCTED BY SO/19 PERMIT.

THE LIMITED SCOPE OF THIS PROJECT WILL RESULT IN A MINOR INCREASE IN THE IMPERVIOUSNESS OF THE SITE. THE RESULT IS A NEGLIGIBLE INCREASE IN RUNOFF GENERATED BY THIS PORTION OF THE SCHOOL SITE. DISCHARGE TO QUINCY STREET SE WILL BE CONTROLLED VIA THE 8" PRIVATE STORM DRAIN THAT RELEASES RUNOFF TO THE STREET. THIS PROJECT WILL NOT ALTER OFFSITE FLOW CONDITIONS.

VI. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED OUTDOOR CLASSROOM AND PRIVATE STORM DRAIN IMPROVEMENTS WILL MITIGATE NOISE AND PONDING IN THE SUBJECT AREA.

VII. CALCULATIONS

THE CALCULATIONS CONTAINED HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL EVENT. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS DEMONSTRATED BY THESE CALCULATIONS, THE PROPOSED OUTDOOR CLASSROOM IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE INCREASE IN THE DEVELOPED RUNOFF GENERATED BY THIS PORTION OF THE SCHOOL SITE. THE DISCHARGE CAPACITY OF THE 8" STORM DRAIN HAS BEEN EVALUATED BY THE MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES.

VIII. CONCLUSIONS

- THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:
1. THE PROPOSED IMPROVEMENTS WILL PROVIDE POSITIVE DRAINAGE IN THE COURTYARD THEREBY ELIMINATING PONDING.
 2. THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR INCREASE IN THE IMPERVIOUSNESS OF THIS PORTION OF THE SITE.
 3. THE PROPOSED IMPROVEMENTS WILL RESULT IN A NEGLIGIBLE INCREASE IN RUNOFF GENERATED BY THIS PORTION OF THE SITE.
 4. THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS.

LEGEND

APX	APPROXIMATE
BE	BUILDING ENTRANCE
BOH	BARREL PLANTER
C/PM	COMMUNICATION LINE BY PAINT MARK
CBC	CONCRETE BUILDING COLUMN
CND	COMMUNICATION CONDUIT AT POLE
CCP	COMMUNICATION PANEL
CDP	CONCRETE DRIVE PAD
CF	CRUSHER FINES
CHC	CONCRETE HEADER CURB
CLD	CENTERLINE DOOR
CLDD	CENTERLINE DOUBLE DOOR
CLF	CHAIN LINK FENCE
CLN	CONCRETE LANDING
CND	ELECTRIC CONDUIT
CP	CONCRETE PIPE
CPB	COMMUNICATION PULLBOX
CR	CONCRETE RAMP
CS	CONCRETE STEPS
CSW	CONCRETE SIDEWALK
CW	CONCRETE WALL
DBL	DOUBLE
E/PM	ELECTRIC LINE BY PAINT MARK
EP	ELECTRIC PANEL
FL	FLOWLINE
FP	FLAG POLE
G/PM	GAS LINE BY PAINT MARK
GM	GAS METER
GS	GAS SERVICE
GT	GATE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HFG	HIGH PRESSURE GAS LINE
ICT	IRRIGATION CONTROL TIMER
INV	INVERT
IRV	IRRIGATION VALVE BOX (NON FUNCTIONAL)
IV	IRRIGATION VALVE BOX
MB	METAL BENCH
MC	METAL COVER
MC/CB	METAL CANOPY COLUMN WITH 1'x1' CONCRETE BASE
MH	MANHOLE
MHR	METAL HAND RAIL
MHR/W	METAL HAND RAIL ON TOP OF WALL
MS	METAL SIGN
OHC(1)	OVERHEAD COMMUNICATION (# OF LINES)
OPM	ELECTRIC OVERHEAD MAST
RD	ROOF DRAIN
RD/SP	ROOF DRAIN WITH CONCRETE SPLASH PAD
RIP	RIP-RAP
SAS	SANITARY SEWER
SAS/PM	SANITARY SEWER LINE BY PAINT MARK
SD	STORM DRAIN
SP	STEEL POLE
ST	STEEL
STD C&G	COA STANDARD CURB AND GUTTER
SW	SIDEWALK
TA	TOP OF ASPHALT
TC	TOP OF CURB
TCO	TOP OF CONCRETE
TW	TOP OF WALL
TYP	TYPICAL
WF	WATER FAUCET
WHB	WATER HOT BOX
WF	WROUGHT IRON FENCE
WL	WATER LINE BY PAINT MARK
WLB/PM	WATER LINE BY PAINT MARK
WNB	WATER METER BOX
WNV	WATER VAULT
WVB	WATER VALVE BOX
*	PAINTED UTILITY LINE-SPOT
0.8'φ	TREE TRUNK DIAMETER
☀	CONFEROUS TREE
☀	SMALL DECIDUOUS TREE
●	TREE STUMP
○	SHRUB
○	SMALL SHRUB

CONSTRUCTION NOTES

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 FOR DESIGNATION (LINE-SHOOTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
7. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
8. BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
9. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
10. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

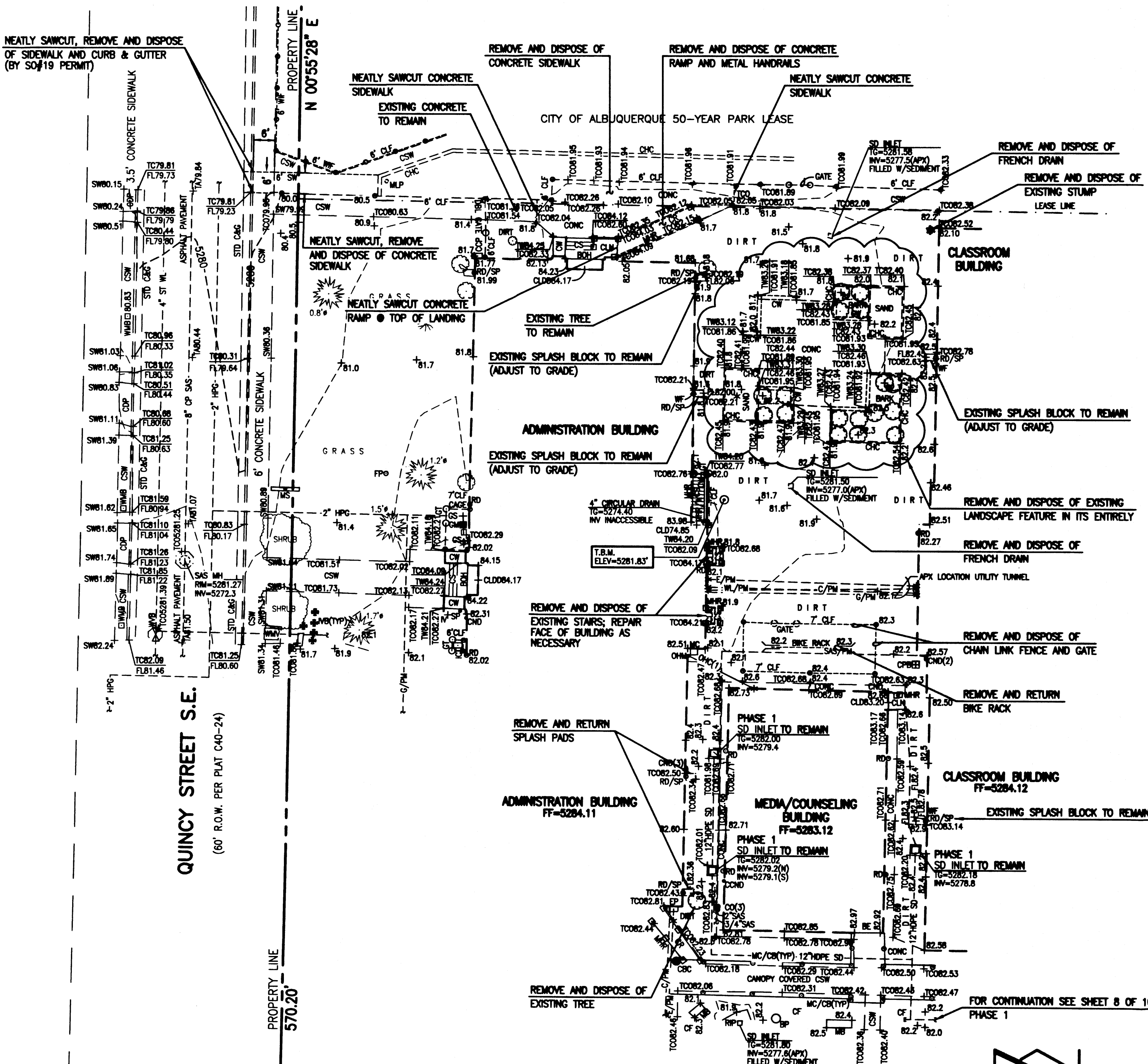
EROSION NOTES

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

BENCHMARKS

PROJECT BENCHMARK
A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E.
ELEVATION = 5232.489 FEET (NAVD 1988)

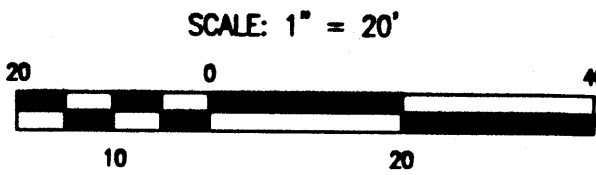
TEMPORARY BENCHMARK (T.B.M.)
A #5 REBAR WITH CAP STAMPED "HMC CONTROL NMPS 11184" AS SHOWN ON THIS SHEET.
ELEVATION = 5281.83 FEET (NAVD 1988)



DESIGN SURVEY NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON UNRECORDED BOUNDARY SURVEY BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011, (2010.182.8). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8), UPDATED BY HIGH MESA CONSULTING GROUP (NMPS 15075) DATED 04-03-2012 (2011.183.3), AND SUPPLEMENTED BY ENGINEER'S SITE VISIT DATED 09-26-2012.

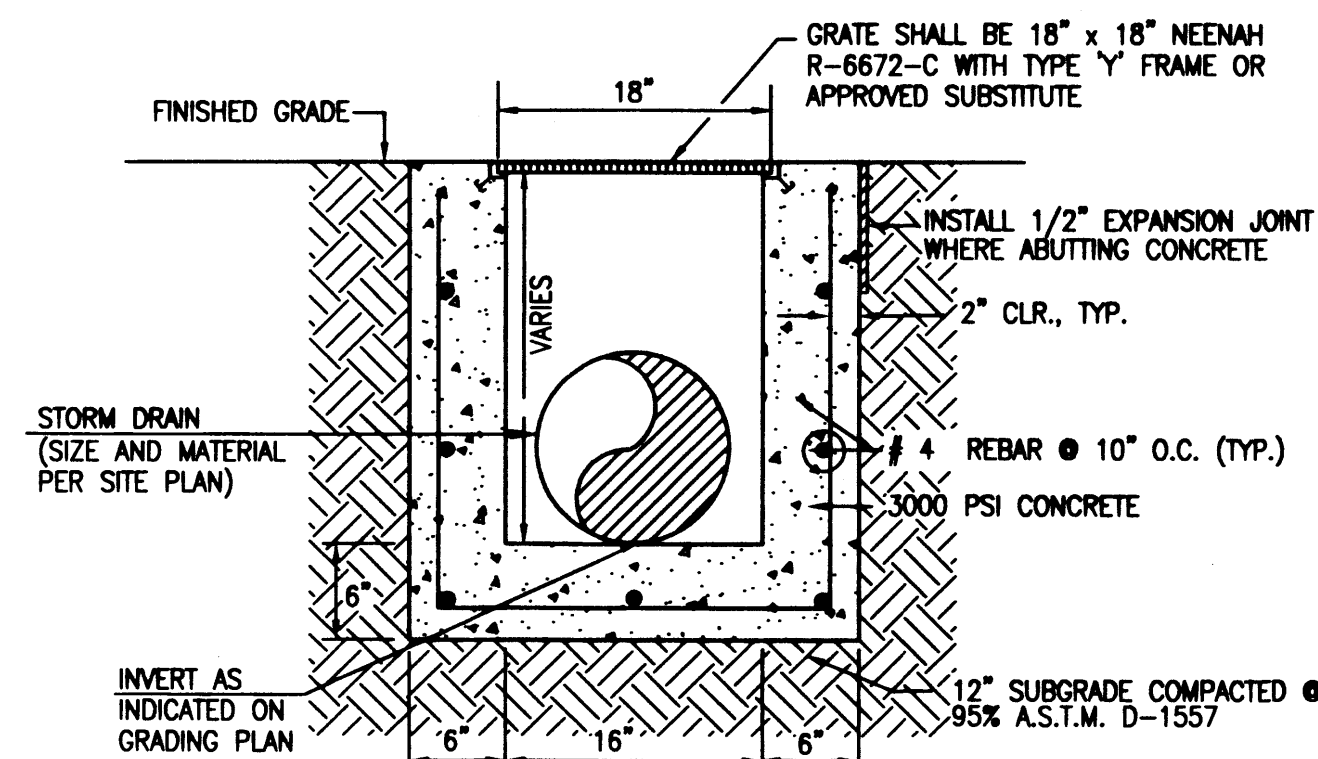
HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

EXISTING CONDITIONS, DEMOLITION AND DRAINAGE PLANS
DRAINAGE IMPROVEMENTS - PHASE 2
WHITTIER ELEMENTARY SCHOOL

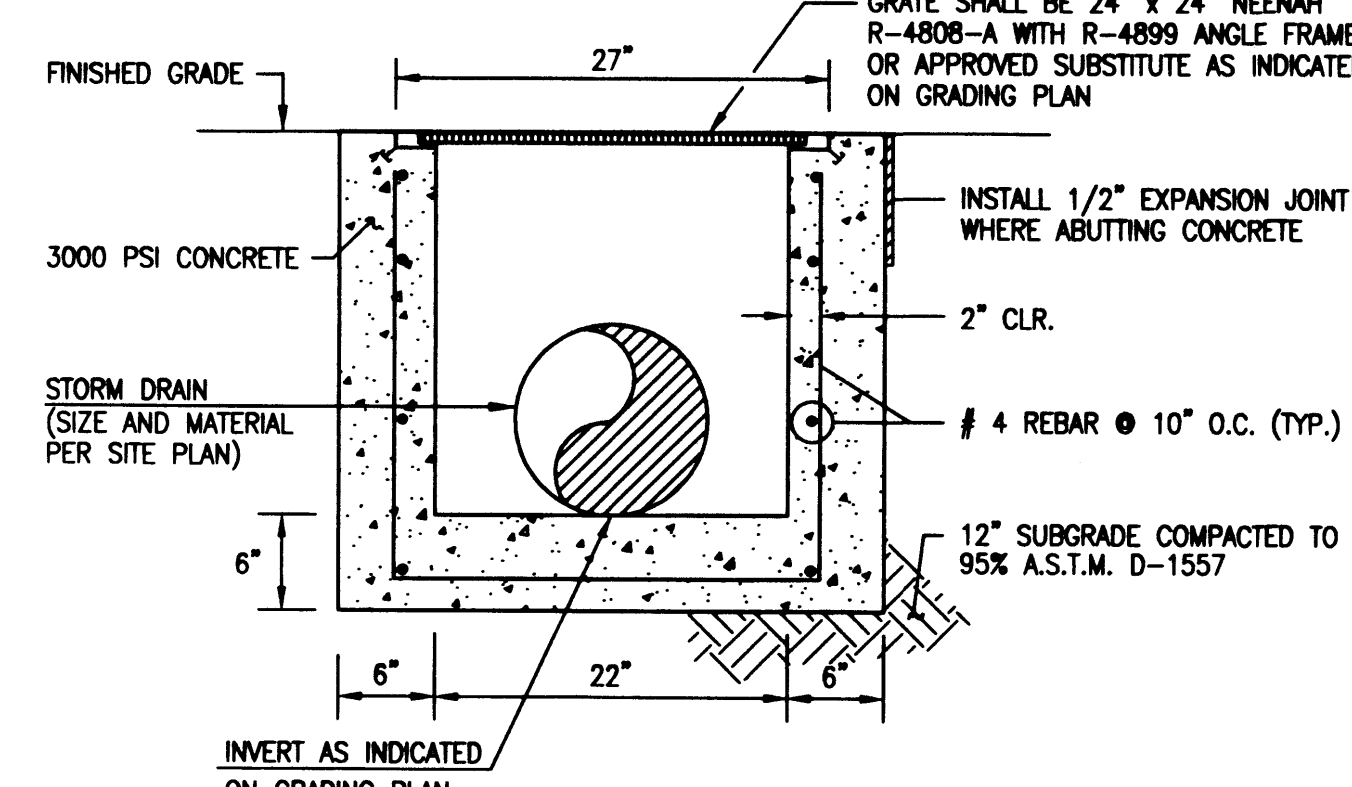


DESIGNED BY	JGM/JDS	DATE	BY	REVISIONS	JOB NO.
DRAWN BY	EJS/JJR				2010.183.1
APPROVED BY	JGM				DATE 10-2012
					SHEET 1 OF 3

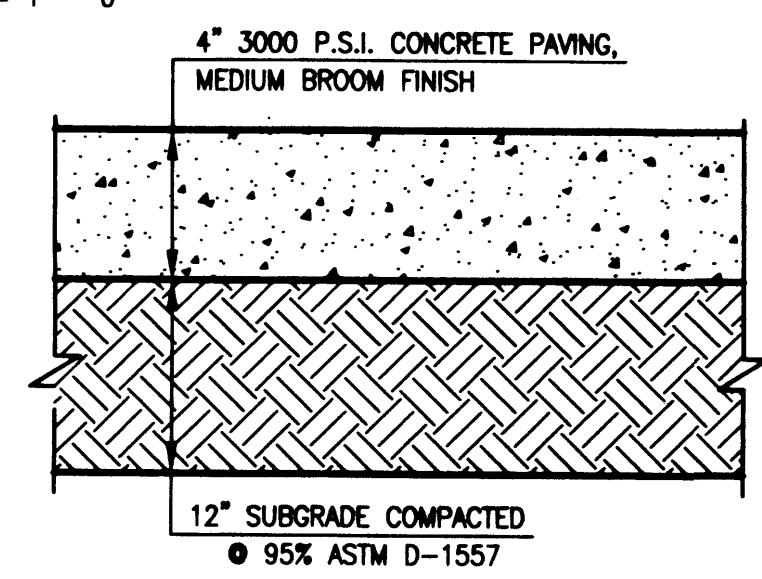




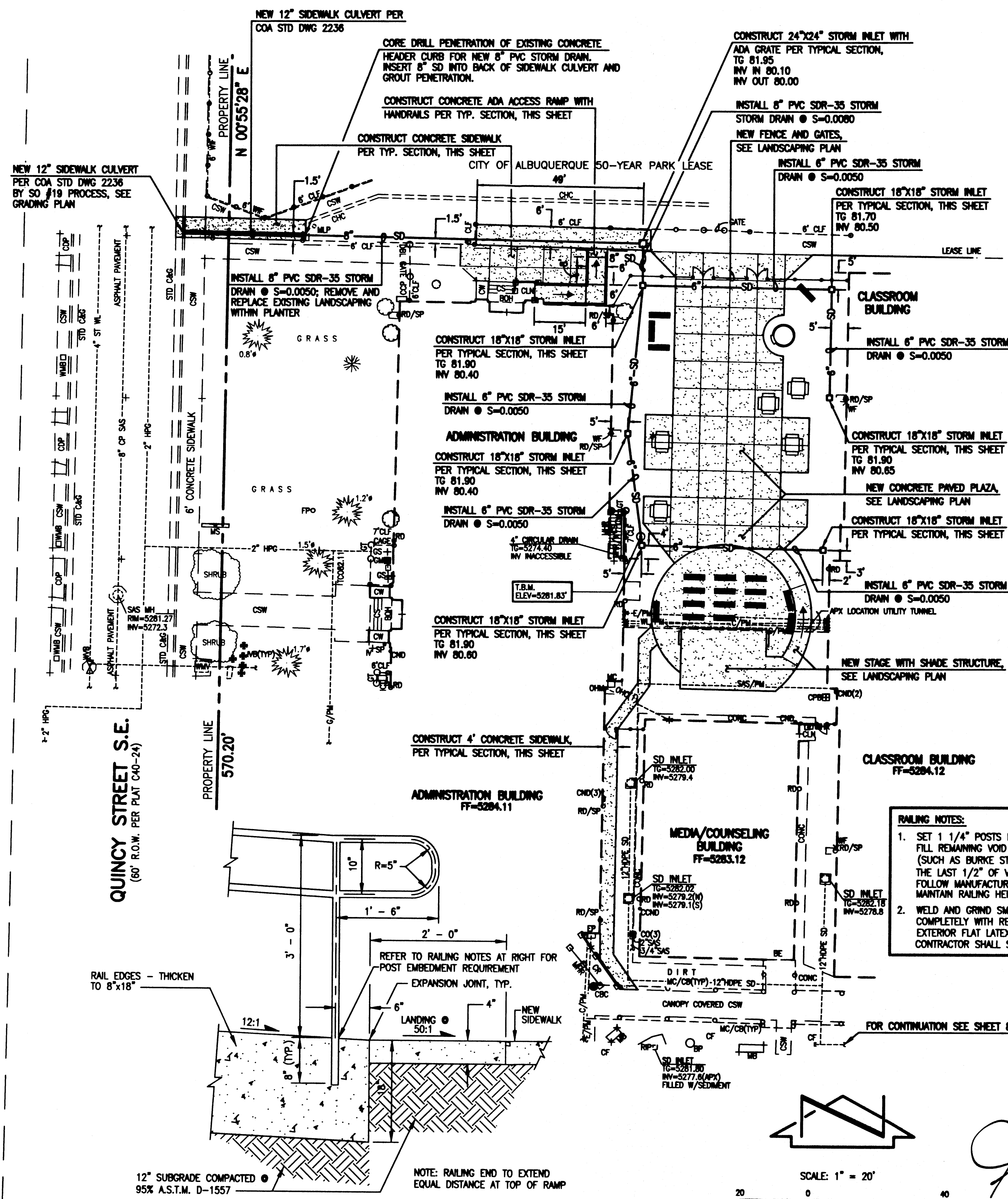
(D1) TYPICAL 18"x18" STORM INLET SECTION
SCALE: 1" = 1'-0"



(C1) TYPICAL 24"x24" STORM INLET SECTION
SCALE: 1" = 1'-0"



(B1) TYPICAL CONCRETE PAVEMENT/ SIDEWALK SECTION
SCALE: 1" = 0'-6"



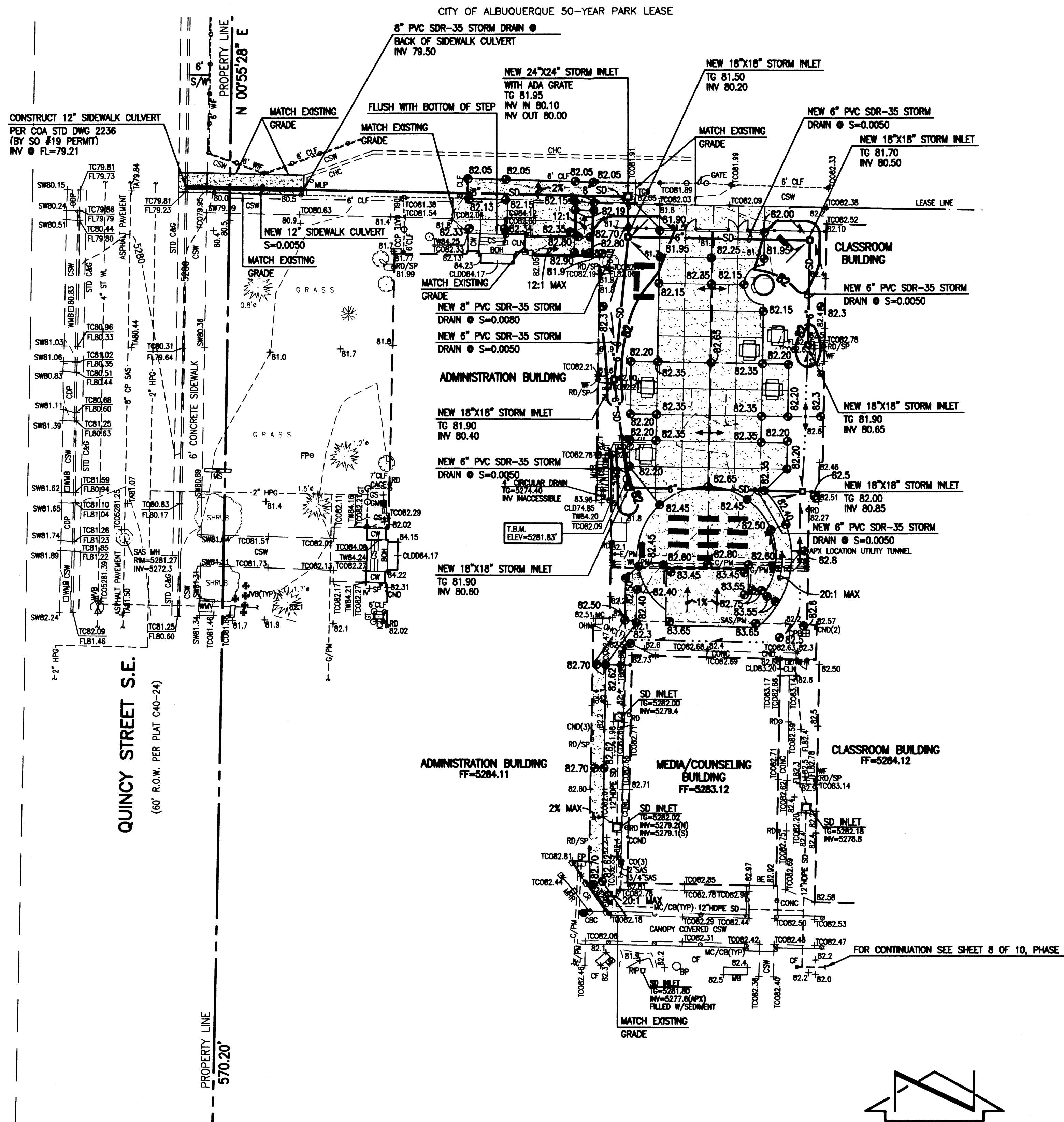
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- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVALS	NAME	DATE
HYDROLOGY		
SIDEWALK INSPECTOR		
STORM DRAIN MAINTENANCE		

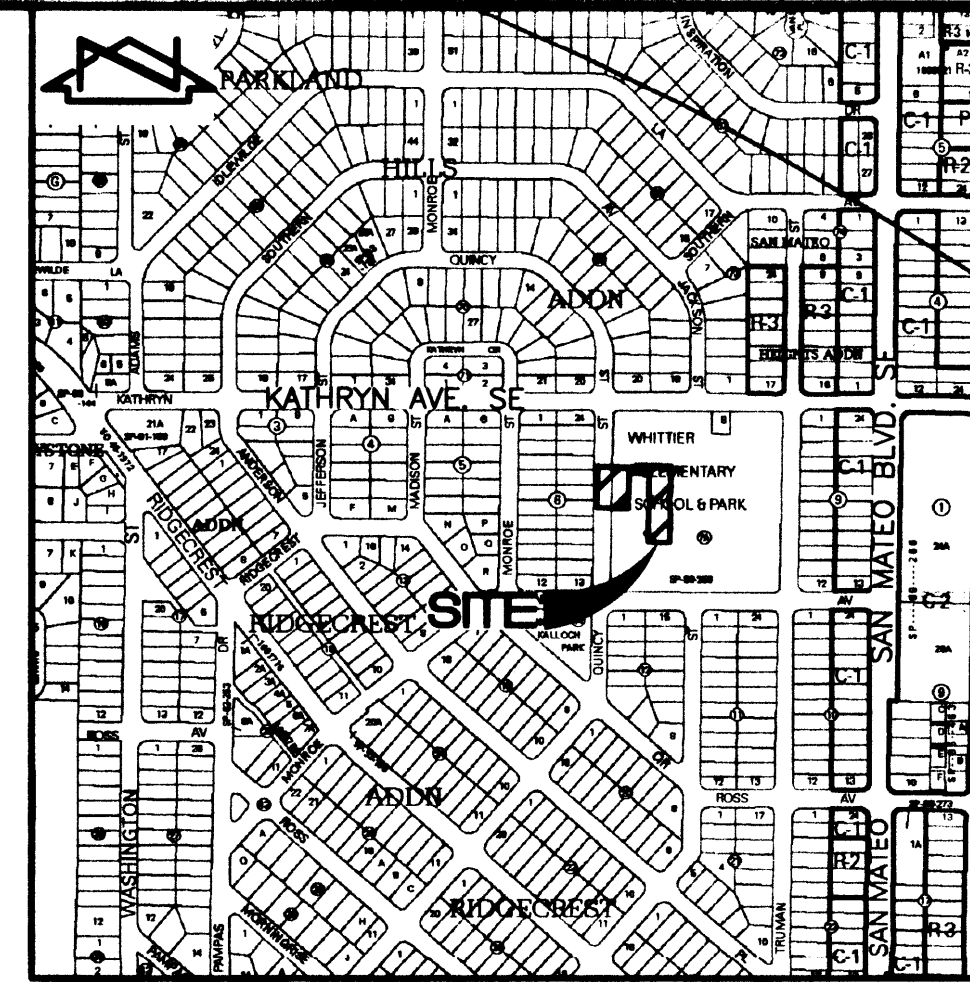
CALCULATIONS

- I. SITE CHARACTERISTICS**
- A. PRECIPITATION ZONE = 2
- B. $P_{100, 6 \text{ HR}} = P_{300} = 2.35$
- C. TOTAL PROJECT AREA (A_T) = 18,800 SF
0.43 AC
- D. LAND TREATMENTS**
1. EXISTING LAND TREATMENT
- | TREATMENT | AREA (SF/AC) | % |
|-----------|---------------|----|
| C | 7,310 / 0.17 | 39 |
| D | 11,490 / 0.26 | 61 |
2. DEVELOPED LAND TREATMENT
- | TREATMENT | AREA (SF/AC) | % |
|-----------|---------------|----|
| C | 3,960 / 0.09 | 21 |
| D | 14,840 / 0.34 | 79 |
- II. HYDROLOGY**
- A. EXISTING CONDITION**
1. VOLUME
- $$E_{100} = (E_{100}A_A + E_{100}A_B + E_{100}A_C + E_{100}A_D)A_T$$
- $$E_{100} = (0.53(0.00) + (0.78(0.00) + (1.13(0.17) + (2.12(0.26))0.43 = 1.74 \text{ IN}$$
- $$V_{100, 6 \text{ HR}} = (E_{100}/12)A_T = (1.74/12)0.43 = 0.0624 \text{ AC-FT} = 2,720 \text{ CF}$$
2. PEAK DISCHARGE
- $$Q_p = Q_{p1}A_A + Q_{p2}A_B + Q_{p3}A_C + Q_{p4}A_D$$
- $$Q_p = Q_{100} = (1.56(0.00) + (2.28(0.00) + (3.14(0.17) + (4.70(0.26)) = 1.8 \text{ CFS}$$
- B. DEVELOPED CONDITION**
1. VOLUME
- $$E_{100} = (E_{100}A_A + E_{100}A_B + E_{100}A_C + E_{100}A_D)A_T$$
- $$E_{100} = (0.53(0.00) + (0.78(0.00) + (1.13(0.09) + (2.12(0.34))0.43 = 1.92 \text{ IN}$$
- $$V_{100, 6 \text{ HR}} = (E_{100}/12)A_T = (1.92/12)0.43 = 0.0688 \text{ AC-FT} = 3,000 \text{ CF}$$
2. PEAK DISCHARGE
- $$Q_p = Q_{p1}A_A + Q_{p2}A_B + Q_{p3}A_C + Q_{p4}A_D$$
- $$Q_p = Q_{100} = (1.56(0.00) + (2.28(0.00) + (3.14(0.09) + (4.70(0.34)) = 1.9 \text{ CFS}$$
3. 8" STORM DRAIN CAPACITY (MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES)
- $$Q = 1.49/n \cdot A \cdot R^{2/3} \cdot S^{1/2}$$
- $$Q = 1.49/0.013 \cdot 0.35 \cdot 0.17^{2/3} \cdot 0.005^{1/2}$$
- $$Q_{\text{CAP}} = 0.9 \text{ CFS}$$
- C. COMPARISON**
1. VOLUME
- $$\Delta V_{100, 6 \text{ HR}} = 3,000 - 2,720 = 280 \text{ CF (INCREASE)}$$
2. PEAK DISCHARGE
- $$\Delta Q_{100} = 1.9 - 1.8 = 0.1 \text{ CFS (INCREASE)}$$



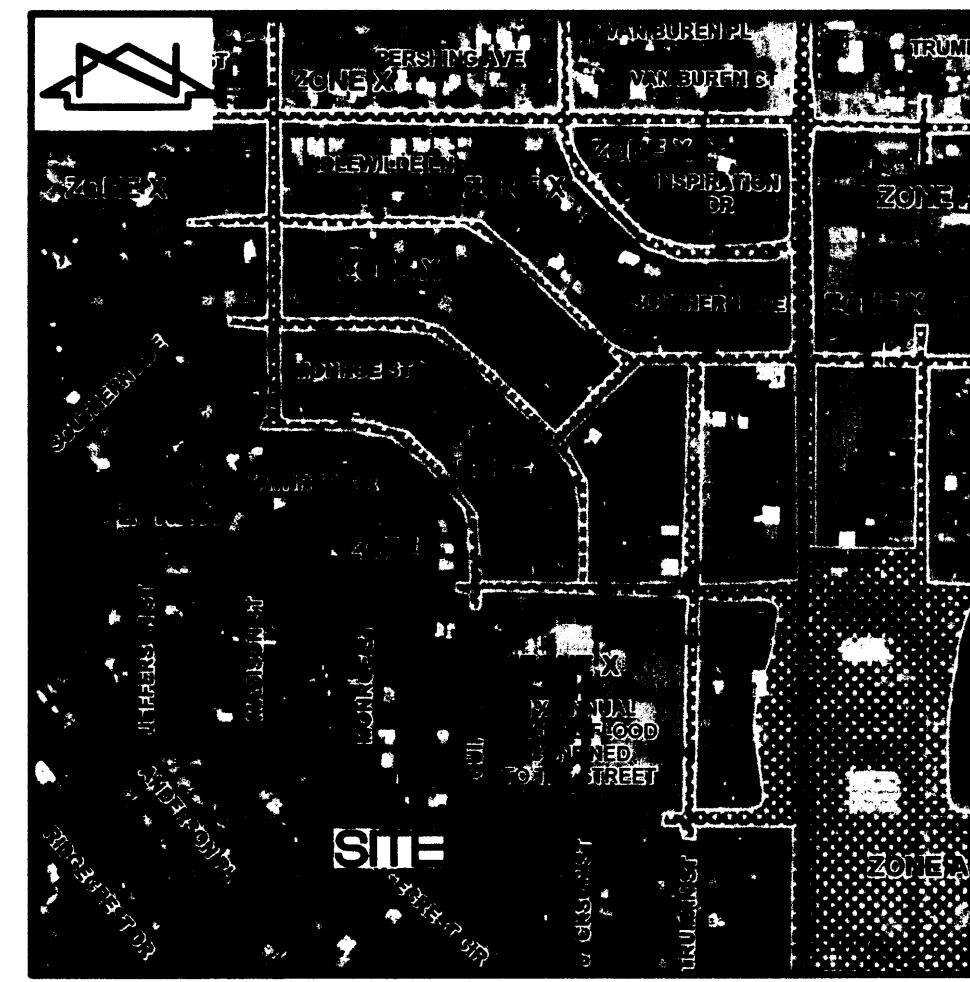
LEGEND

- | | |
|---------|--|
| APX | APPROXIMATE |
| BE | BUILDING ENTRANCE |
| BOH | CONCRETE OVERHANG |
| C/PM | COMMUNICATION LINE BY PAINT MARK |
| CBC | CONCRETE BUILDING COLUMN |
| CEND | COMMUNICATION CONDUIT AT POLE |
| CCP | COMMUNICATION PANEL |
| CP | CONCRETE DRIVE PAD |
| CPH | CRUSHER FINES |
| CHC | CONCRETE CURB |
| CLD | CENTERLINE DOOR |
| CLDD | CENTERLINE DOUBLE DOOR |
| CLF | CHAIN LINK FENCE |
| CLN | CONCRETE LANDING |
| CND | ELECTRIC CONDUIT |
| CP | CONCRETE PIPE |
| CPB | COMMUNICATION PULLBOX |
| CS | CONCRETE RAMP |
| CSW | CONCRETE SIDEWALK |
| CW | CONCRETE WALL |
| DBL | DOUBLE |
| E/PM | ELECTRIC LINE BY PAINT MARK |
| EP | ELECTRIC PANEL |
| FL | FLAG POLE |
| G/PM | GAS LINE BY PAINT MARK |
| GM | GAS METER |
| GS | GAS SERVICE |
| GT | GATE |
| HPG | HIGH DENSITY POLYETHYLENE PIPE |
| ICT | HIGH PRESSURE GAS LINE |
| INV | IRRIGATION CONTROL TIMER |
| IVB | IRRIGATION VALVE BOX (NON FUNCTIONAL) |
| MB | MANHOLE |
| MC | METAL BENCH |
| MC/CB | METAL COVER |
| | METAL CANOPY COLUMN WITH 1'x1' CONCRETE BASE |
| MH | METAL HAND RAIL |
| MHR/W | METAL HAND RAIL ON TOP OF WALL |
| MLP | METAL LIGHT POLE |
| MS | METAL SIGN |
| OH(1) | OVERHEAD COMMUNICATION (# OF LINES) |
| OHM | ELECTRIC OVERHEAD MAST |
| RD | ROOF DRAIN |
| RD/SP | ROOF DRAIN WITH CONCRETE SPLASH PAD |
| RIP | ROOF DRAIN |
| SAS | SANITARY SEWER |
| SAS/PM | SANITARY SEWER LINE BY PAINT MARK |
| SD | STORM DRAIN |
| SP | STEEL POLE |
| ST | CEILING |
| STD C&G | STANDARD CURB AND GUTTER |
| SW | SIDEWALK |
| TA | TOP OF ASPHALT |
| TC | TOP OF CURB |
| TCO | TOP OF CONCRETE |
| TW | TOP OF WALL |
| TYP | TYPICAL |
| WF | WATER FAUCET |
| WHB | WATER HOT BOX |
| WIF | WROUGHT IRON FENCE |
| WL | WATER LINE |
| WL/PM | WATER LINE BY PAINT MARK |
| WMB | WATER METER BOX |
| WNV | WATER VAULT |
| | WATER VALVE BOX |
| * | PAINTED UTILITY LINE-SPOT |
| 0.8" | TREE TRUNK DIAMETER |
| | CONIFEROUS TREE |
| | SMALL DECIDUOUS TREE |
| | TREE STUMP |
| | SHRUB |
| | SMALL SHRUB |
| | EXISTING ELEVATION |
| | PROPOSED SPOT ELEVATION |
| | EXISTING FLOWLINE |
| | PROPOSED FLOWLINE |
| | EXISTING CONTOUR |
| | PROPOSED CONTOUR |
| | EXISTING DIRECTION OF FLOW |
| | PROPOSED DIRECTION OF FLOW |
| | HIGH POINT / DIVIDE |
| | PROPOSED CONCRETE |



VICINITY MAP

SCALE: 1" = 750'



F.I.R.M. PANEL 354 OF 825

SCALE: 1" = 500'

EFFECTIVE DATE 09-26-2008

EROSION NOTES

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

BENCHMARKS

PROJECT BENCHMARK

A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E. ELEVATION = 5232.489 FEET (NAVD 1988)

TEMPORARY BENCHMARK (T.B.M.)

A #5 REBAR WITH CAP STAMPED "HMCC CONTROL NMPS 11184" AS SHOWN ON THIS SHEET. ELEVATION = 5281.83 FEET (NAVD 1988)

LEGAL DESCRIPTION

TRACT A, BLOCK 7A, RIDGECREST ADDITION, ALBUQUERQUE, NEW MEXICO,

DESIGN SURVEY NOTE:

THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON UNRECORDED BOUNDARY SURVEY BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011, (2010.182.8), THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8), UPDATED BY HIGH MESA CONSULTING GROUP (NMPS 15075) DATED 04-03-2012 (2011.183.3), AND SUPPLEMENTED BY ENGINEER'S SITE VISIT DATED 09-26-2012.



HIGH MESA Consulting Group

6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

GRADING AND DRAINAGE PLAN DRAINAGE IMPROVEMENTS - PHASE 2 WHITTIER ELEMENTARY SCHOOL

DESIGNED BY JGM/JDS
DRAWN BY EJS
APPROVED BY JGM

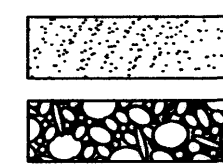
NO.	DATE	BY	REVISIONS	JOB NO.
				2010.183.1
				DATE 10-2012
				SHEET 3 OF 3

OCT 30 2012

LEGEND

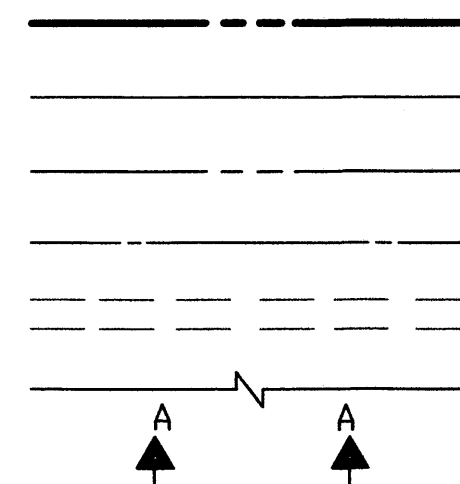
MATERIALS

CONCRETE
RIP-RAP



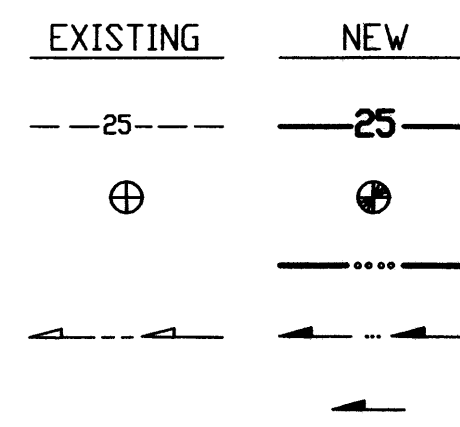
LINES

SUBDIVISION BOUNDARY
PROPERTY LINE (PLAN)
PROPERTY LINE (SECTION)
CENTERLINE
EASEMENT LINE
MATCH LINE
SECTION CUT LINE



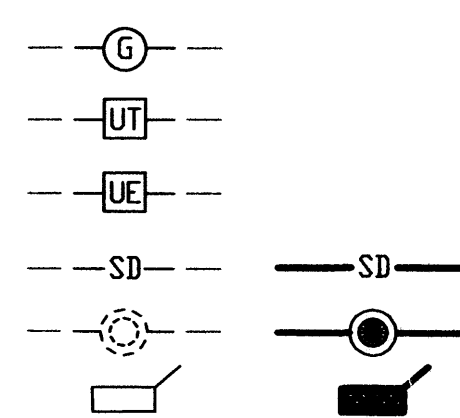
EARTHWORK

CONTOUR LINE
SPOT ELEVATION
PROJECT / PHASE BOUNDARY
FLOWLINE
DIRECTION OF FLOW



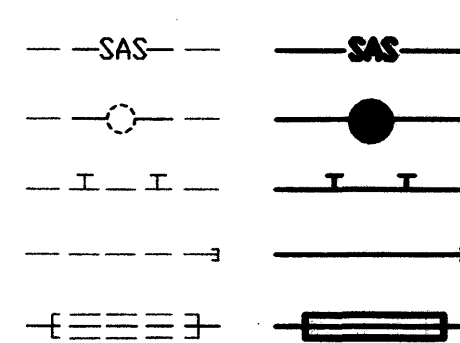
MISCELLANEOUS UTILITIES

GAS LINE
UNDERGROUND TELEPHONE
UNDERGROUND ELECTRICAL
STORM DRAIN
STORM DRAIN MANHOLE
STORM DRAIN INLET



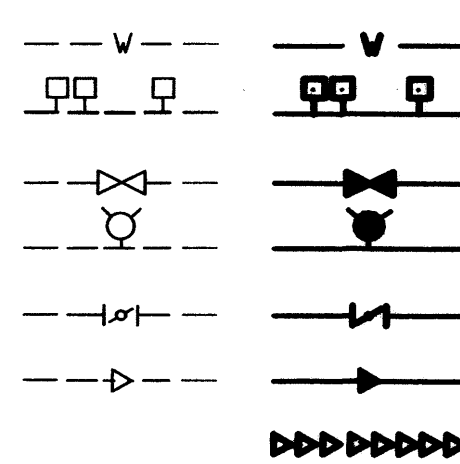
SANITARY SEWER

SANITARY SEWER LINE
SANITARY SEWER MANHOLE
SAS SERVICE CONNECTIONS
SAS CAP OR PLUG
ENCASEMENT



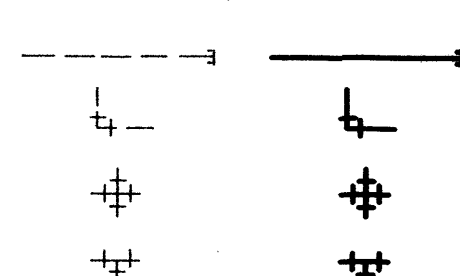
WATER

WATER LINE
WATER SERVICE CONNECTIONS
GATE VALVE
FIRE HYDRANT
BUTTERFLY VALVE
REDUCER
WATER PRESSURE ZONE BOUNDARY



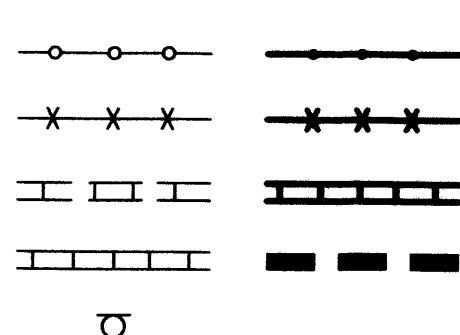
WATER FITTINGS

CAPS AND PLUGS
ELBOW
CROSS
TEE



MISCELLANEOUS

CHAINLINK FENCE
FIELD FENCE
COMMON YARD WALL
RETAINING WALL
POWER OR TELEPHONE POLE



RECORD DRAWING

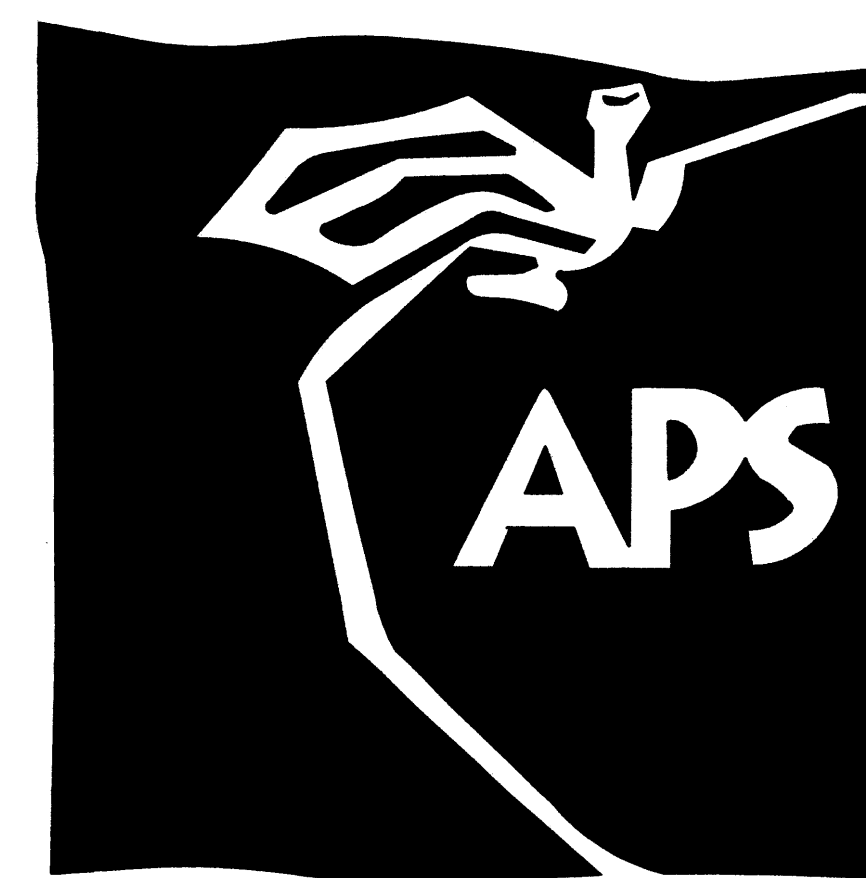
CONSTRUCTION PLANS

for

KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS

AT

WHITTIER ELEMENTARY SCHOOL ALBUQUERQUE, NEW MEXICO JULY, 2011



ENGINEER'S CERTIFICATION (PHASE ONE DRAINAGE)

I, JEFFREY G. MORTENSEN, NMPE 8547, OF THE FIRM HIGH MESA CONSULTING GROUP, HEREBY CERTIFY THAT THIS PROJECT HAS BEEN GRADED, DRAINED AND CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 07-28-2011 AND REVISED 11-03-2011 TO EXPAND THE SCOPE OF THE PROJECT. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME OR PERSONNEL UNDER MY DIRECT SUPERVISION AS SUPPLEMENTAL SITE DATA COMBINED WITH RECORD INFORMATION OBTAINED FROM THE AS-BUILT SURVEY DATED 02-02-2012 AND 02-09-2012 PERFORMED UNDER THE DIRECT SUPERVISION OF JOSEPH M. SOLOMON, JR., NMPS 15075, OF THE FIRM HIGH MESA CONSULTING GROUP AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED TO DOCUMENT COMPLETION OF THOSE IMPROVEMENTS IDENTIFIED ON THE APPROVED PLAN FOR THE OWNER AND CITY OF ALBUQUERQUE TO SATISFY CONDITIONS OF GRADING AND PAVING APPROVAL.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE GRADING AND DRAINAGE AND SPECIFIC LIMITED ASPECTS OF THIS PROJECT. THIS CERTIFICATION DOES NOT ADDRESS ADA COMPLIANCE WHICH IS BEYOND THE SCOPE OF GRADING AND DRAINAGE. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JEFFREY G. MORTENSEN, NMPE 8547
07-05-2012
DATE 08-13-2013



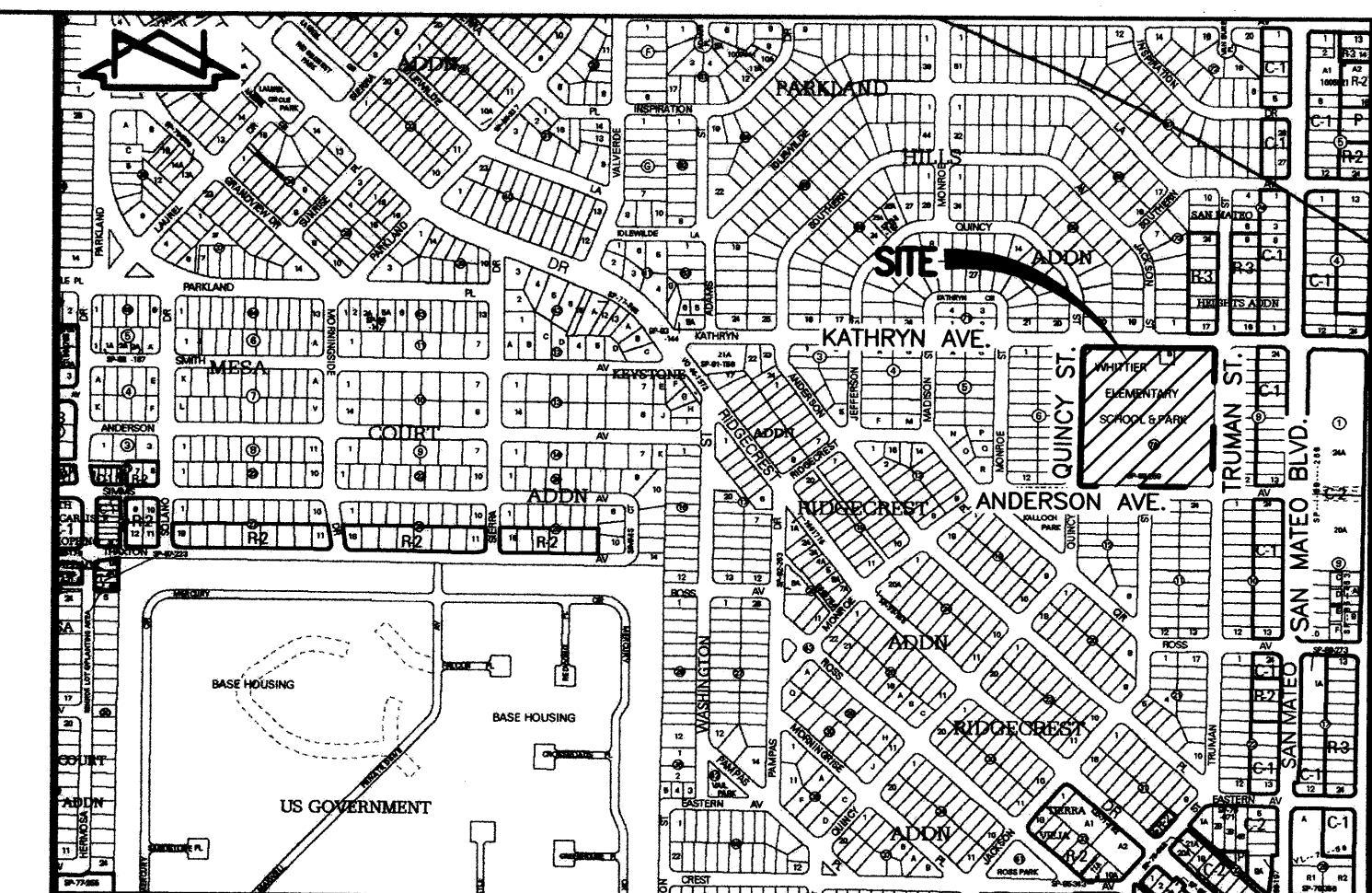
INDEX OF DRAWINGS

SHEET	DESCRIPTION	SHEET	DESCRIPTION
1	COVER SHEET, VICINITY MAP, GENERAL NOTES, LEGEND AND INDEX OF DRAWINGS	1 of 3	EXISTING CONDITIONS, DEMOLITION AND DRAINAGE PLANS
2	OVERALL PLAN	2 of 3	SITE PLAN
3	DRAINAGE PLAN AND CALCULATIONS	3 of 3	GRADING AND DRAINAGE PLAN
4	KINDERGARTEN PLAYGROUND PLAN	1 of 5	CODE ANALYSIS PLAN
5	PAVING SECTIONS AND DETAILS	2 of 5	PLANTING, MULCH AND SITE FURNISHINGS PLAN
6	RAMP SECTIONS AND DETAILS	3 of 5	IRRIGATION PLAN
7	PRIVATE STORM DRAIN PLAN AND PROFILE STA. 10+00 TO STA. 14+40	4 of 5	HARDSCAPE, FENCING, LIGHTING, AND SLEEVING PLAN
8	PRIVATE STORM DRAIN EXTENSION PLAN AND PROFILE STA. 14+40 TO STA. 18+22	5 of 5	DETAILS
9	STORM INLET SECTIONS AND DETAILS		
10	SINGLE 'D' INLET AND STORM DRAIN MANHOLE SECTIONS AND DETAILS		
11	PLAYGROUND LAYOUT AND DETAILS		
12	PHASE ONE DRAINAGE - PHASING PLAN		

SHEET	DESCRIPTION
1 of 3	EXISTING CONDITIONS, DEMOLITION AND DRAINAGE PLANS
2 of 3	SITE PLAN
3 of 3	GRADING AND DRAINAGE PLAN
1 of 5	CODE ANALYSIS PLAN
2 of 5	PLANTING, MULCH AND SITE FURNISHINGS PLAN
3 of 5	IRRIGATION PLAN
4 of 5	HARDSCAPE, FENCING, LIGHTING, AND SLEEVING PLAN
5 of 5	DETAILS

RECORD DRAWING

2010.183.1



VICINITY MAP

SCALE: 1" = 750'

L-17

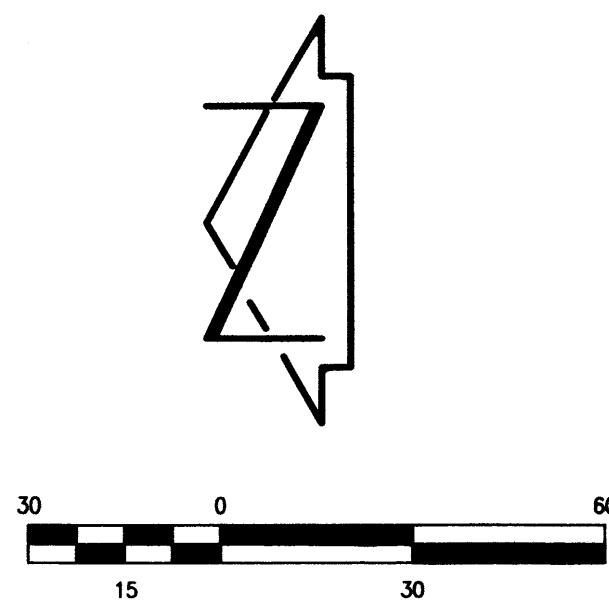
GENERAL NOTES:

- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1987, PUBLISHED BY THE NEW MEXICO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION. (REVISED 12/08)
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM, 260-1990, (ALBUQUERQUE AREA) 1-800-321-ALERT (2537) (STATEWIDE) FOR LOCATION OF EXISTING PUBLIC UTILITIES AND ALBUQUERQUE PUBLIC SCHOOLS OR THEIR DESIGNATED SUBSURFACE UTILITY CONSULTANT FOR APS-OWNED UTILITIES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- SHOULD A CONFLICT EXIST BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY FOR ALL PARTIES.
- THE CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING SAFETY AND HEALTH.
- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO ENSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT MONUMENTS WITHOUT THE CONSENT OF THE ENGINEER AND SHALL NOTIFY THE ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE ENGINEER. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED.
- ALL PAVEMENT MARKINGS AND TRAFFIC SIGNS SHALL COMPLY WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION, LATEST EDITION.
- IF THE REMOVAL OF EXISTING CURB AND GUTTER, SIDEWALK, AND/OR PAVING IS REQUIRED, THE CONTRACTOR SHALL SAWCUT AND/OR REMOVE TO THE NEAREST JOINT. WHEN ABUTTING NEW PAVEMENT TO EXISTING, THE CONTRACTOR SHALL CUT BACK THE EXISTING PAVING TO A STRAIGHT LINE IN ORDER TO REMOVE ANY BROKEN OR CRACKED PAVEMENT. CURB AND GUTTER AND/OR PAVEMENT SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT AND WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL (CONTAMINATED OR OTHERWISE), ASPHALTIC PAVING, CONCRETE PAVING, ETC. SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
- A BORROW SITE FOR IMPORT MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE REGULATIONS. ALL COSTS INCURRED IN OBTAINING A BORROW SITE AND IN HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT SHALL BE MADE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFELY OBTAINING THE REQUIRED COMPACTION. THE CONTRACTOR SHALL SELECT AND USE METHODS WHICH SHALL NOT BE INJURIOUS OR DAMAGING TO THE EXISTING FACILITIES AND STRUCTURES WHICH SURROUND THE WORK AREAS.
- THE CONTRACTOR SHALL CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS IN ORDER TO PRESERVE THE EXISTING IMPROVEMENTS AND SO AS NOT TO INTERFERE WITH THE OPERATIONS OF THE EXISTING FACILITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND/OR INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES OR IMPROVEMENTS. THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
- ALL DIMENSIONS AND RADII OF CURB, CURB RETURNS, AND WALLS ARE SHOWN TO THE FACE OF CURB AND/OR WALL.
- THE CONTRACTOR SHALL NOTIFY THE OWNER 48 HOURS PRIOR TO STRIPING SO THAT LAYOUT CAN BE VERIFIED.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE, ON BEHALF OF THE OWNER AND OPERATORS, "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
- ALL FILL SHALL BE CLEAN, FREE FROM VEGETATION, DEBRIS, AND OTHER DELETERIOUS MATERIALS, AND SHALL NOT BE CONTAMINATED WITH HYDROCARBONS OR OTHER CHEMICAL CONTAMINANTS.
- ALL FILL SHALL BE COMPACTED TO A MINIMUM OF 95% ASTM D-1557 UNLESS A GREATER COMPACTION REQUIREMENT IS OTHERWISE SPECIFIED.
- CAUTION: THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926, SUBPART P-EXCAVATIONS.

REV.	SHEETS	CITY	ENGINEER	DATE	USER	DEPARTMENT	DATE	USER	DEPARTMENT	DATE
1	2			03/12						
1-11				02/12						
11				12/11						
7				11/11						
2, 4, 8				11/11						

APPROVAL OF REVISIONS

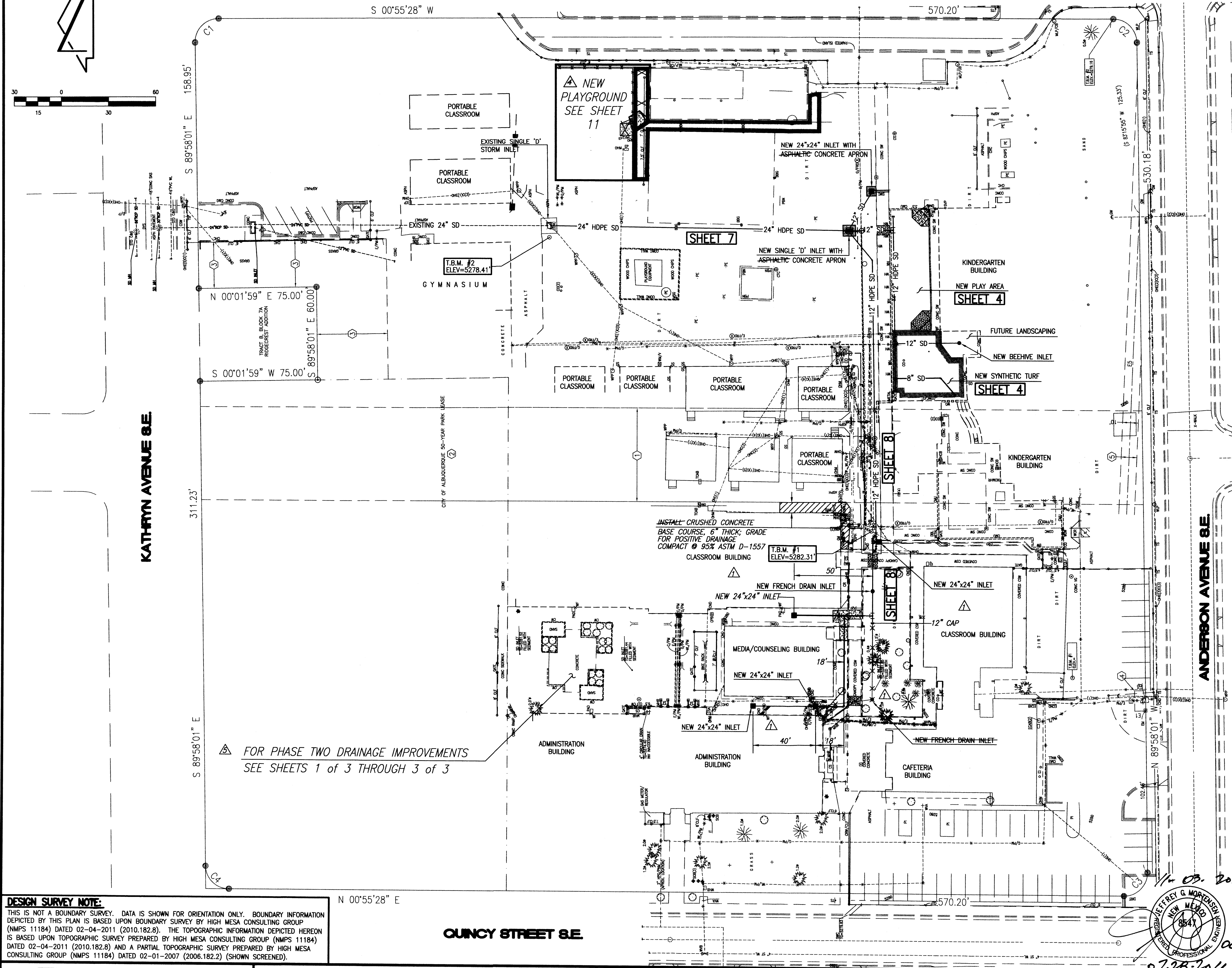
07-28-2011 11-03-2011		HIGH MESA Consulting Group 6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109 PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com	APPROVED FOR CONSTRUCTION CE
SHEET 1	OF 1218		



KATHRYN AVENUE 8 E.

QUINCY STREET 8 E.

ANDERSON AVENUE 8 E.



DESIGN SURVEY NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON BOUNDARY SURVEY BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8) AND A PARTIAL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-01-2007 (2006.182.2) (SHOWN SCREENED).

HIGH MESA Consulting Group
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PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

OVERALL PLAN (FOR ORIENTATION)
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M./J.D.S.	10/11	J.G.M.	EXPAND PROJECT SCOPE	2010.183.1
DRAWN BY	02/12	B.E.E.	RECORD DRAWING	DATE
APPROVED BY	03/12	J.G.M.	PHASE TWO	07-2011
				SHEET 2 OF 1210

BENCHMARKS

PROJECT BENCHMARK

A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E. ELEVATION = 5232.489 FEET (NAVD 1988)

T.B.M. #1

A #5 REBAR WITH CAP STAMPED "HMG CONTROL NMPS 11184" AS SHOWN ON THIS SHEET ELEVATION = 5282.31 FEET (NAVD 1988)

T.B.M. #2

A #5 REBAR WITH CAP STAMPED "HMG CONTROL NMPS 11184" AS SHOWN ON THIS SHEET. ELEVATION = 5278.41 FEET (NAVD 1988)

LEGAL DESCRIPTION

TRACT A, BLOCK 7A, RIDGECREST ADDITION, ALBUQUERQUE, NEW MEXICO.

BOUNDARY TABLE

CURVE	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA
C1	15.00'	23.80'	21.38'	S 44°31'16" E	90°53'28"
C2	15.00'	23.33'	21.05'	S 45°28'44" W	89°06'30"
C3	15.00'	23.80'	21.38'	N 44°29'51" W	90°53'29"
C4	15.00'	23.33'	21.05'	N 45°28'44" E	89°06'32"

EASEMENT TABLE

LINE	DIRECTION	DISTANCE
E1	N 00°03'25" E	7.00'
E2	S 89°56'35" E	13.10'
E3	S 00°03'25" W	7.00'
E4	N 89°56'35" W	13.10'
E5	N 86°43'28" W	192.23'

KEYED NOTES

EASEMENTS AND LEASE

- RIGHT-OF-WAY VACATED BY CITY QUITCLAIM DEED, COMMISSION ORDINANCE No. 573, FILED 10-19-1946, BOOK D-29, PAGES 523-526, DOC. #3757, SUBJECT TO ESTABLISHED EASEMENTS FOR ALL PUBLIC UTILITIES
- CITY OF ALBUQUERQUE 50-YEAR PARK LEASE EXECUTED ON 11-06-1972
- CITY OF ALBUQUERQUE CONSTRUCTION AND MAINTENANCE EASEMENT FOR WELL SITE EXECUTED ON 04-04-1991
- PNM AND QWEST CORPORATION UNDERGROUND EASEMENT GRANTED BY DOCUMENT FILED 10-17-2003, BOOK A67, PAGE 647, DOC. #2003191042
- PNM UNDERGROUND EASEMENT (ELECTRIC) GRANTED BY DOCUMENT FILED 11-21-2008, DOC. #2008124539

RECORD DRAWING KEYED NOTES

- NO OUTLET FROM COVERED CONCRETE RUNDOWN. OPEN END OF RUNDOWN BOARDED UP
- INVERT ELEVATION OF 12" HDPE SD COULD NOT BE DETERMINED. CHECK PLATE BOLTED OVER CONCRETE RUNDOWN.
- GAS LINE DEPICTED BY BRIDGERS & PATXON, KINDERGARTEN CLASSROOM BUILDING (AS-BUILTS), SHEET PS-101, DATED 08-21-2007.
- STORM DRAIN LINE DEPICTED BY ISAACSON & ARFMAN, KINDERGARTEN CLASSROOM BUILDING (AS-BUILTS), SHEET CG-101, DATED 08-21-2007

LEGEND

AP ASV BPM C&G CDP CI CL CLF CMURW CMUW CP CRD CSW EA EM EWM ERCP FAB FH G/PM GT GW I/PM WH MLP MPPC MS OHC OHE PB RCP RRW SAS SB SCB	ABANDONED AND PLUGGED ANTI-SIPHON VALVE BY PAINT MARK CURB AND CUTTER CONCRETE DRIVE PAD CAST IRON CENTERLINE CHAIN LINK FENCE CONCRETE MASONRY UNIT RETAINING WALL CONCRETE MASONRY UNIT WALL CONCRETE PIPE CONCRETE RUNDOWN CONCRETE SIDEWALK EDGE OF ASPHALT ELECTRIC METER ELECTRIC METER (NO METER) ELLIPTICAL REINFORCED CONCRETE PIPE FROM AS BUILT DRAWING FIRE HYDRANT GAS BY PAINT MARK GATE GUY WIRE IRRIGATION BY PAINT MARK MANHOLE METAL LIGHT POLE METAL POWER POLE WITH CONDUIT METAL SIGN OVERHEAD COMMUNICATION LINE OVERHEAD ELECTRIC LINE PARKING BUMPER PIPE GATE REINFORCED CONCRETE PIPE RAILROAD TIE RETAINING WALL SANITARY SEWER SPEED BUMP SPRINKLER CONTROL BOX	SD SGP SGPB SGPC SI STD SVB TCB TS TR UJCE W/PM WCR WF WL WMB WMH WO WPP WPPC WVB	STORM DRAIN STEEL GUARD POST STEEL GUARD POST WITH CABLE STEEL GUARD POST WITH CHAIN STORM INLET STANDARD SPRINKLER VALVE BOX TELEPHONE CABINET TELEPHONE RISER TRAFFIC SIGN UNDERGROUND ELECTRIC LINE WATER BY PAINT MARK CONCRETE WHEEL CHAIR RAMP WOOD FENCE WOOD LINE WATER METER BOX WATER MANHOLE WALL OPENING WOOD POWER POLE WOOD POWER POLE WITH CONDUIT WATER VALVE BOX CONIFEROUS TREE DECIDUOUS TREE SHRUB UTILITY MARKER
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PROPOSED CONCRETE
PROPOSED ASPHALT PAVEMENT
PROPOSED SYNTHETIC TURF

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE LOWER SOUTHEAST HEIGHTS OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE MAIN PURPOSE OF THIS PROJECT IS TO COMPLETE THE DEVELOPMENT OF THE KINDERGARTEN PLAYGROUND AT THE WHITTIER ELEMENTARY SCHOOL SITE. AT THE SAME TIME, MINOR DRAINAGE IMPROVEMENTS WILL BE UNDERTAKEN TO ENHANCE ONSITE PRIVATE STORM DRAINAGE. THE DRAINAGE CONCEPT WILL BE THE CONTINUED CONTROLLED DISCHARGE FROM THE SITE TO KATHRYN AVENUE SE.

THIS SUBMITTAL IS MADE IN SUPPORT OF A GRADING AND PAVING PERMIT WITHIN THE JURISDICTION OF THE CITY OF ALBUQUERQUE.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SCHOOL SITE OCCUPIES THE BLOCK BOUNDED ON THE NORTH BY KATHRYN AVENUE SE, ON THE EAST BY TRUMAN STREET SE, ON THE SOUTH BY ANDERSON AVENUE SE AND ON THE WEST BY QUINCY STREET SE. THE CURRENT LEGAL DESCRIPTION IS TRACT A, BLOCK 7A, RIDGECREST ADDITION, KNOWN AS WHITTIER ELEMENTARY SCHOOL AS SHOWN BY PANEL 354 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, SEPTEMBER 26, 2008. THIS SCHOOL SITE LIES PARTIALLY WITHIN AN AO DEPTH 1 DESIGNATED FLOOD HAZARD ZONE THAT COINCIDES WITH TRUMAN STREET SE AND KATHRYN AVENUE SE. THIS APPARENT STREET FLOODING DOES NOT IMPACT THE PROJECT SITE THAT LIES WITHIN THE CENTER OF THE CAMPUS, FAR FROM THE STREETS IDENTIFIED BY THE FLOODPLAIN MAPPING.

III. BACKGROUND DOCUMENTS

THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENT:

- TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011. THIS REFERENCED SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE PROJECT SITE.
- CAFETERIA DRAINAGE MODIFICATIONS PLAN PREPARED BY HIGH MESA CONSULTING GROUP (NMPE 8547) DATED 06-25-2007. THE CITY APPROVED PLAN CONSISTED OF MINOR PRIVATE DRAINAGE IMPROVEMENTS TO MITIGATE THE PONDING OF STORM WATER RUNOFF UNDER THE COVERED SIDEWALK AT THE NORTH SIDE OF THE EXISTING CAFETERIA. THESE IMPROVEMENTS INCLUDED SIDEWALK REPAVING AND CONSTRUCTION OF A NEW CONCRETE VALLEY GUTTER TO DRAIN THE COVERED SIDEWALKS TO A NEW SIDEWALK CULVERT DISCHARGING TO QUINCY STREET SE. THESE IMPROVEMENTS DRAINED THE COVERED WALKWAY AS DESIGNED, HOWEVER IT WAS NOTED AT THAT TIME THAT THE AREA EAST OF THE COVERED SIDEWALKS AND NEW VALLEY GUTTER CONTINUE TO FLOOD DUE TO THE MARGINAL EFFECTIVENESS OF FRENCH DRAINS INSTALLED BY A PREVIOUS PROJECT. A FUTURE PRIVATE STORM DRAIN EXTENSION WAS RECOMMENDED AT THE TIME TO PROVIDE POSITIVE DRAINAGE TO THESE LOW AREAS WHERE FLOODING OCCURRED.
- WHITTIER ELEMENTARY SCHOOL GRADING AND DRAINAGE PLAN PREPARED BY ISAACSON AND ARPMAN (NMPS 7322) DATED 10-19-2005. THIS PLAN INCLUDED THE INSTALLATION OF A FRENCH DRAIN IN THE COURTYARD BETWEEN THE CAFETERIA, ADMINISTRATION AND CLASSROOM BUILDINGS. APPARENTLY THE DESIGN INTENT WAS TO COLLECT AND INFILTRATE THE RUNOFF THAT COLLECTS IN THIS LOW AREA. HOWEVER, THE INLET HAS FAILED AND IS COMPLETELY CLOGGED WITH SEDIMENT; RUNOFF DRAINING TO THE FAILED INLET IS SIMPLY PONDING, WITH THE PONDING ENCROACHING ONTO DESIGNATED SIDEWALK AREAS.
- PLATE L17, STORM FACILITIES MAPS, CITY OF ALBUQUERQUE, JULY 30, 2002. THIS MAPPING VERIFIED THE PRESENCE OF LARGE DIAMETER PUBLIC STORM DRAIN FACILITIES (30" AND 66") WITHIN KATHRYN AVENUE SE. DESPITE THE PRESENCE OF THESE FACILITIES, KATHRYN AVE SE EXISTS AS A DESIGNATED FLOOD HAZARD ZONE AO.
- PLATE L17, THE ALBUQUERQUE MASTER DRAINAGE STUDY (AMDS) PREPARED BY BOHANNAN-HUSTON FOR THE CITY OF ALBUQUERQUE DATED JANUARY, 1981. THE AMDS PROVIDES BACKGROUND INFORMATION RELATIVE TO THE MASTER PLAN CORRECTION OF FLOODING IN THE PROXIMITY OF THE WHITTIER SCHOOL CAMPUS. BY CROSS-REFERENCING WITH THE COA STORM FACILITIES MAP (SEE ABOVE), IT APPEARS THE STORM DRAIN IMPROVEMENTS PROPOSED IN THE AMDS DOWNSTREAM OF THIS SITE HAVE NOT BEEN CONSTRUCTED, NECESSITATING THE CONTINUATION OF CONTROLLED DISCHARGE TO KATHRYN AVE SE.

IV. EXISTING CONDITIONS

THE OVERALL SITE IS A DEVELOPED ELEMENTARY SCHOOL CAMPUS. AT PRESENT, THE SITE DRAINS TO THE ADJACENT CITY STREETS THAT SURROUND THE PROPERTY. ULTIMATELY, THE SITE DISCHARGES ITS RUNOFF TO KATHRYN AVENUE SE, AN AO DEPTH 1 DESIGNATED FLOOD HAZARD ZONE. THE PORTION OF THE SITE COVERED BY THIS SUBMITTAL GENERALLY DRAINS TO KATHRYN AVENUE SE VIA A 24" PRIVATE STORM DRAIN THAT CONNECTS TO AN EXISTING 30" PUBLIC STORM DRAIN WITHIN THAT PUBLIC ROADWAY. REVIEW OF THE CITY OF ALBUQUERQUE STORM DRAIN FACILITIES MAPS INDICATES THAT AN EXISTING 66" PUBLIC STORM DRAIN PARALLELS THE 30" ALSO WITHIN THAT ROADWAY. DESPITE THE PRESENCE OF THESE PUBLIC FACILITIES, KATHRYN AVENUE SE EXISTS AS A DESIGNATED FLOOD HAZARD ZONE. THE PRESENCE OF THE DESIGNATED FLOOD HAZARD AREAS ADJACENT TO AND DOWNSTREAM OF THIS SITE DICTATE CONTROLLED DISCHARGE. THE EXISTING 24" PRIVATE STORM DRAIN DRAINING THE SITE TO KATHRYN AVENUE SE RESTRICTS THE FLOW OF RUNOFF EXITING THE SITE. THIS EXISTING CONDITION THEREBY ESTABLISHES THE ALLOWABLE DISCHARGE RATE FROM THIS PORTION OF THE SITE. ANY UPSTREAM FLOWS EXCEEDING THE CAPACITY OF THE 24" PRIVATE STORM DRAIN WILL SIMPLY BACK-UP WITHIN THE CAMPUS EFFECTING DETENTION PONDING WITHIN ALL COLLECTION AREAS. AS ONE FOLLOWS THE PRIVATE STORM DRAIN UPSTREAM, IT REDUCES IN SIZE TO 12" DIAMETER WITH PLASTIC INLETS THAT CLOG EASILY AND ARE DIFFICULT TO MAINTAIN.

THE PRIMARY FOCUS OF THIS SUBMITTAL IS THE KINDERGARTEN PLAYGROUND THAT LIES IMMEDIATELY NORTH OF THE NEW KINDERGARTEN BUILDING AT THE APPROXIMATE CENTER OF THE CAMPUS. THE ORIGINAL CONSTRUCTION OF THE KINDERGARTEN PLAYGROUND EXCAVATED THE PLAY AREA TO FINISHED SUBGRADE, APPROXIMATELY 14-INCHES BELOW FINISHED GRADE. THIS AREA, BOUNDED ON THE NORTH AND EAST BY A CMU WALL, RECEIVES ROOF RUNOFF FROM THE KINDERGARTEN BUILDING RESULTING IN THE FLOODING OF THE EXCAVATED AREA. ONCE RUNOFF PONDS TO A SIGNIFICANT DEPTH, IT OVERFLOWS VIA WEEPHOLES IN THE CMU WALL. THE WEEPHOLES ARE AT ELEVATION 82.6, A MERE 0.15 FEET BELOW THE BUILDING FINISHED FLOOR ELEVATION OF 5282.75.

OTHER AREAS OF CONCERN ASSOCIATED WITH THE KINDERGARTEN CLASSROOM BUILDING ARE TWO SIDEWALK CULVERTS. ONE LIES AT THE NORTHEAST CORNER OF THE PLAY AREA. THE UNSTABLE SOILS IN THIS AREA HAVE CLOGGED THE SIDEWALK CULVERT MAKING IT INEFFECTIVE. THE OTHER SIDEWALK CULVERT LIES TO THE NORTHWEST OF THE KINDERGARTEN BUILDING. THIS SIDEWALK CULVERT DRAINS A RELATIVELY SMALL PARKING LOT SOUTH OF THE CAFETERIA. THE SIDEWALK DOES NOT DAYLIGHT, BUT INSTEAD APPEARS TO CONNECT TO A 12" PRIVATE STORM DRAIN THAT EVENTUALLY TIES INTO THE 24" PRIVATE STORM DRAIN DOWNSTREAM OF THE KINDERGARTEN PLAYGROUND. THE NORTH END OF THE SIDEWALK CULVERT DAYLIGHTS TO BARE SOIL THAT COVERS THE EXIT.

IN ADDITION, THE AREA WEST OF THE KINDERGARTEN BUILDING CONSISTS OF SEVERAL RELATIVELY FLAT SPOTS THAT POND RUNOFF. THE PONDING OF RUNOFF IN THESE AREAS FREQUENTED BY STUDENT HAS BECOME A NUISANCE AND MAINTENANCE BURDEN. THESE AREAS ARE SERVED BY FRENCH DRAINS THAT ARE CLOGGED AND THEREFORE OF LITTLE VALUE. AS A RESULT, RUNOFF FLOWING TO THESE FAILED STRUCTURES SIMPLY PONDS, ENCROACHING ONTO DESIGNATED SIDEWALK AREAS.

OFFSITE FLOWS DO NOT IMPACT THE PROJECT SITE AS OFFSITE FLOWS APPEAR TO BE CONTAINED WITHIN THE PUBLIC ROADWAY CORRIDORS AS SUGGESTED BY THE FLOODPLAIN MAP.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF DEVELOPING THE KINDERGARTEN PLAY AREA. DUE TO THE EXISTING GRADES AND OTHER PHYSICAL CONSTRAINTS CREATED BY THE ORIGINAL CONSTRUCTION, THE PLAY AREA WILL BE SERVED BY AN UNDERGROUND STORM DRAIN SYSTEM. RUNOFF, PRIMARILY FROM THE BUILDING ROOF, WILL FLOW INTO THE PLAY AREA WHERE IT WILL INFILTRATE THE ENGINEERED WOOD FIBER MULCH OR SYNTHETIC TURF. UPON REACHING SUBGRADE, THE RUNOFF WILL FLOW NORTH WHERE IT WILL BE INTERCEPTED BY A GRAVEL INFILTRATION TRENCH THAT INCLUDES A PERFORATED PIPE. THE PERFORATED PIPE WILL COLLECT SUBSURFACE RUNOFF AND CONVEY THAT RUNOFF TO THE EXISTING ONSITE PRIVATE STORM DRAIN SYSTEM INSTALLED IN CONJUNCTION WITH THE KINDERGARTEN BUILDING PROJECT. IN ADDITION, WEEPHOLES WILL BE CORE DRILLED IN THE EXISTING CMU WALL AT ELEVATION 82.2.

TO BETTER ACCOMMODATE THE PLAYGROUND RUNOFF, THE EXISTING PRIVATE STORM DRAIN DOWNSTREAM OF THIS LOCATION WILL BE REMOVED AND INCREASED IN SIZE TO 24". THIS WILL IMPROVE CAPACITY FOR RUNOFF AND SEDIMENT WITHOUT ALTERING THE PEAK DISCHARGE RATE EXITING THE SITE. THE ALLOWABLE DISCHARGE RATE WILL CONTINUE TO BE REGULATED BY THE DOWNSTREAM CONNECTION AT KATHRYN AVENUE SE.

IN CONJUNCTION WITH UPSIZING PORTIONS OF THE ONSITE PRIVATE STORM DRAIN SYSTEM, IT WILL BE EXTENDED WEST TO BETTER SERVE AREAS CLOSER TO THE MAIN BUILDINGS. THE EXISTING FAILED FRENCH DRAINS WILL BE REMOVED AND REPLACED WITH NEW STRUCTURES THAT WILL DRAIN THE AREAS SERVED BY A COMBINATION OF STORM DRAIN PIPING AND INFILTRATION. THESE NEW STRUCTURES WILL EVENTUALLY ALLOW THESE DIFFICULT AREAS TO DRAIN WHEREAS THE TRADITIONAL FRENCH DRAINS FAILED.

THE LIMITED SCOPE OF THIS PROJECT WILL NOT INCREASE THE IMPERVIOUSNESS OF THE SITE. RUNOFF GENERATED BY THIS PORTION OF THE SCHOOL SITE WILL CONTINUE TO DRAIN TO THE PUBLIC STORM DRAIN WITHIN KATHRYN AVENUE SE, MAINTAINING CONTROLLED DISCHARGE VIA THE EXISTING 24" PRIVATE STORM DRAIN CONNECTION.

VI. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED KINDERGARTEN PLAYGROUND IMPROVEMENTS AND PRIVATE STORM DRAIN EXTENSION WILL IMPROVE THE INTERNAL DRAINAGE OF THE SITE WHILE MAINTAINING THE REQUISITE CONTROLLED DISCHARGE FROM THE SITE.

VII. CALCULATIONS

DUE TO THE LIMITED SCOPE OF WORK AND THAT NO ADDITIONAL IMPERVIOUS AREA IS BEING CREATED, HYDROLOGIC CALCULATIONS HAVE NOT BEEN PERFORMED AS PART OF THIS SUBMITTAL. HYDRAULIC CALCULATIONS, HOWEVER, HAVE BEEN PERFORMED TO EVALUATE THE CAPACITIES OF THE EXISTING AND PROPOSED STORM DRAIN PIPING. AS INDICATED ABOVE, THE ALLOWABLE DISCHARGE RATE FROM THIS PORTION OF THE SCHOOL SITE IS ESTABLISHED BY THE CAPACITY OF THE DOWNSTREAM SEGMENT OF THE PRIVATE STORM DRAIN CONNECTING TO KATHRYN AVENUE SE. AS SHOWN BY THE CALCULATIONS HEREON, THE CAPACITIES OF ALL SEGMENTS OF PRIVATE STORM DRAIN PIPING UPSTREAM OF THAT CONNECTION ARE LESS THAN THE CONTROLLED DISCHARGE RATE CALCULATED FOR THE DOWNSTREAM LOCATION. THE HYDRAULIC CAPACITY OF THE STORM DRAIN SEGMENTS ARE EVALUATED USING THE MANNING EQUATION FOR GRAVITY FLOW IN PIPES.

VIII. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

- THE PROPOSED IMPROVEMENTS WILL MAINTAIN THE APPROVED DRAINAGE CONCEPT OF CONTROLLED DISCHARGE.
- THE PROPOSED IMPROVEMENTS WILL NOT INCREASE THE IMPERVIOUSNESS OF THE SITE.
- THE PROPOSED IMPROVEMENTS WILL NOT INCREASE THE PEAK DISCHARGE OF RUNOFF GENERATED BY OR EXITING THE SITE.
- THE PROPOSED IMPROVEMENTS WILL NOT ADVERSELY IMPACT DOWNSTREAM PROPERTIES OR DOWNSTREAM DRAINAGE CONDITIONS.

HYDRAULIC CALCULATIONS

I. EXISTING STORM DRAIN CAPACITY

A. STA 10+00 TO STA 10+60 (24" RCP SD)

$$Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$$
(MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES)
 $n = 0.013$
 $A = 3.14 \text{ SF}$
 $P = 6.28 \text{ FT}$
 $R = A/P = 0.5 \text{ FT}$
 $R^{2/3} = 0.63$
 $S = (73.9 - 72.7)/60 \text{ FT} = 0.0200 \text{ FT/FT}$

$Q_{24" \text{ CAP}} = 1.49(0.013 \cdot 3.14 \cdot 0.63 \cdot 0.0200)^{1/2}$

$Q_{24" \text{ CAP}} = Q_{\text{ALLOW}} = 32.0 \text{ CFS}$

B. STA 10+60 TO STA 12+48.6 (24" PVC SD)

$Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$
(MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES)
 $n = 0.013$
 $A = 3.14 \text{ SF}$
 $P = 6.28 \text{ FT}$
 $R = A/P = 0.5 \text{ FT}$
 $R^{2/3} = 0.63$
 $S = (75.7 - 74.1)/188.6 \text{ FT} = 0.0085 \text{ FT/FT}$

$Q_{24" \text{ CAP}} = 1.49(0.013 \cdot 3.14 \cdot 0.63 \cdot 0.0085)^{1/2}$

$Q_{24" \text{ CAP}} = 20.9 \text{ CFS} < Q_{\text{ALLOW}} \therefore \text{OK}$

C. STA 12+48.6 TO STA 14+48 (12" HDPE SD)

$Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$
(MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES)
 $n = 0.013$
 $A = 0.79 \text{ SF}$
 $P = 3.14 \text{ FT}$
 $R = A/P = 0.25 \text{ FT}$
 $R^{2/3} = 0.40$
 $S = (77.8 - 76.8)/190.4 \text{ FT} = 0.0050 \text{ FT/FT}$

$Q_{12" \text{ CAP}} = 1.49(0.013 \cdot 0.79 \cdot 0.40 \cdot 0.0050)^{1/2}$

$Q_{12" \text{ CAP}} = 2.6 \text{ CFS} < Q_{\text{ALLOW}} \therefore \text{OK}$

II. NEW STORM DRAIN CAPACITY

A. STA 12+48.6 TO STA 14+40 (24" HDPE SD)

$Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$
(MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES)
 $n = 0.013$
 $A = 3.14 \text{ SF}$
 $P = 6.28 \text{ FT}$
 $R = A/P = 0.5 \text{ FT}$
 $R^{2/3} = 0.63$
 $S = 0.0020 \text{ FT/FT}$

$Q_{24" \text{ CAP}} = 1.49(0.013 \cdot 3.14 \cdot 0.63 \cdot 0.0020)^{1/2}$

$Q_{24" \text{ CAP}} = 10.1 \text{ CFS}$

$V_{\text{MIN}} = 3.0 \text{ FT/S}$

$V_{124"} = Q/A = 10.1/3.14 = 3.2 \text{ CFS} > V_{\text{MIN}} \therefore \text{OK}$

$Q_{24" \text{ CAP}} = 10.1 \text{ CFS} > Q_{\text{EXIST}} < Q_{\text{ALLOW}} \therefore \text{OK}$

B. STA 14+40 TO STA 18+22 (12" HDPE SD)

$Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$
(MANNING'S EQUATION FOR GRAVITY FLOW IN PIPES)
 $n = 0.013$
 $A = 0.79 \text{ SF}$
 $P = 3.14 \text{ FT}$
 $R = A/P = 0.25 \text{ FT}$
 $R^{2/3} = 0.40$
 $S = 0.0050 \text{ FT/FT}$

$Q_{12" \text{ CAP}} = 1.49(0.013 \cdot 0.79 \cdot 0.40 \cdot 0.0050)^{1/2}$

$Q_{12" \text{ CAP}} = 2.6 \text{ CFS}$

$V_{\text{MIN}} = 3.0 \text{ FT/S}$

$V_{124"} = Q/A = 2.6/0.79 = 3.3 \text{ CFS} > V_{\text{MIN}} \therefore \text{OK}$

$Q_{12" \text{ CAP}} = 2.6 \text{ CFS} = Q_{\text{EXIST}} < Q_{\text{ALLOW}} \therefore \text{OK}$

3 INCOMING 12" PIPES @ STA 14+40

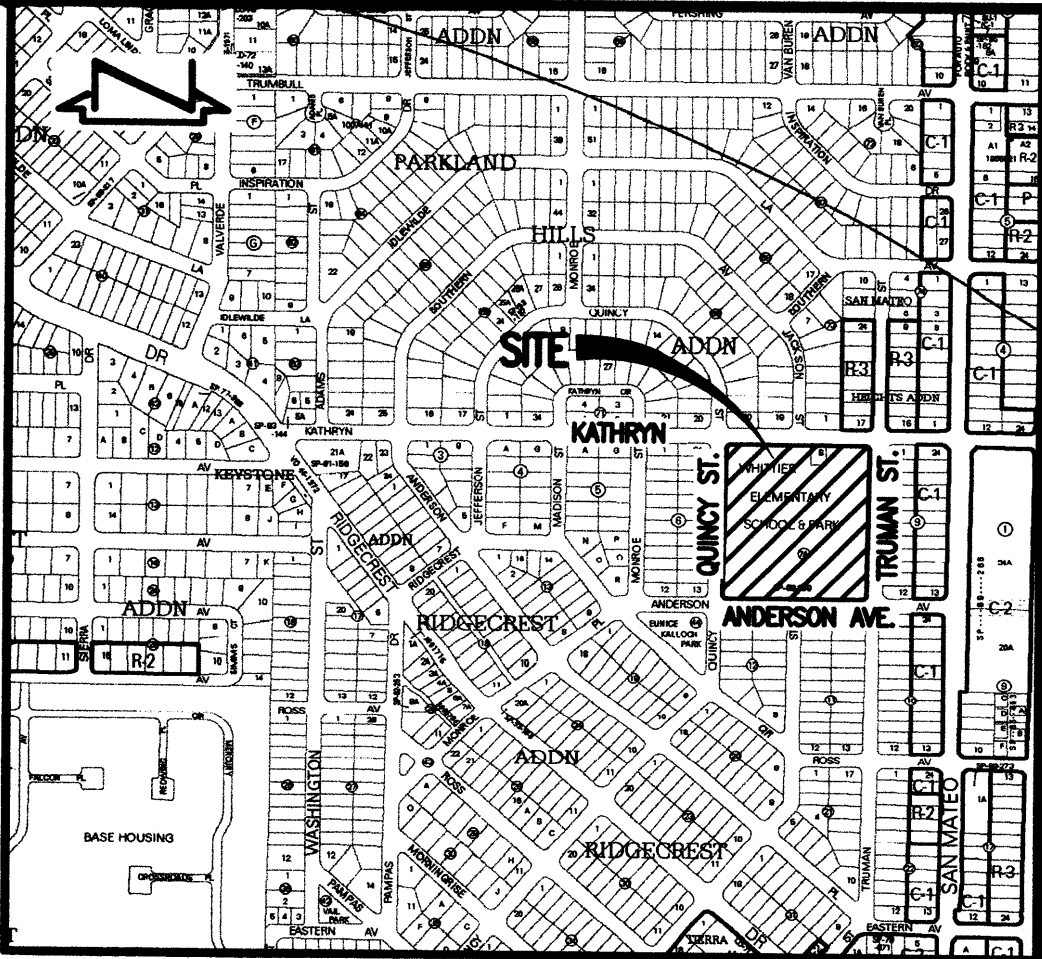
$\text{LET } \Sigma Q_{12"} = 3(Q_{12}) = 3 \cdot (2.6 \text{ CFS}) = 7.8 \text{ CFS} < Q_{24" @ \text{ STA } 14+40} = 10.1 \text{ CFS} \therefore \text{OK}$

CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1890 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES AND ALBUQUERQUE PUBLIC SCHOOLS OR THEIR DESIGNATED SUBSURFACE UTILITY CONSULTANT FOR APS-OWNED UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.



VICINITY MAP

SCALE: 1" = 750'

L-17



F.I.R.M.

SCALE: 1" = 500'

PANEL 354 OF 825

9-26-2008

LEGAL DESCRIPTION

TRACT A, BLOCK 7A, RIDGECREST ADDITION, ALBUQUERQUE, NEW MEXICO,

BENCHMARKS

PROJECT BENCHMARK

A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E. ELEVATION = 5232.489 FEET (NAVD 1988)

T.B.M. #1

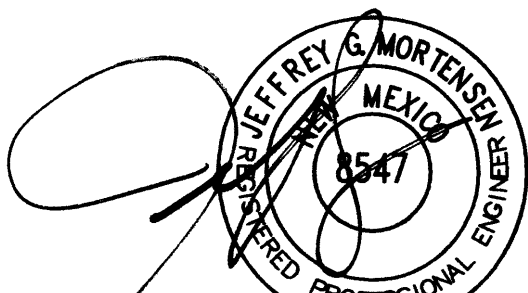
A #5 REBAR WITH CAP STAMPED "HMC CONTROL NMPS 11184" AS SHOWN ON SHEET 2. ELEVATION = 5282.31 FEET (NAVD 1988)

T.B.M. #2

A #5 REBAR WITH CAP STAMPED "HMC CONTROL NMPS 11184" AS SHOWN ON SHEET 2. ELEVATION = 5278.41 FEET (NAVD 1988)



RECORD DRAWING



07-28-2011
04-05-2012

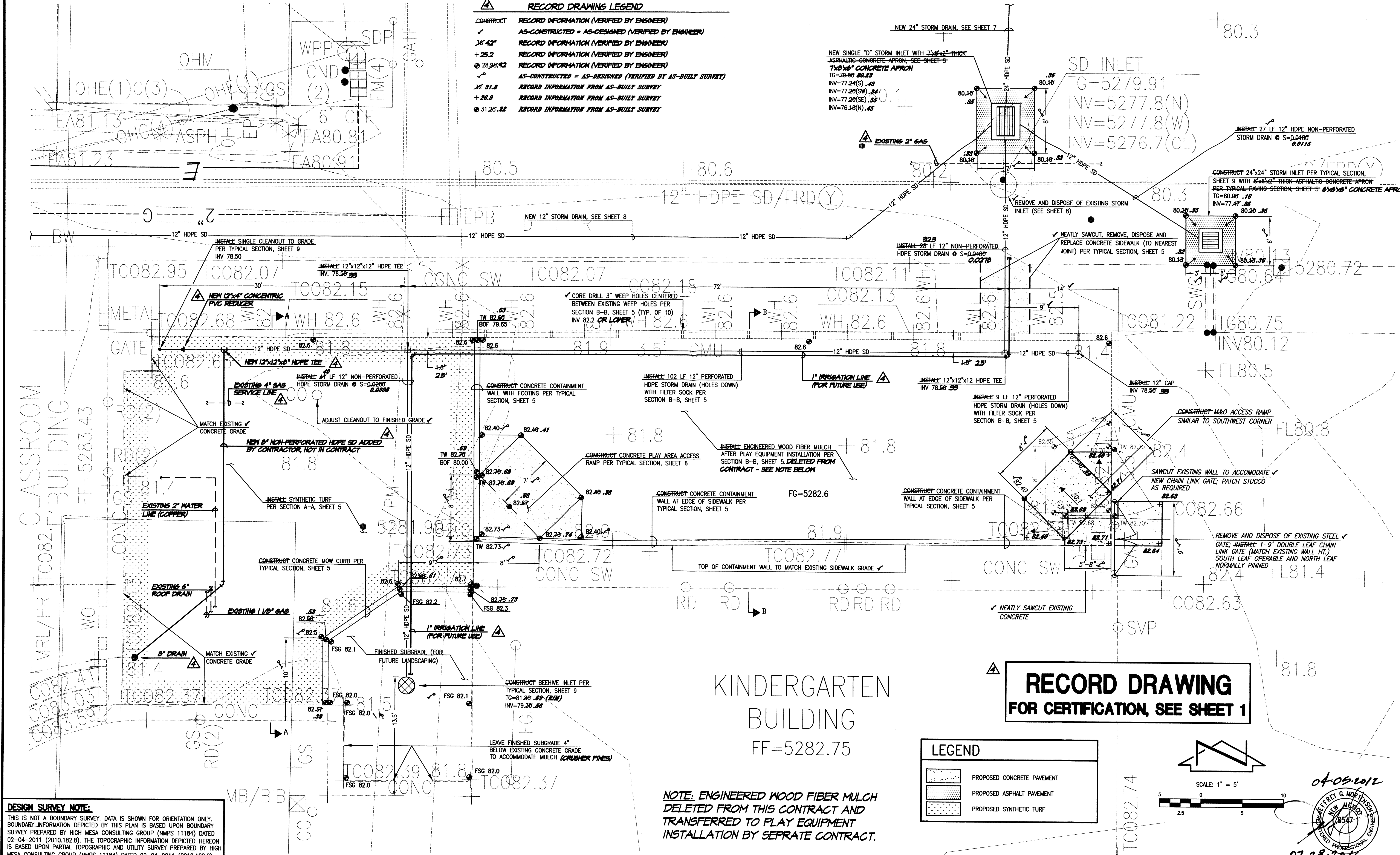
HIGH MESA Consulting Group

6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
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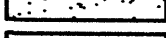

DRAINAGE PLAN AND CALCULATIONS
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL

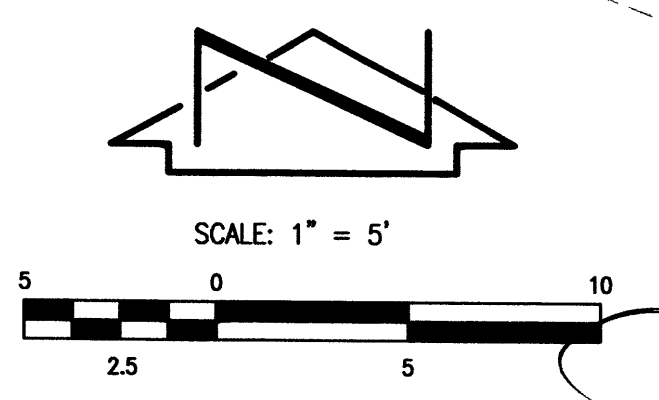
DESIGNED BY	NOL	DATE	BY	REVISIONS	JOB NO.
J.G.M./J.D.S.	Δ	02/12	B.E.E.	RECORD DRAWING	2010.183.1
DRAWN BY					DATE
C.L.T./E.J.S.					07-2011
APPROVED BY					SHEET
J.G.M.					3 OF 12

△	RECORD DRAWING LEGEND
CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
36" 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
28.98.42	RECORD INFORMATION (VERIFIED BY ENGINEER)
AS-CONSTRUCTED	AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
21.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
31.25.22	RECORD INFORMATION FROM AS-BUILT SURVEY



**RECORD DRAWING
FOR CERTIFICATION, SEE SHEET 1**

LEGEND	
	PROPOSED CONCRETE PAVEMENT
	PROPOSED ASPHALT PAVEMENT
	PROPOSED SYNTHETIC TURF



NOTE: ENGINEERED WOOD FIBER MULCH
DELETED FROM THIS CONTRACT AND
TRANSFERRED TO PLAY EQUIPMENT
INSTALLATION BY SEPRATE CONTRACT.

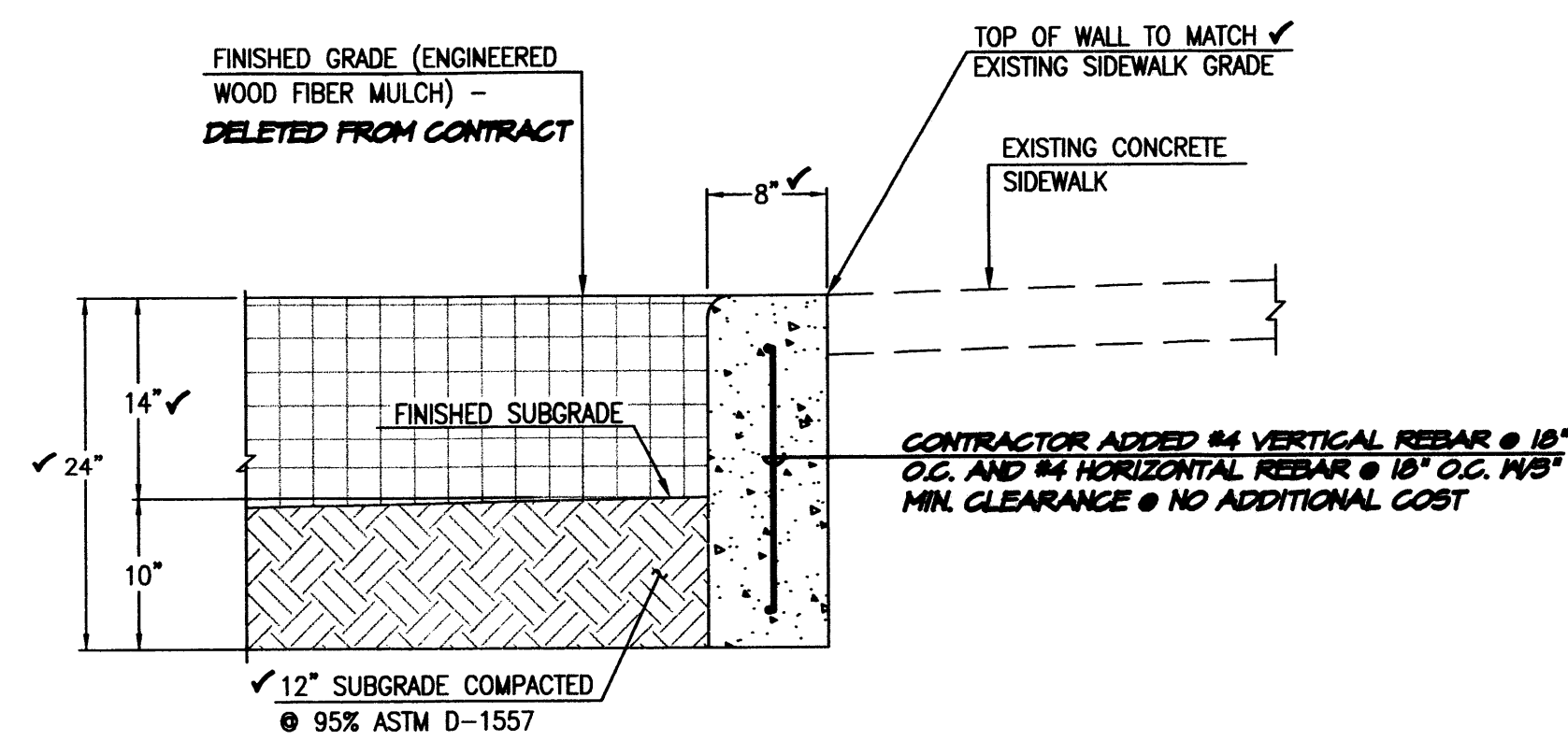
DESIGN SURVEY NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY.
BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON BOUNDARY
SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMP5 11184) DATED
02-04-2011 (2010.182.8). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON
IS BASED UPON PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH
MESA CONSULTING GROUP (NMP5 11184) DATED 02-04-2011 (2010.182.8)

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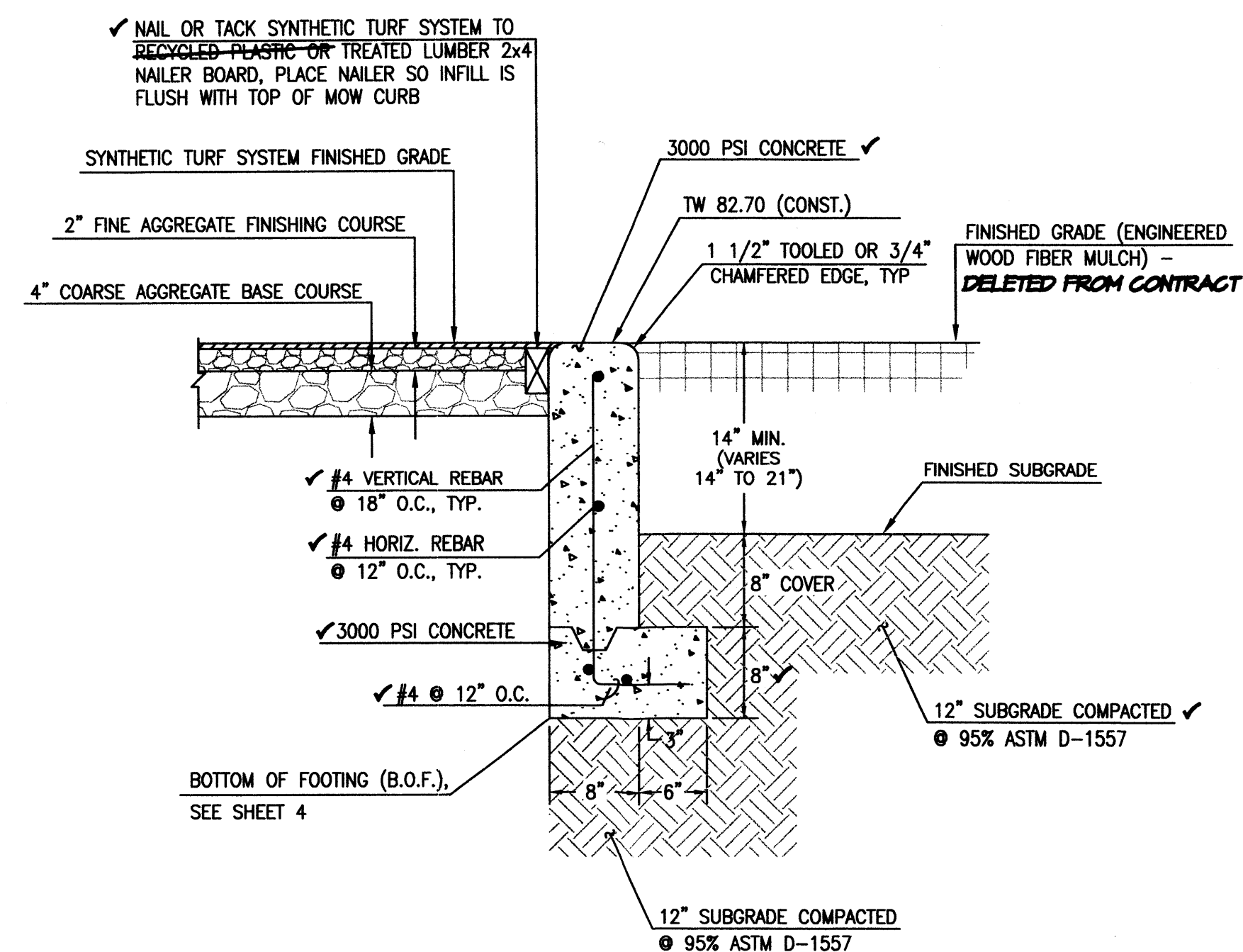
**KINDERGARTEN PLAYGROUND PLAN
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL**

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
JGM/J.D.S.	10/11	JGM	MODIFY GATE AND RAMP	2010.183.1
CLT/E.J.S.	02/12	B.E.E.	RECORD DRAWING AND CERTIFICATION	DATE 07-2011
JGM				SHEET 4 OF 1218

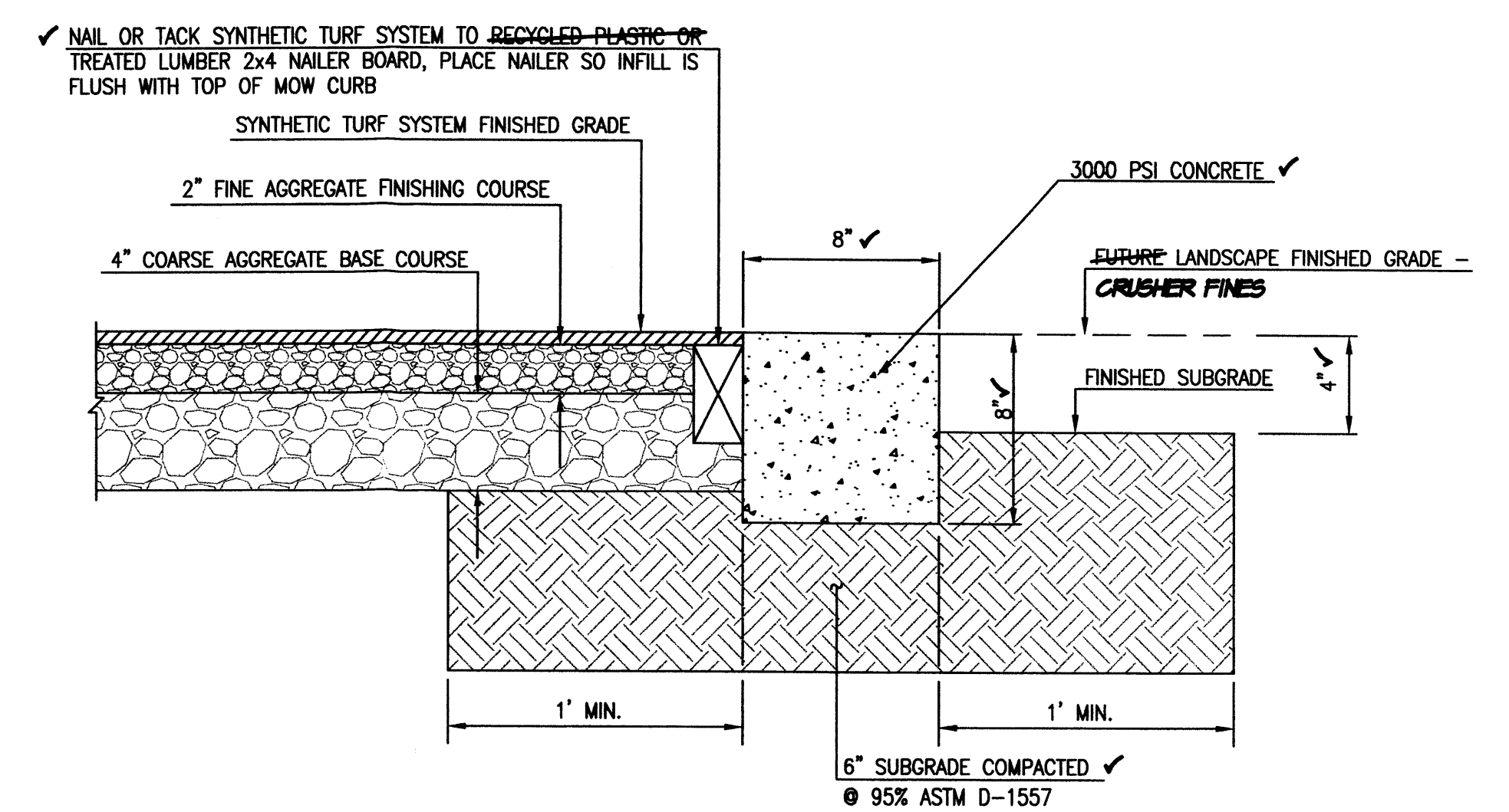
04-05-2012
07-28-2011
11-03-2011
JEFFREY G. MORTENSEN
PROFESSIONAL ENGINEER
NEW MEXICO
18547



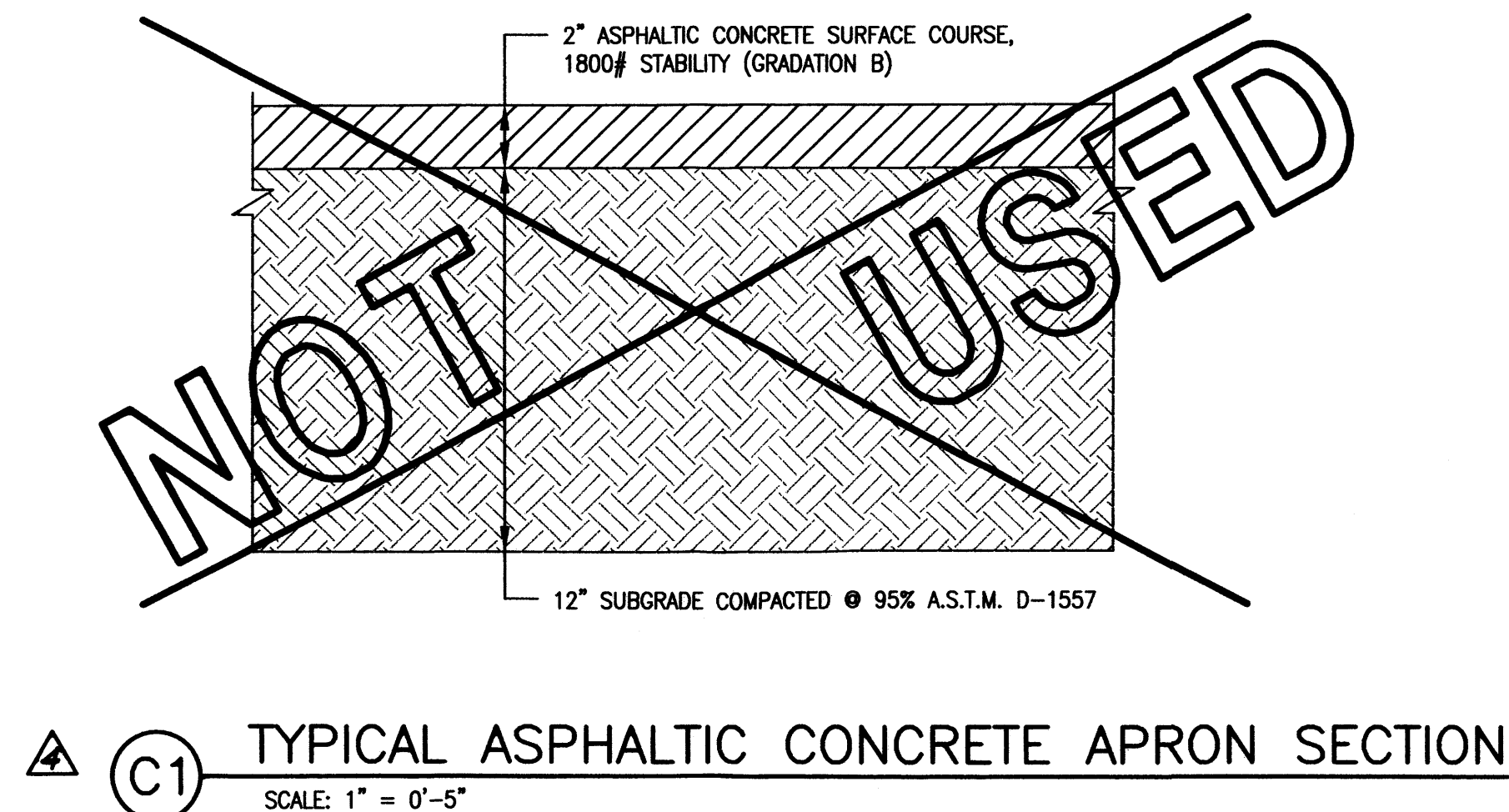
E1 TYPICAL CONTAINMENT WALL
SCALE: 1" = 1'-0"



D4 TYPICAL CONTAINMENT WALL WITH FOOTING
SCALE: 1" = 1'-0"

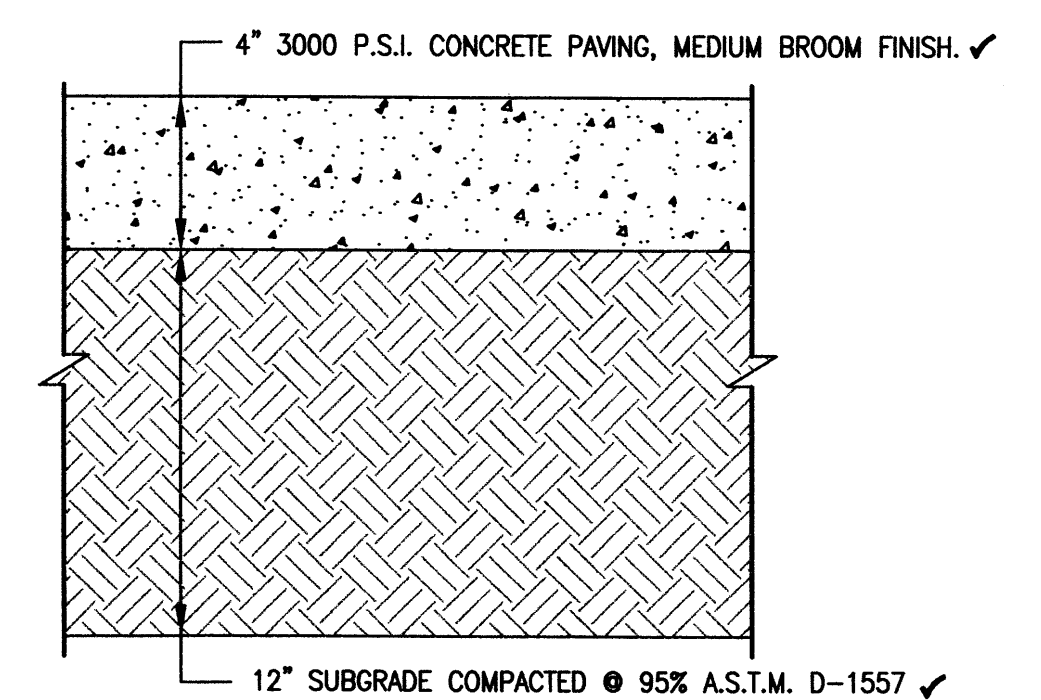


E5 TYPICAL MOW CURB SECTION
SCALE: 1" = 0'-6"

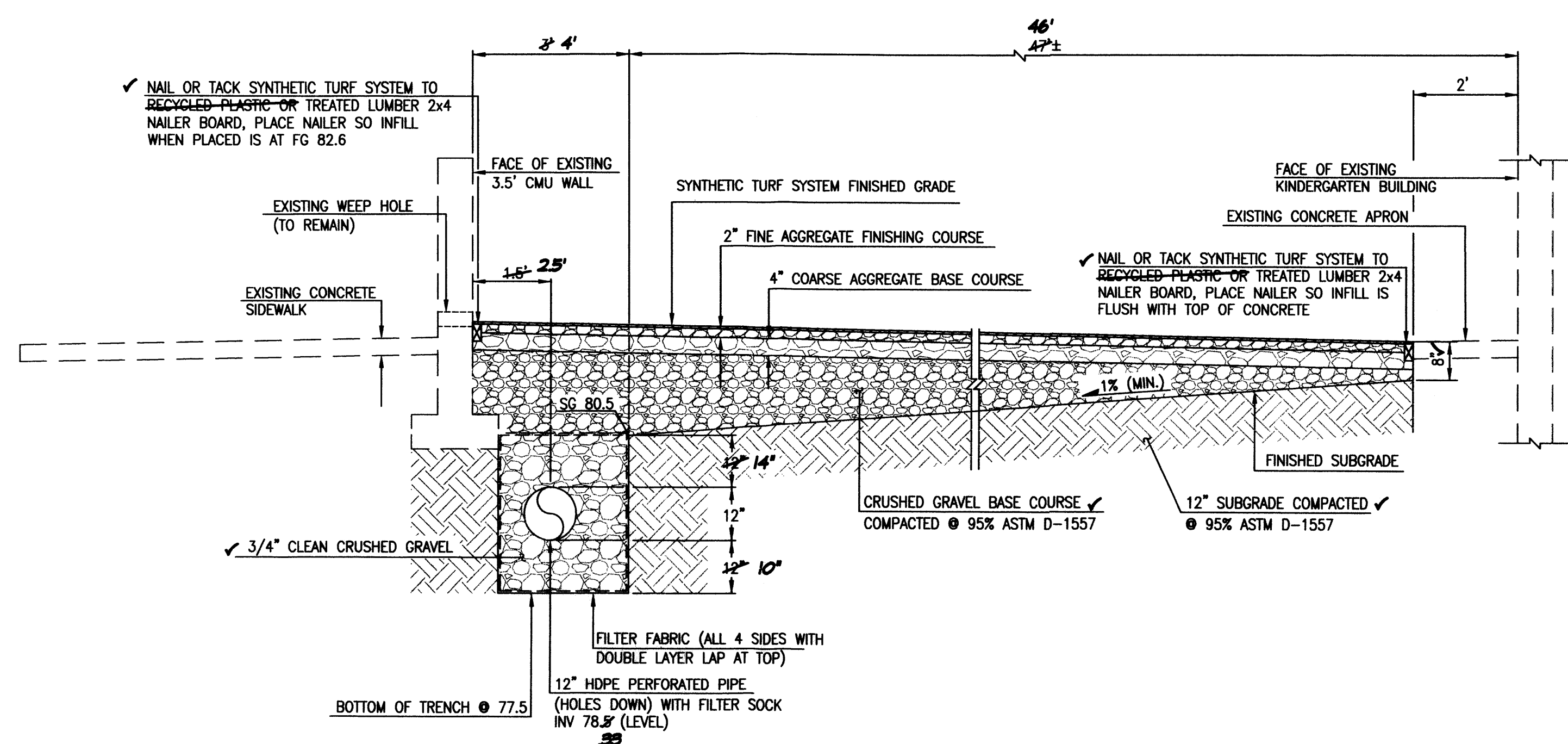


C1 TYPICAL ASPHALTIC CONCRETE APRON SECTION
SCALE: 1" = 0'-5"

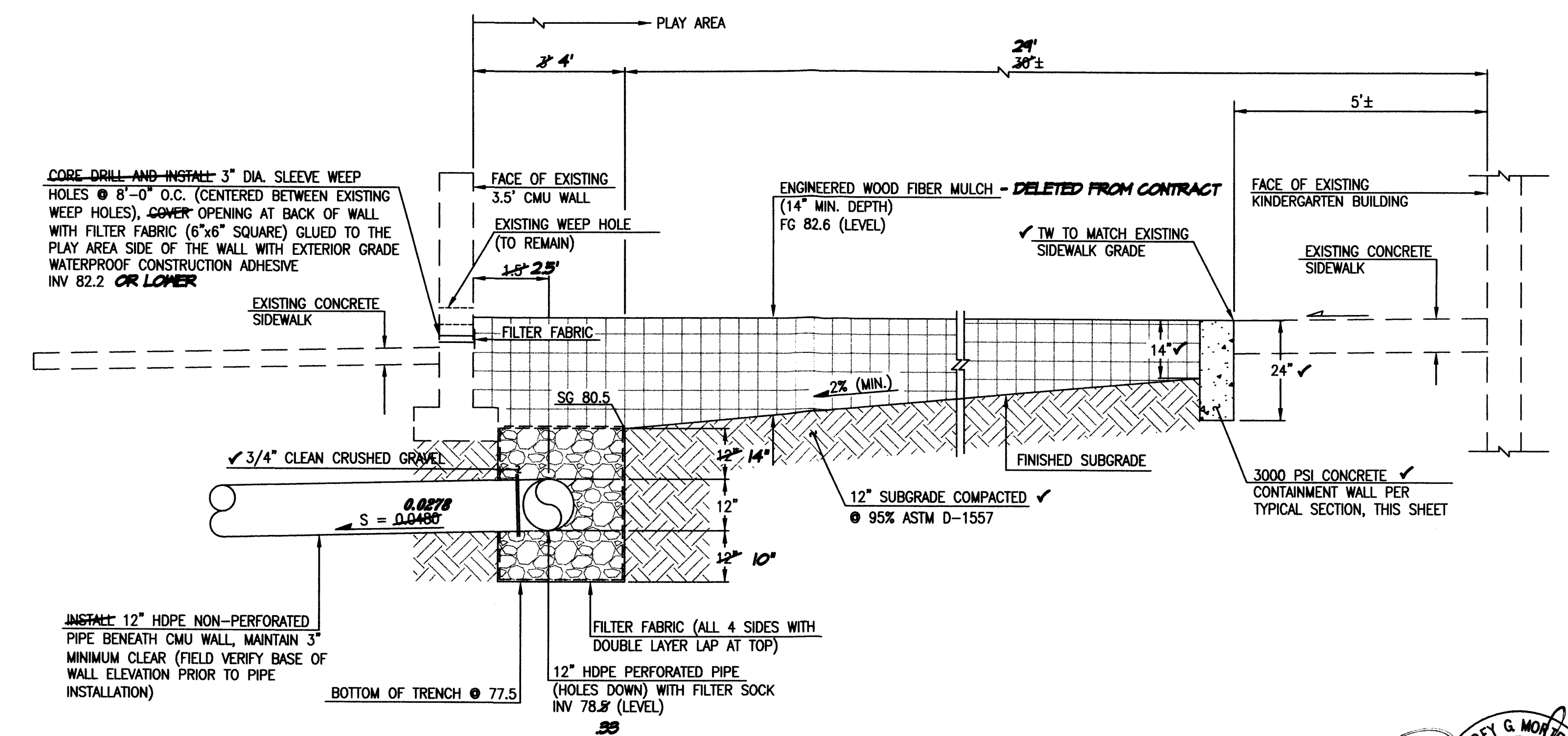
CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
28.98±	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31' 8"	RECORD INFORMATION FROM AS-BUILT SURVEY
+26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
31.25±	RECORD INFORMATION FROM AS-BUILT SURVEY



C5 TYPICAL CONCRETE SIDEWALK SECTION
SCALE: 1" = 0'-6"



B2 SECTION A-A
SCALE: 1" = 2'-0"



B5 SECTION B-B
SCALE: 1" = 2'-0"

RECORD DRAWING
FOR CERTIFICATION, SEE SHEET 1

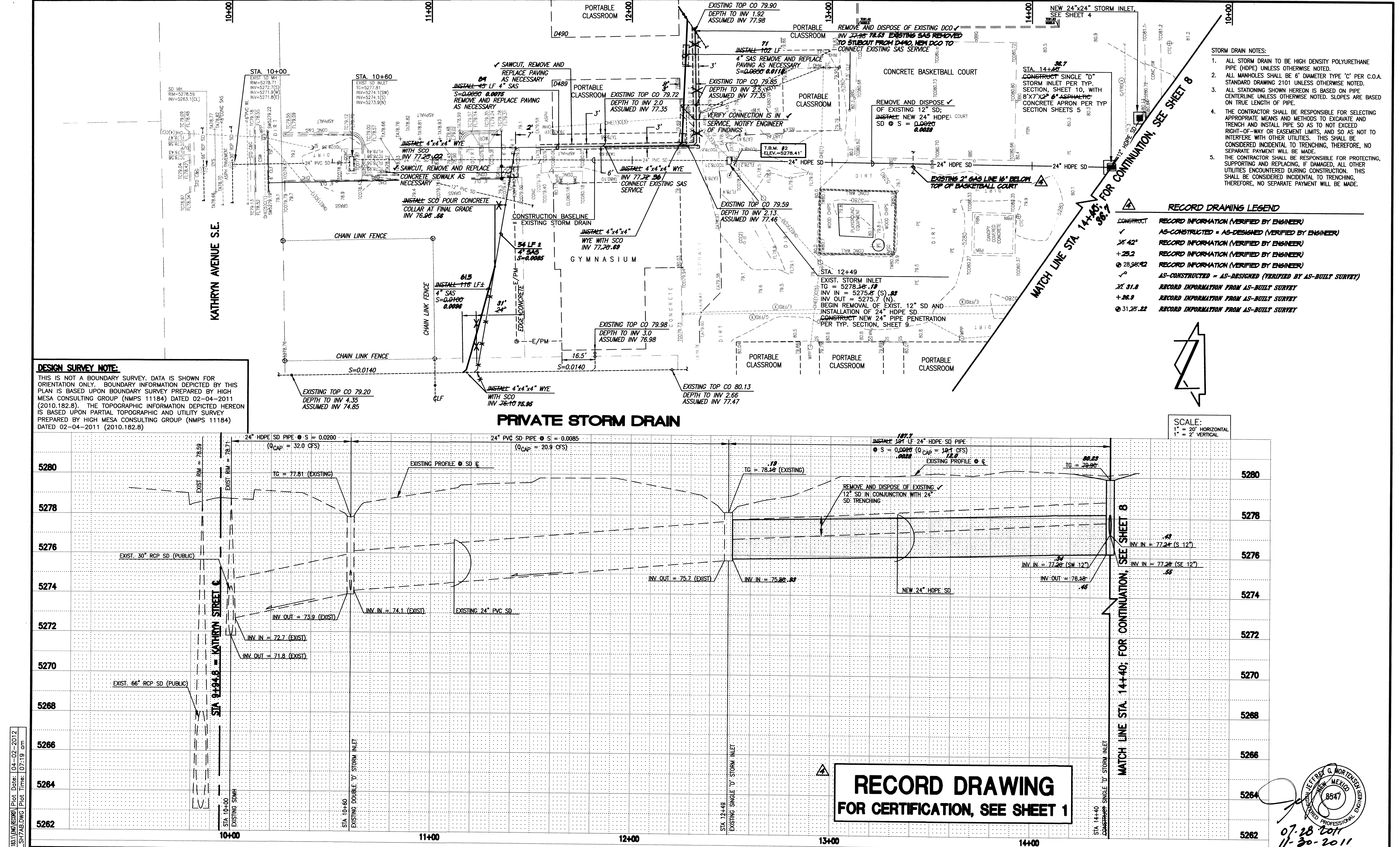
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PAVING SECTIONS AND DETAILS
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M./J.D.S.	02/12	B.E.E.	RECORD DRAWING AND CERTIFICATION	2010.183.1
DRAWN BY	DATE	BY	REVISIONS	DATE
C.L.T./E.J.S.				07-2011
APPROVED BY	DATE	BY	REVISIONS	SHEET
J.G.M.				5 OF 1210

07-28-2011
04-05-2012



- STORM DRAIN NOTES:
1. ALL STORM DRAIN TO BE HIGH DENSITY POLYURETHANE PIPE (HDPE) UNLESS OTHERWISE NOTED.
 2. ALL MANHOLES SHALL BE 6' DIAMETER TYPE 'C' PER C.O.A. STANDARD DRAWING 2101 UNLESS OTHERWISE NOTED.
 3. ALL STATIONING SHOWN HEREON IS BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED. SLOPES ARE BASED ON TRUE LENGTH OF PIPE.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

RECORD DRAWING LEGEND

CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
Q 28.98' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
XZ 31.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
Q 31.25' 22"	RECORD INFORMATION FROM AS-BUILT SURVEY

DESIGN SURVEY NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8).

**RECORD DRAWING
FOR CERTIFICATION, SEE SHEET 1**

07-28-2011
11-20-2011
04-05-2012

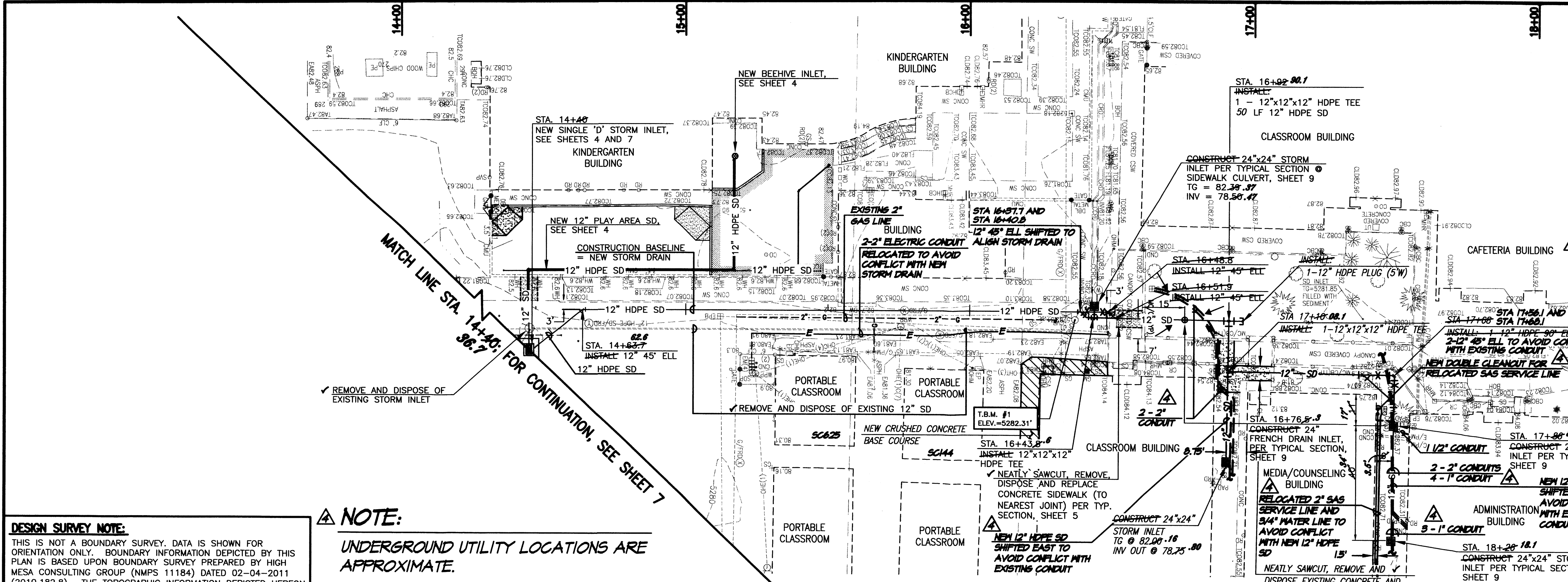
File Path: P:\DATA\2010\183\183\RECORD\183\183.DWG Plot Date: 04-02-2012
File Name: 101831-SH7AB.DWG Plot Time: 07:19 am

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**PRIVATE STORM DRAIN PLAN AND PROFILE STA. 10+00 TO STA. 14+40
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL**

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
JGM/JDS	11/11	B.E.E.	RELOCATE SAS	2010.183.1
DRAWN BY	02/12	B.E.E.	RECORD DRAWING AND CERTIFICATION	DATE
APPROVED BY				07-2011
				SHEET 7 OF 1218

File Path: P:\M\2010\183\183\RECORD\101831_SHEAD.DWG Plot Date: 04-02-2012
File Name: 101831_SHEAD.DWG Plot Time: 07:24 am



- STORM DRAIN NOTES:
1. ALL STORM DRAIN TO BE HIGH DENSITY POLYURETHANE PIPE (HDPE) UNLESS OTHERWISE NOTED.
 2. ALL MANHOLES SHALL BE 6' DIAMETER TYPE 'C' PER C.O.A. STANDARD DRAWING 2101 UNLESS OTHERWISE NOTED.
 3. ALL STATIONING SHOWN HEREON IS BASED ON PIPE CENTERLINE UNLESS OTHERWISE NOTED. SLOPES ARE BASED ON TRUE LENGTH OF PIPE.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING APPROPRIATE MEANS AND METHODS TO EXCAVATE AND TRENCH AND INSTALL PIPE SO AS TO NOT EXCEED RIGHT-OF-WAY OR EASEMENT LIMITS, AND SO AS NOT TO INTERFERE WITH OTHER UTILITIES. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.
 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING, SUPPORTING AND REPLACING, IF DAMAGED, ALL OTHER UTILITIES ENCOUNTERED DURING CONSTRUCTION. THIS SHALL BE CONSIDERED INCIDENTAL TO TRENCHING, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

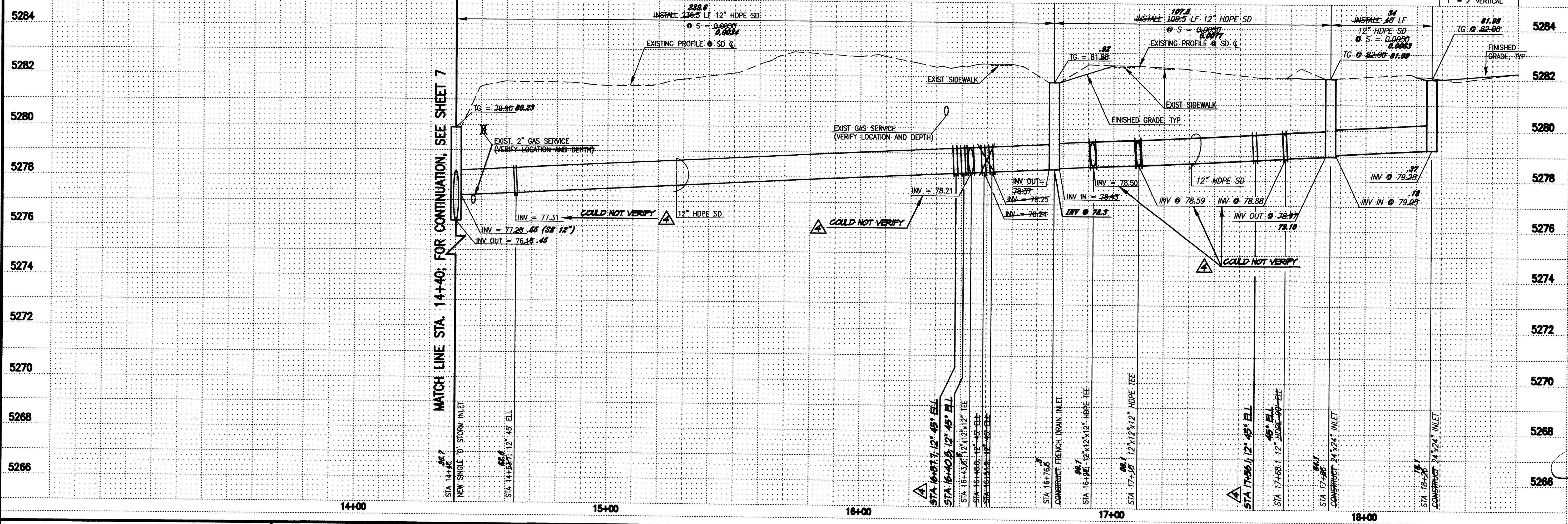
RECORD DRAWING FOR CERTIFICATION, SEE SHEET 1

RECORD DRAWING LEGEND	
CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
28.98' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31' 31.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+28.9	RECORD INFORMATION FROM AS-BUILT SURVEY
31.25' 22"	RECORD INFORMATION FROM AS-BUILT SURVEY

DESIGN SURVEY NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON BOUNDARY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON PARTIAL TOPOGRAPHIC AND UTILITY SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8)

NOTE:
UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE.

PRIVATE STORM DRAIN EXTENSION



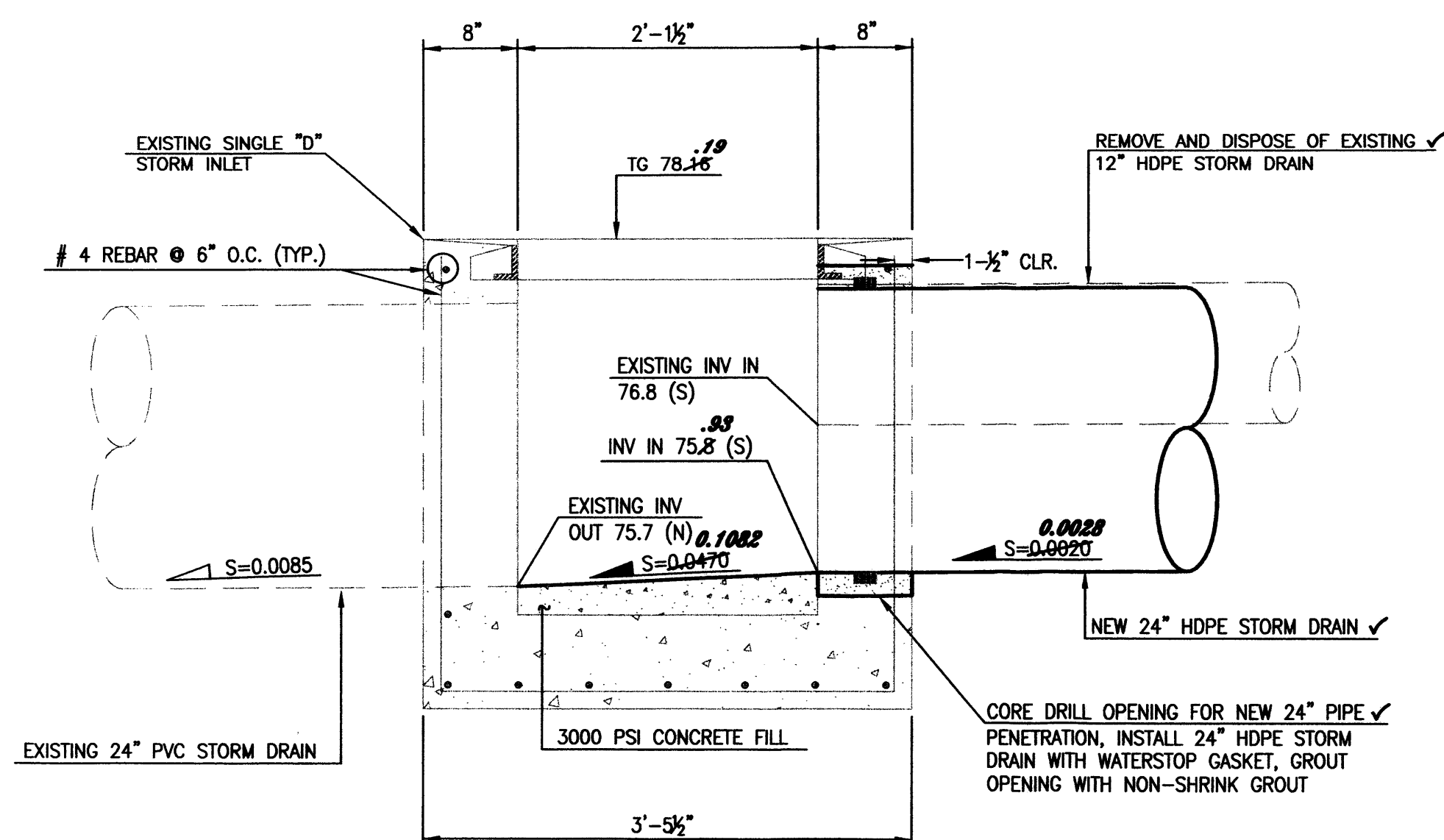
SCALE:
1" = 20' HORIZONTAL
1" = 2' VERTICAL

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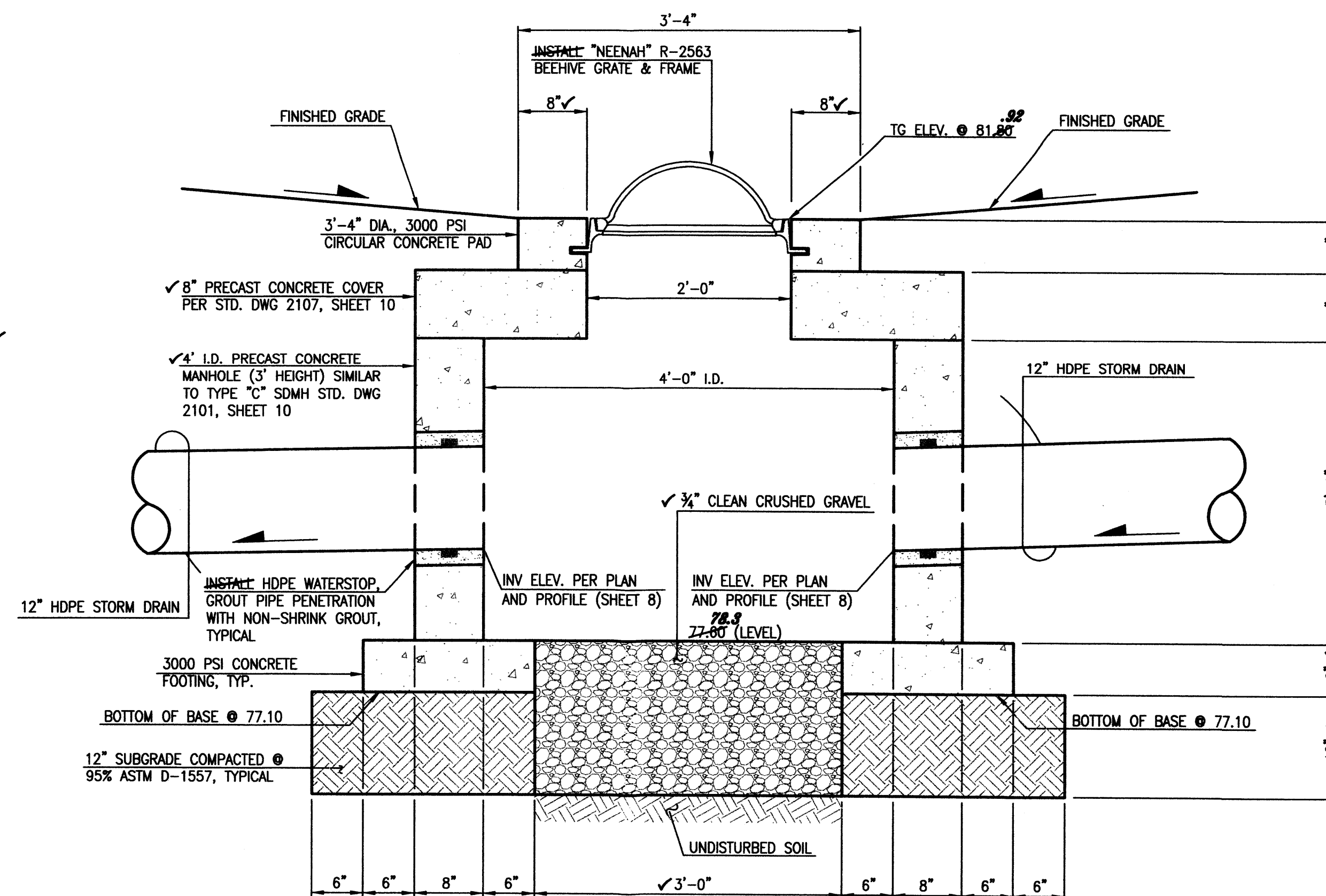
**PRIVATE STORM DRAIN EXTENSION PLAN AND PROFILE STA. 14+40 TO STA. 18+22
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL**

DESIGNED BY				REVISIONS		JOB NO.	
J.G.M./J.D.S.				10/11	J.G.M.	EXPAND PROJECT SCOPE	2010.183.1
C.L.T./J.Y.R./E.J.S.				02/12	B.E.E.	RECORD DRAWING AND CERTIFICATION	07-2011
J.G.M.							8 OF 1210

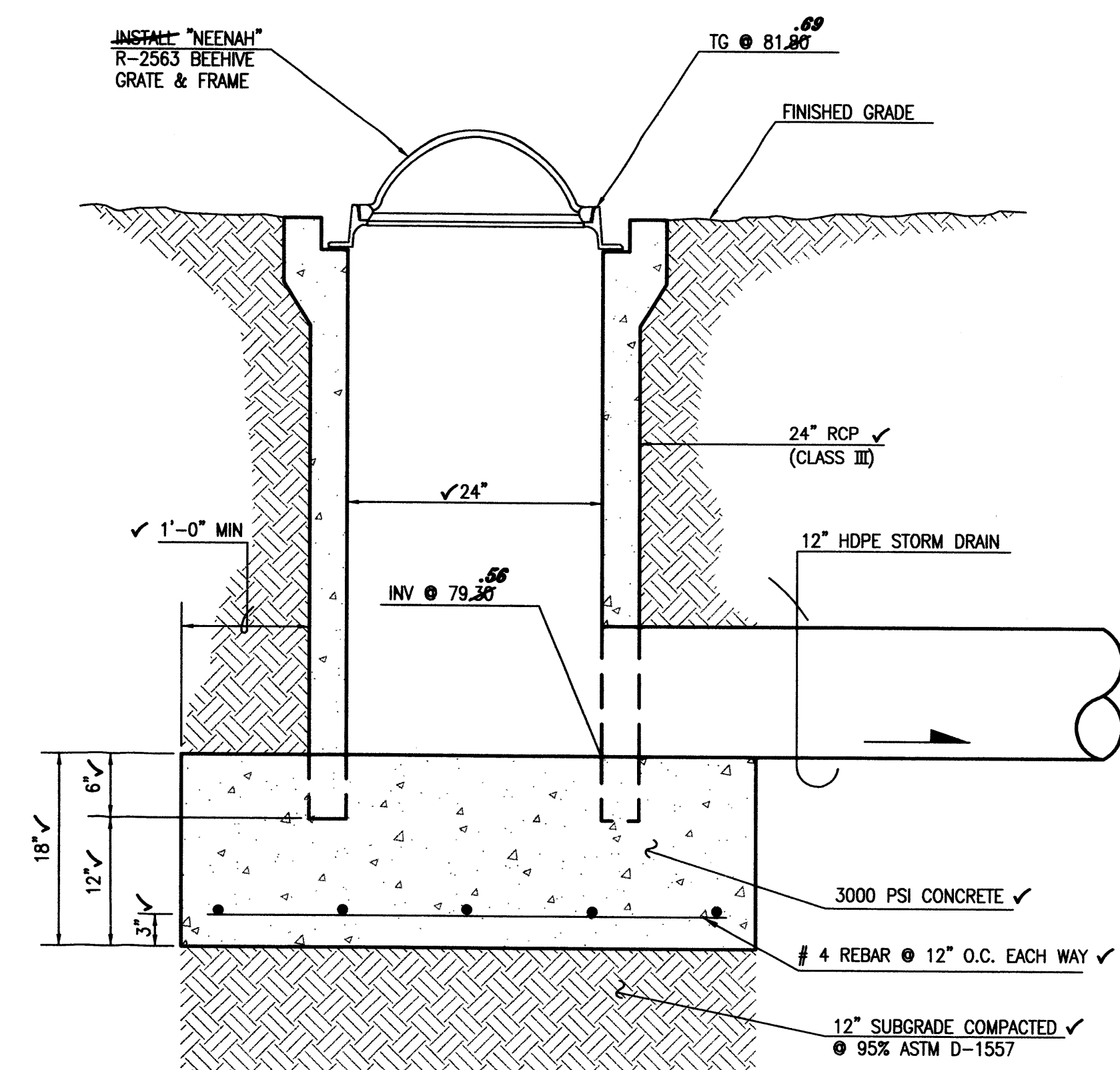
04-05-2012
07-18-2011
11-03-2011
NEW MEXICO
JEFFREY G. MORTENSEN
REGISTERED PROFESSIONAL ENGINEER
6547



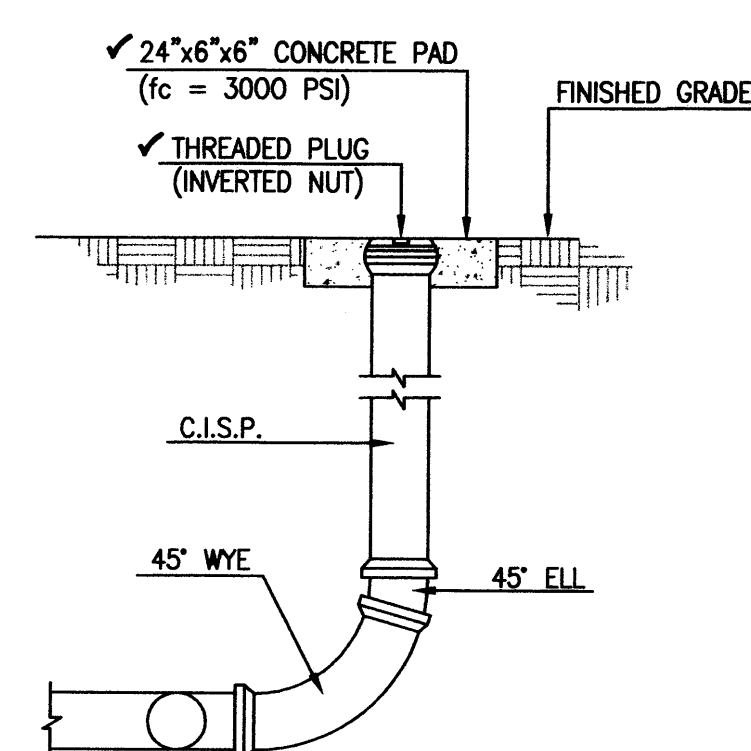
A1 **D1** EXISTING INLET PIPE PENETRATION SECTION
SCALE: 1" = 1'-0"



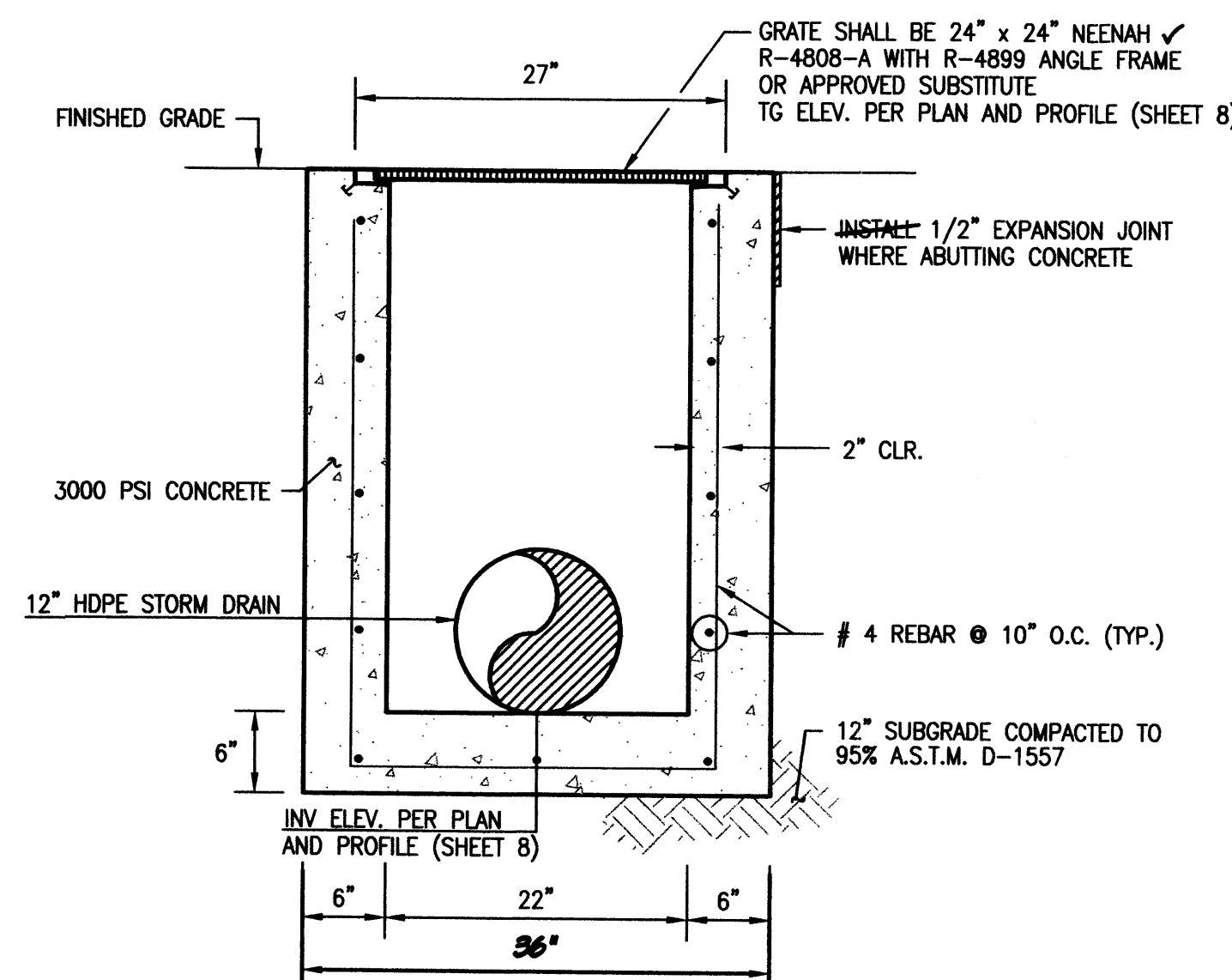
A3 **D3** FRENCH DRAIN INLET SECTION
SCALE: 1" = 1'-0"



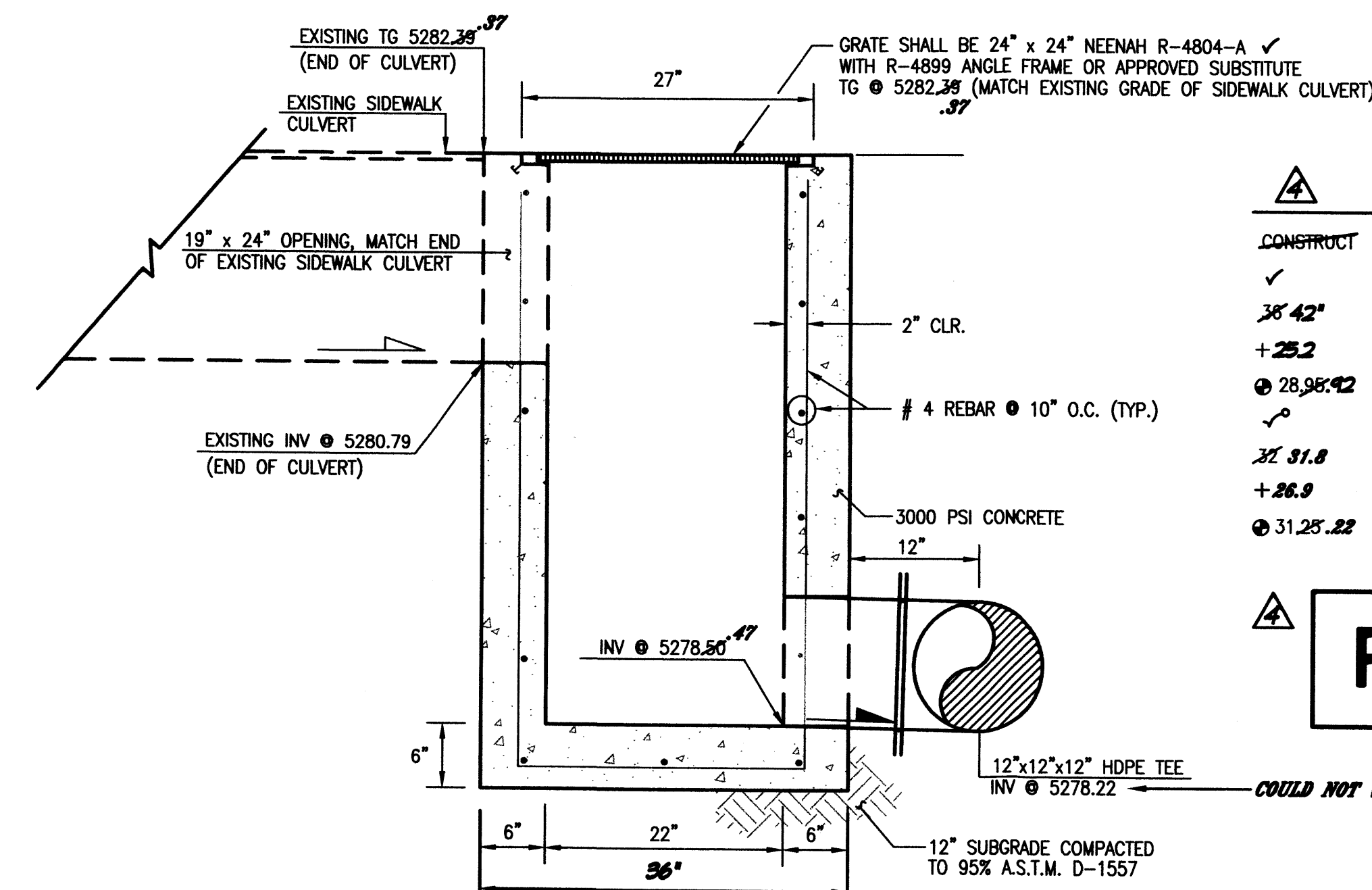
A5 **D5** BEEHIVE INLET SECTION
SCALE: 1" = 1'-0"



A1 TYPICAL SINGLE CLEANOUT SECTION
NOT TO SCALE



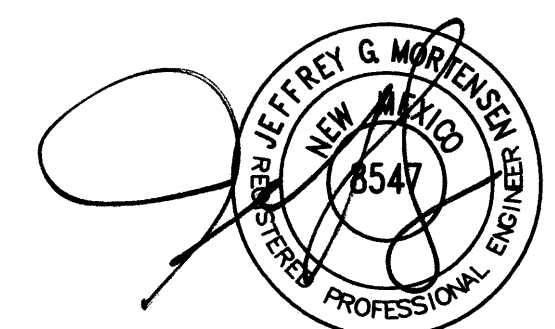
A3 TYPICAL 24"x24" STORM INLET SECTION
SCALE: 1" = 1'-0"



A5 24"x24" STORM INLET SECTION @ SIDEWALK CULVERT
SCALE: 1" = 1'-0"

CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38.42	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
28.98.42	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
31.25.22	RECORD INFORMATION FROM AS-BUILT SURVEY

RECORD DRAWING



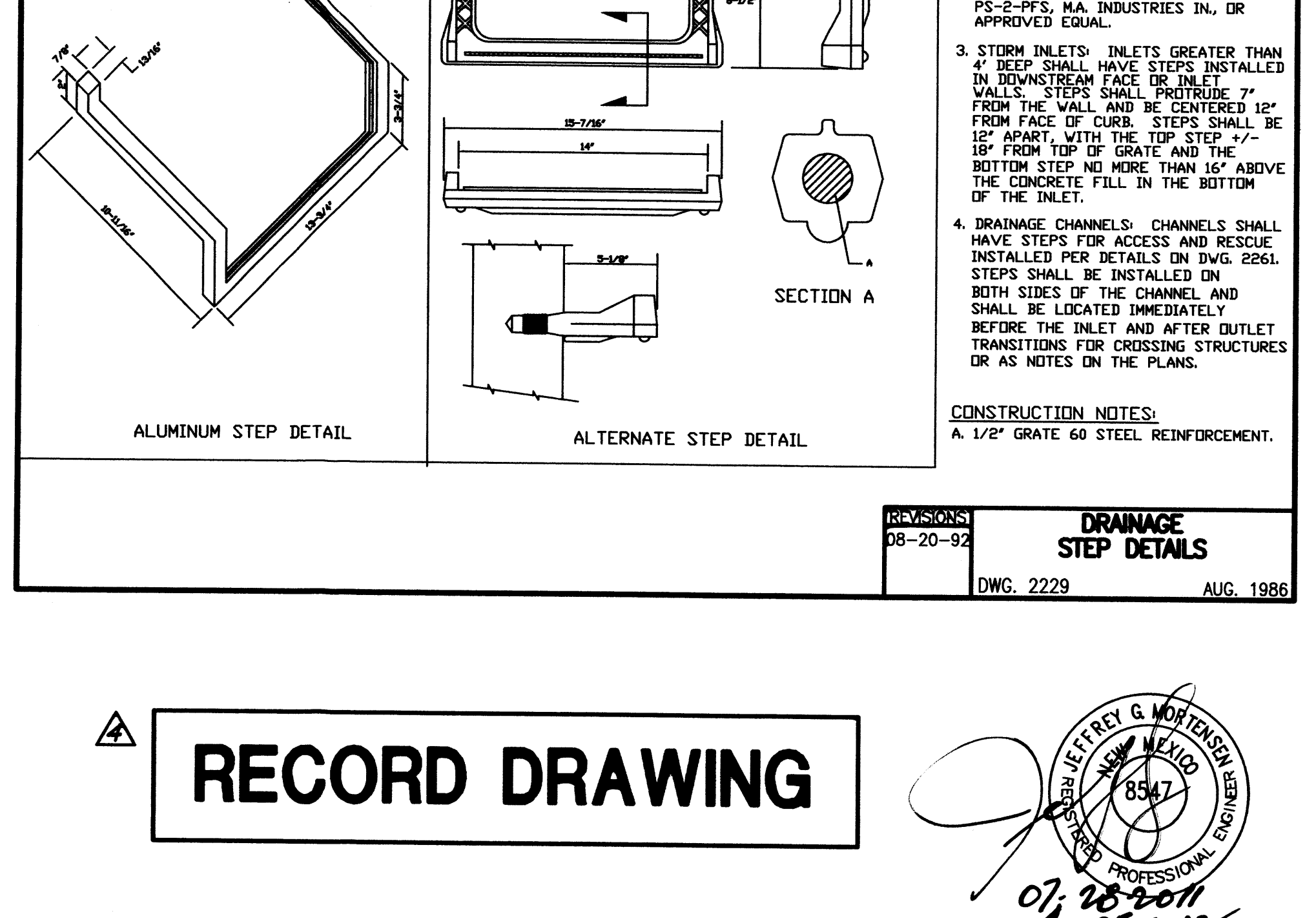
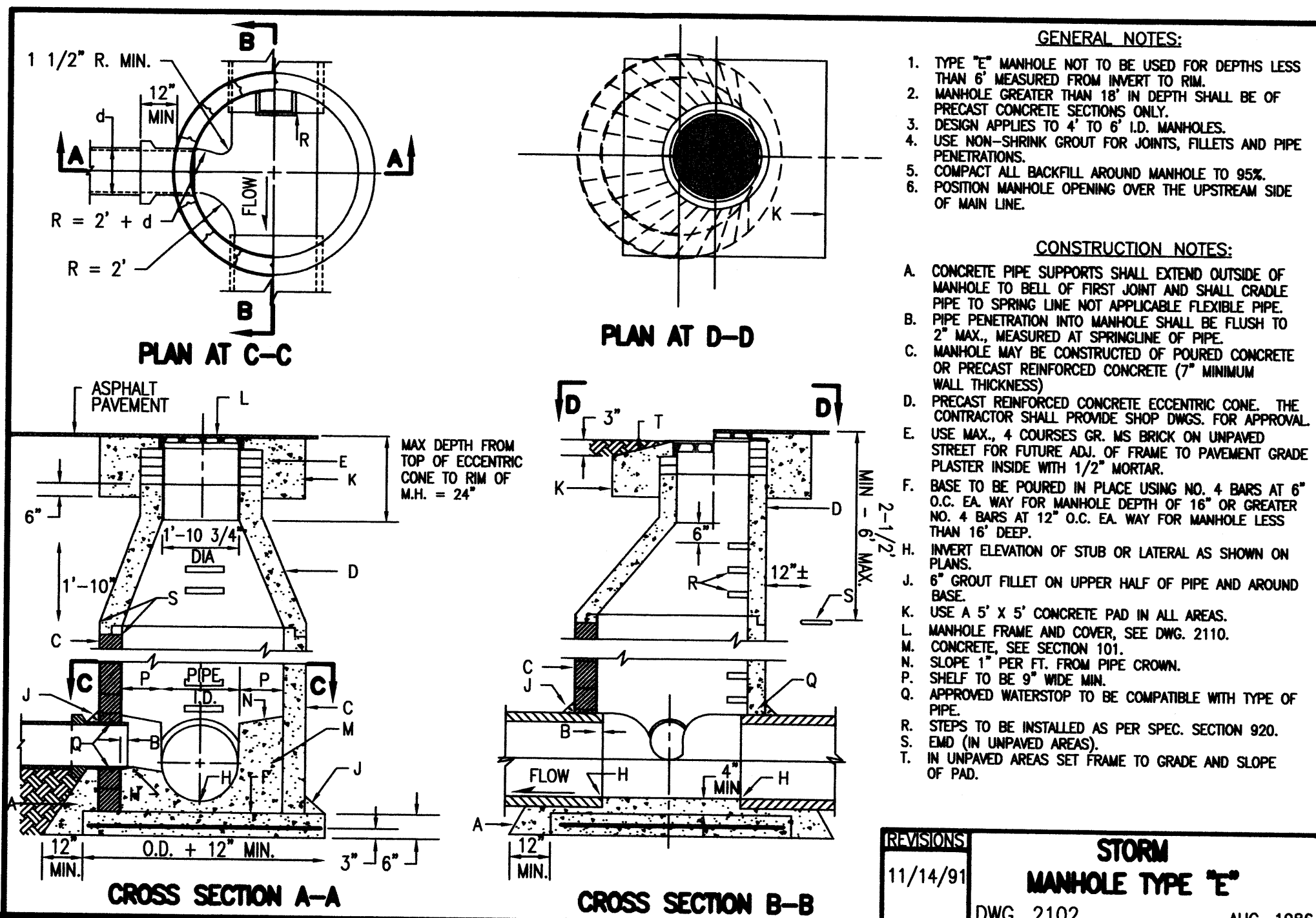
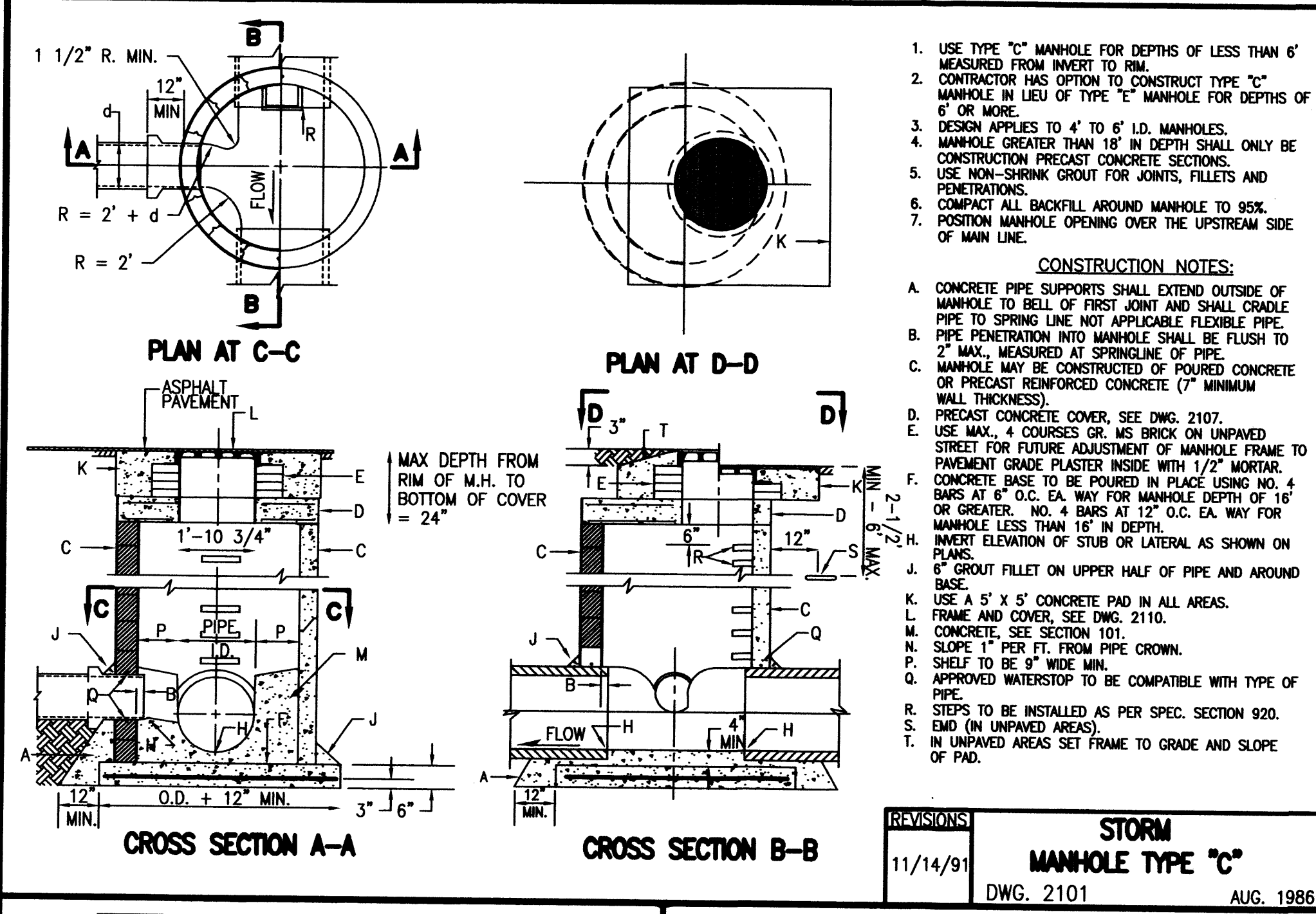
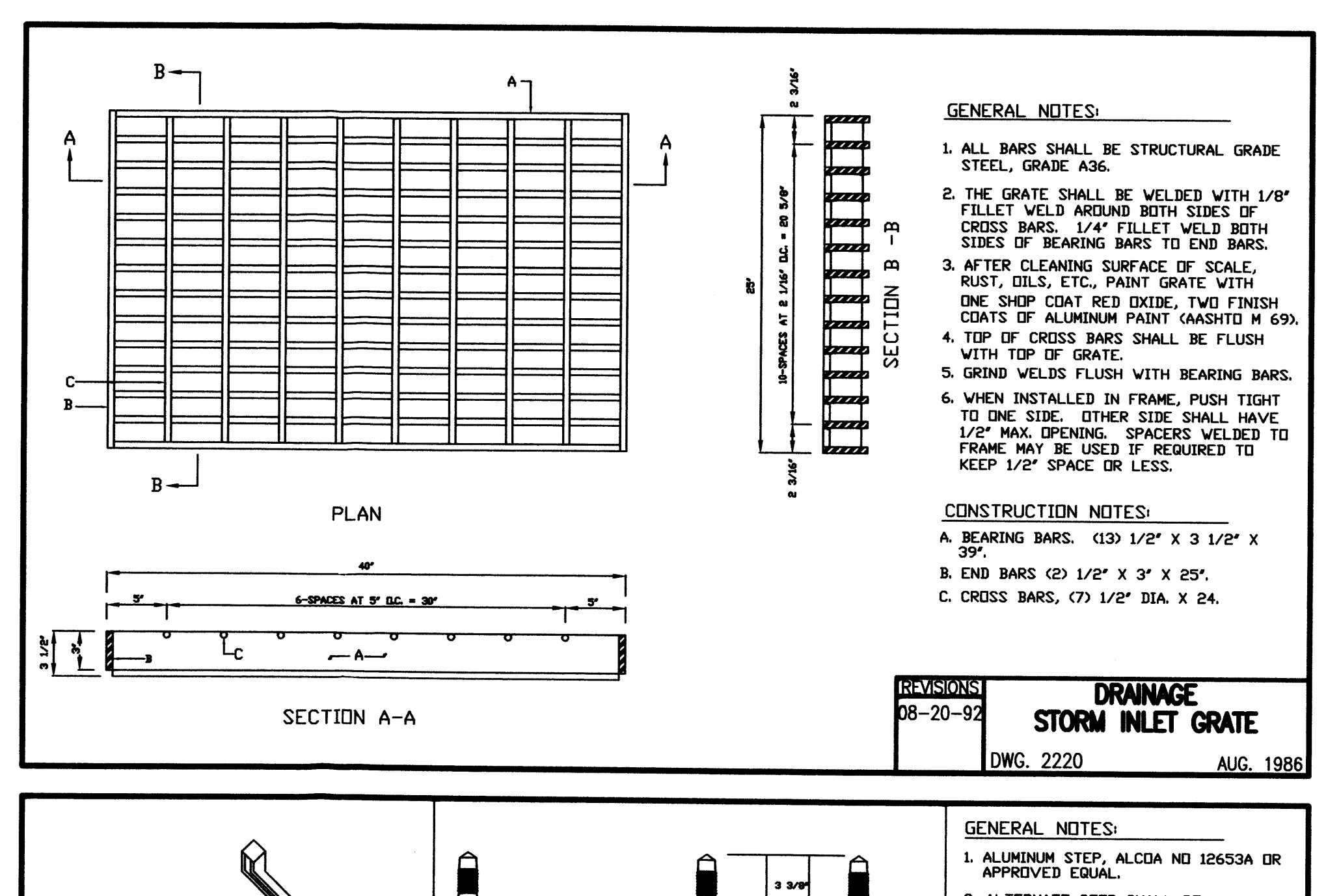
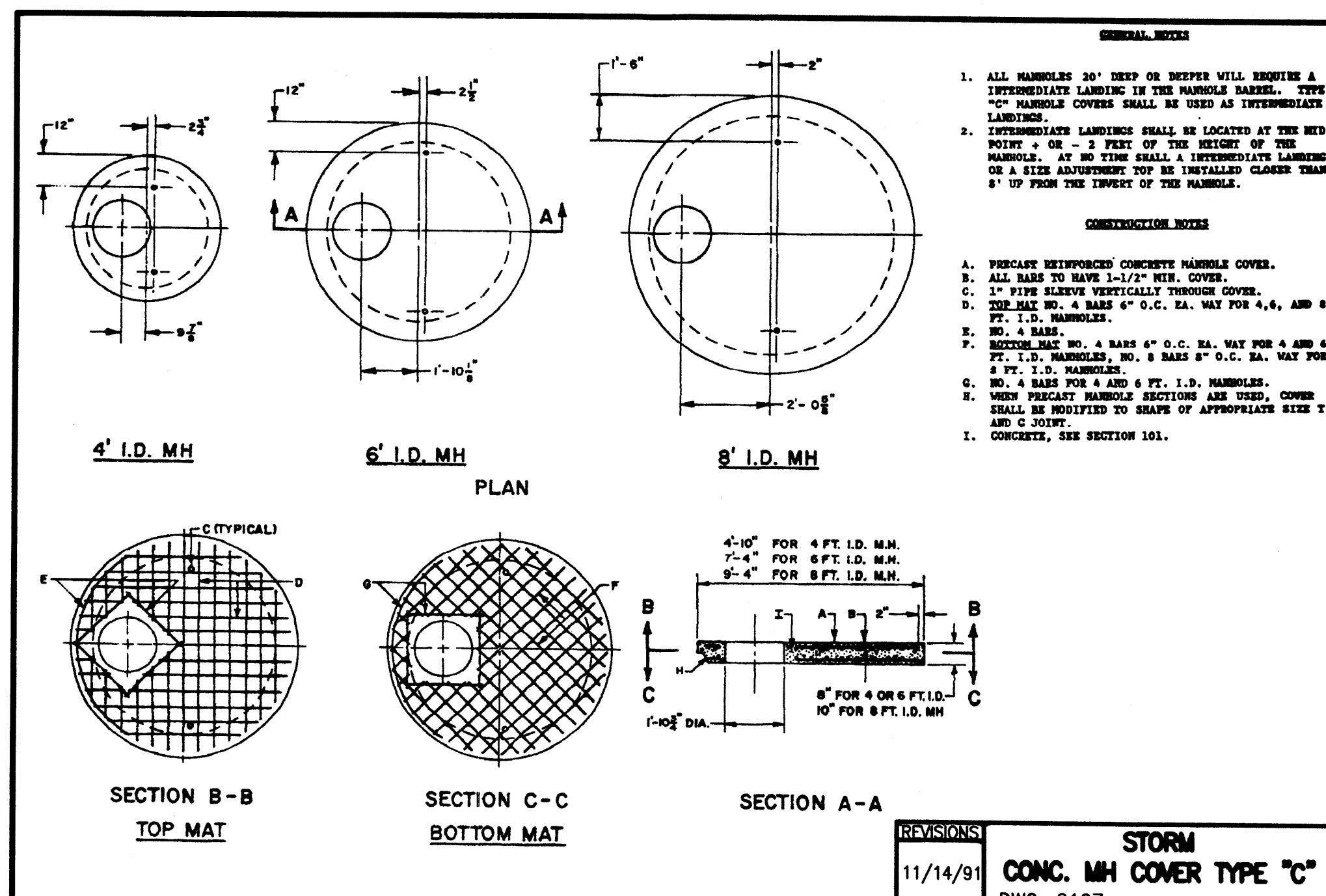
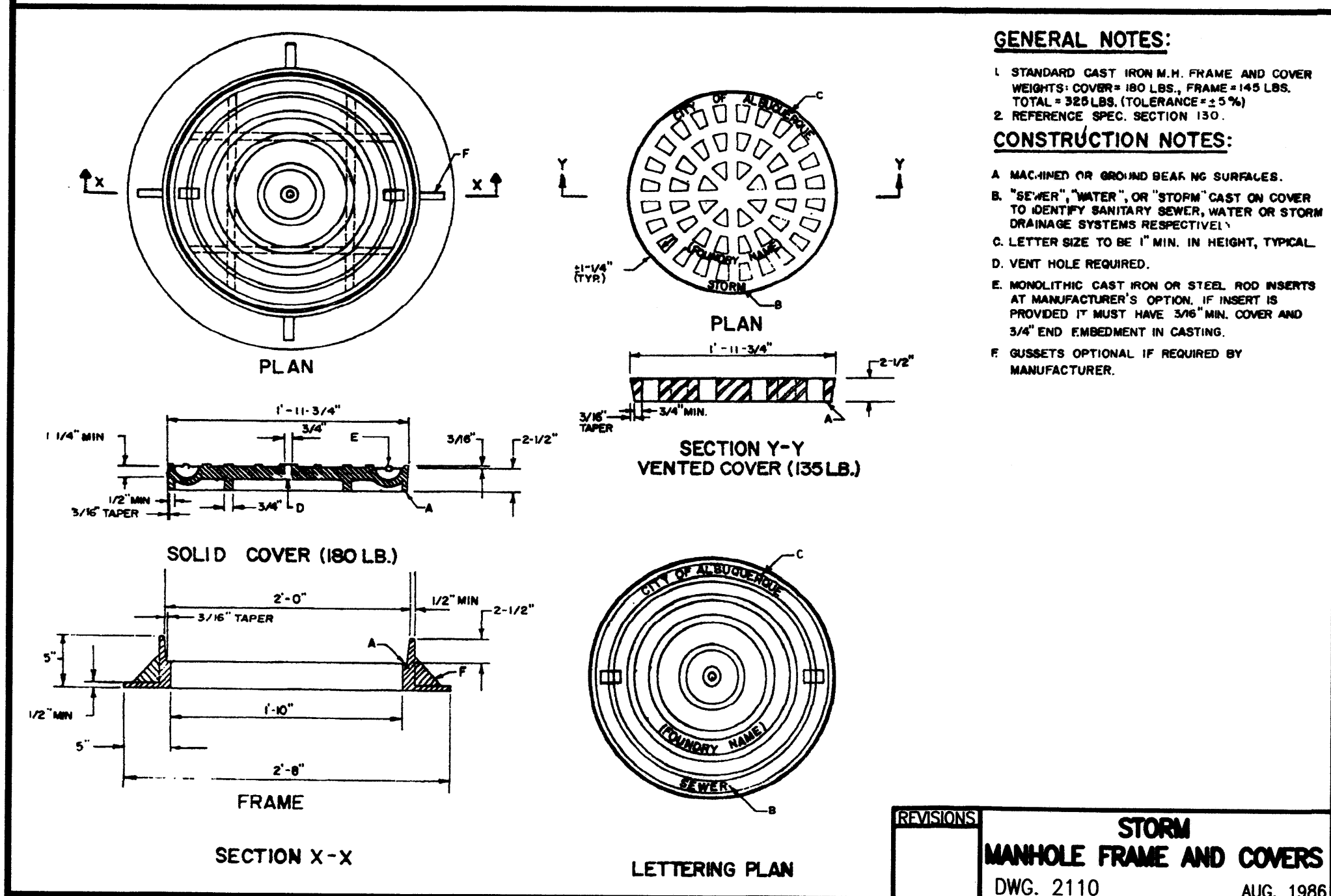
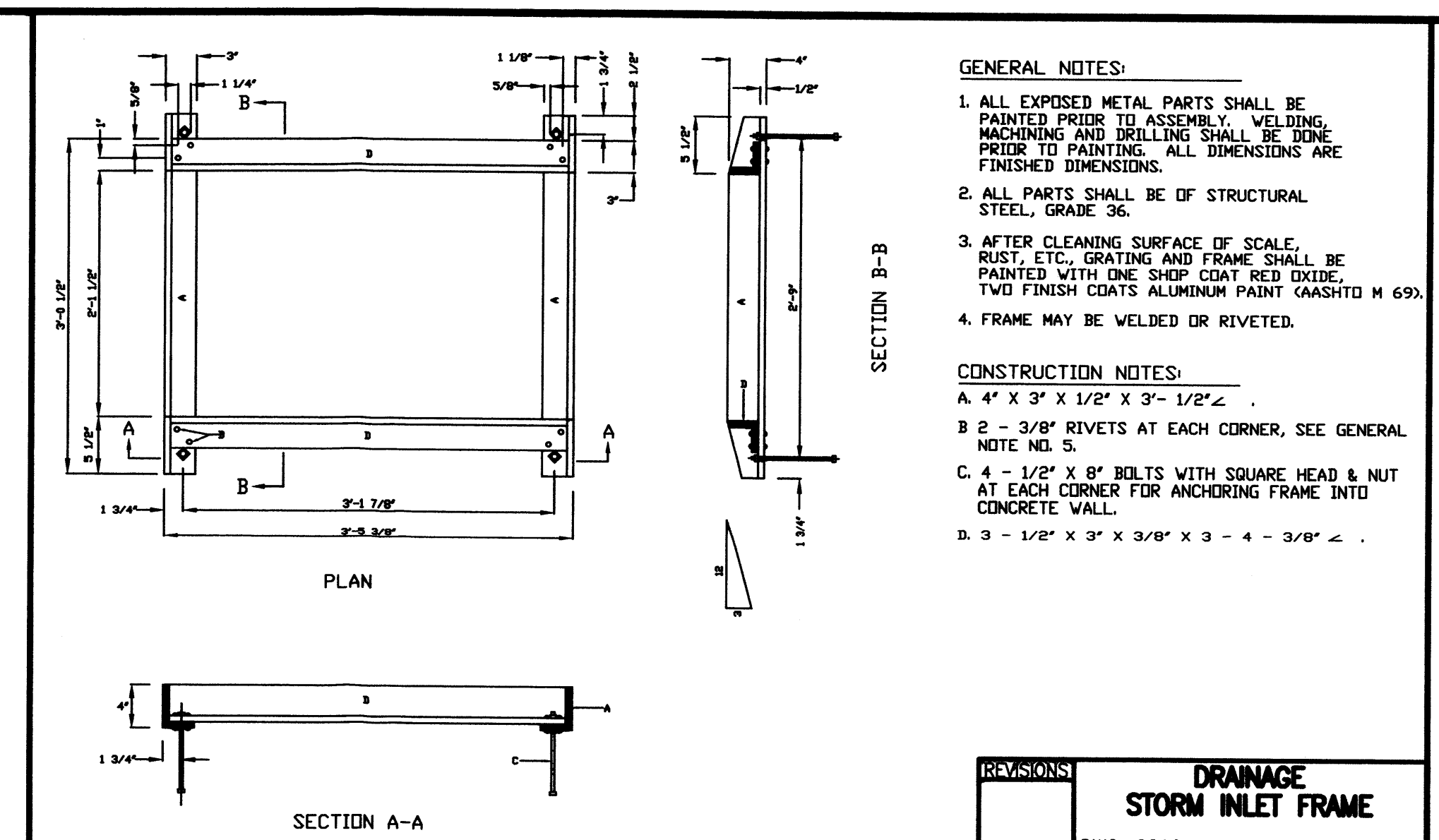
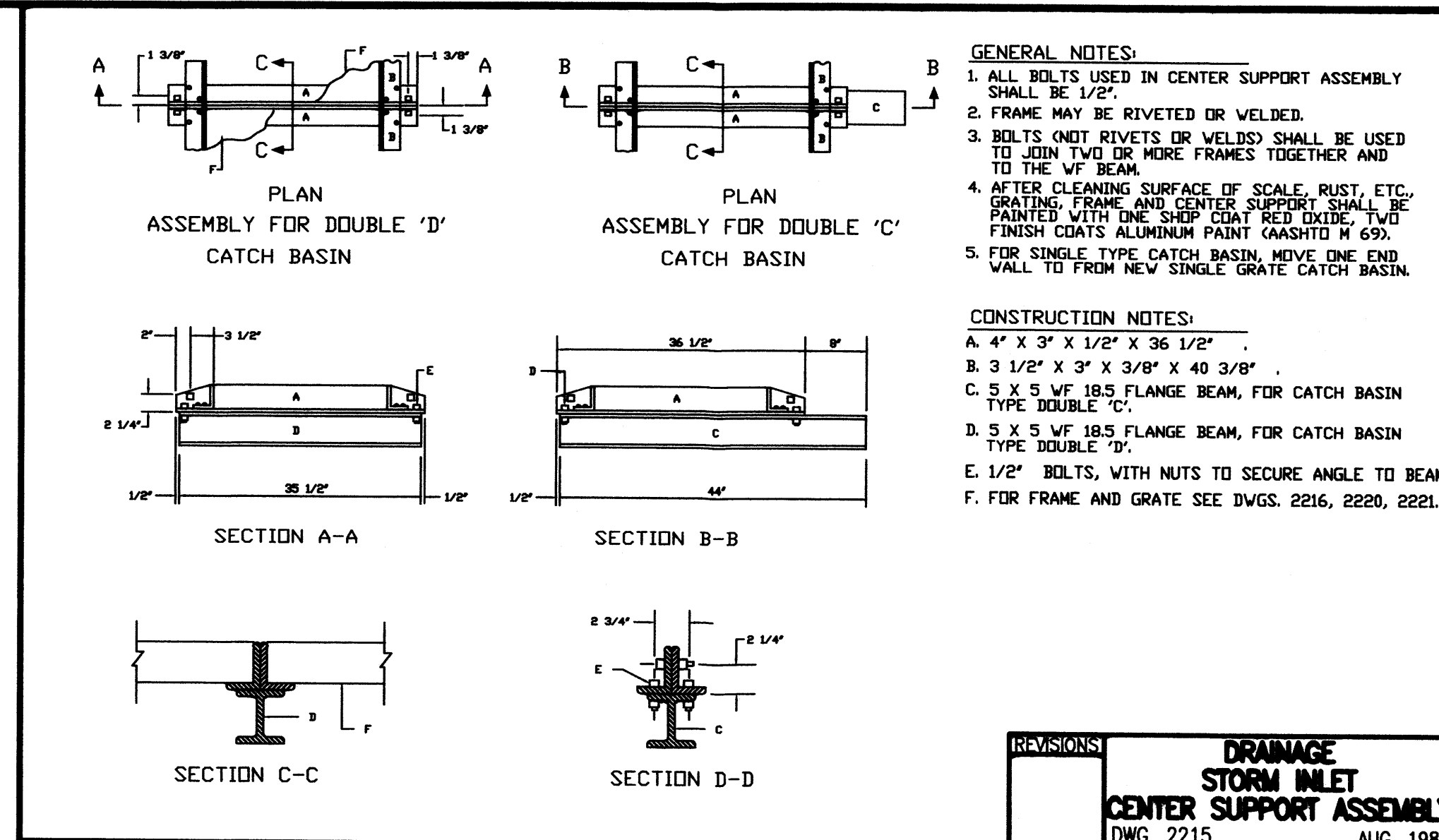
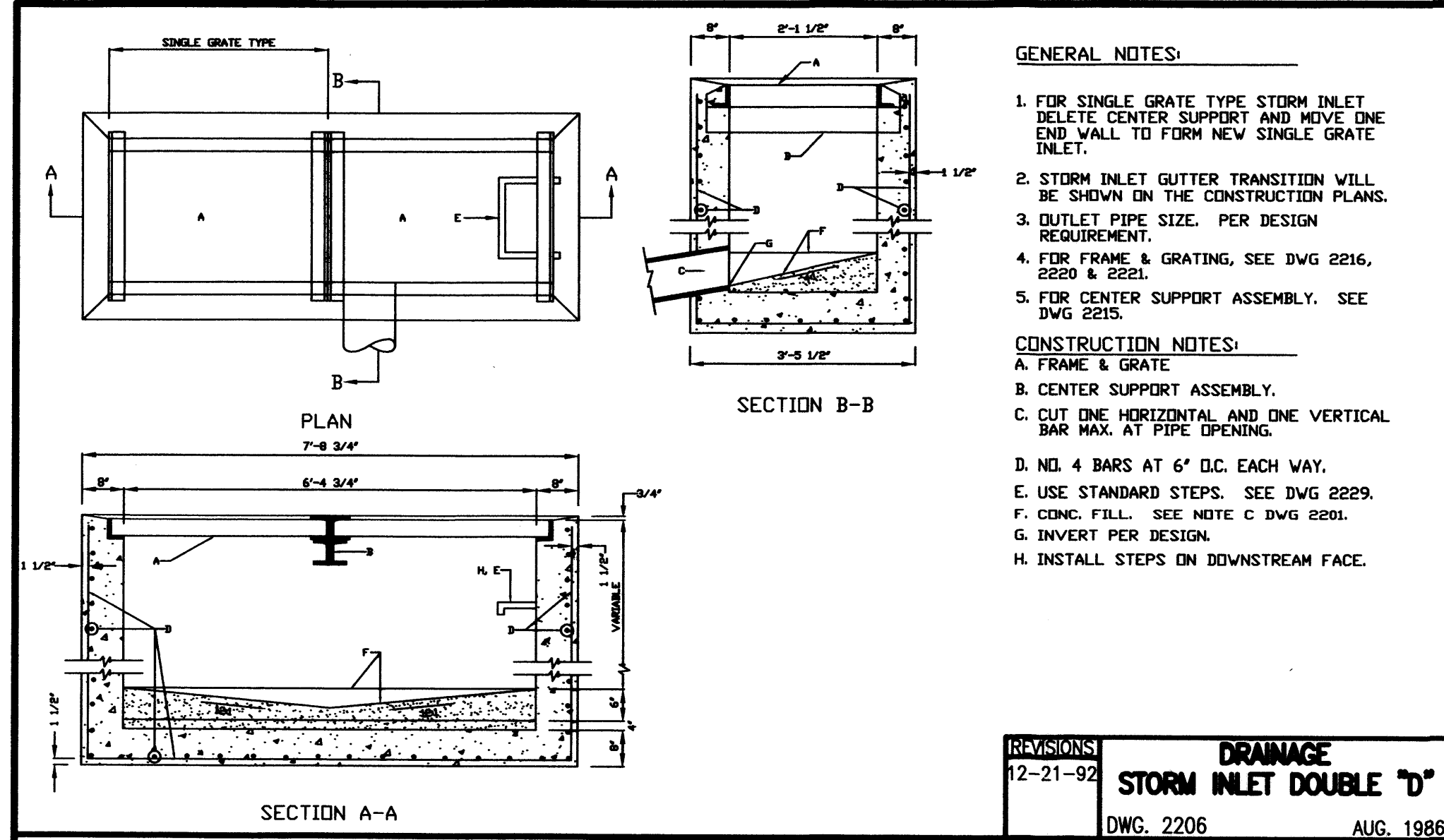
07.26.2011
04.05.2012

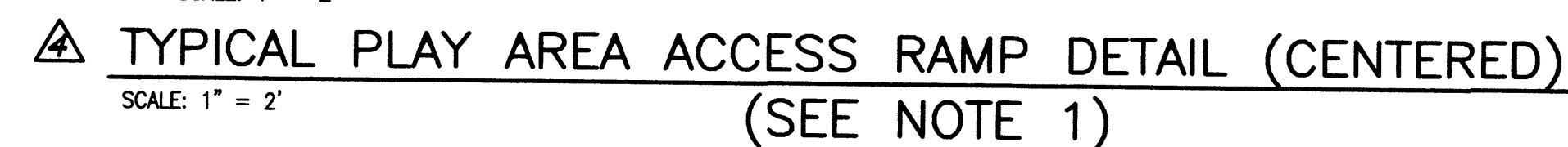
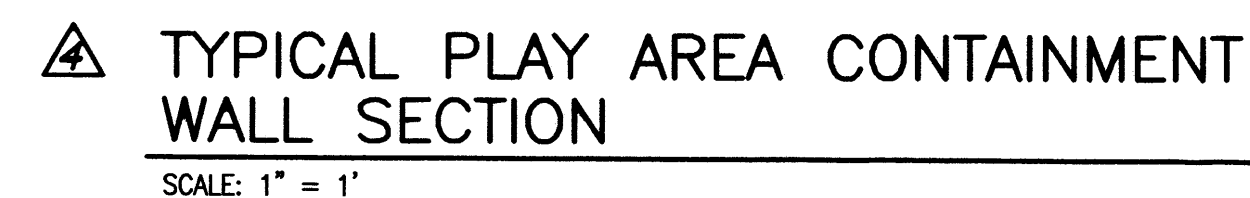
HIGH MESA Consulting Group
FORMERLY JEFF MORTENSEN AND ASSOCIATES, INC.

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**STORM INLET SECTIONS AND DETAILS
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL**

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M./J.D.S.	02/12	B.E.E.	RECORD DRAWING	2010.183.1
DRAWN BY	DATE	BY	REVISIONS	JOB NO.
C.L.T./E.J.S.				07-2011
APPROVED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M.				9 OF 1210





- NOTES:**
1. LOCATION OF OPENING AND RAMP SHALL BE VERIFIED PRIOR TO CONSTRUCTION WITH PLAYGROUND EQUIPMENT INSTALLER TO ENSURE CONCRETE RAMP WILL NOT ENCRUCH UPON PLAY EQUIPMENT ZONE.
 2. SELECTION OF PLAYGROUND EQUIPMENT SUBJECT TO CHANGE AT DISCRETION OF OWNER. CONTRACTOR MUST VERIFY PRIOR TO CONSTRUCTION.
 3. THIS PLAN DOES NOT INCLUDE LOCATION, SELECTION OR INSTALLATION OF SHADE STRUCTURE(S).

CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38° 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+ 25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
⊕ 28.98° 42	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+ 26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
⊕ 31.25° 22	RECORD INFORMATION FROM AS-BUILT SURVEY



RECORD DRAWING
FOR CERTIFICATION, SEE SHEET 1

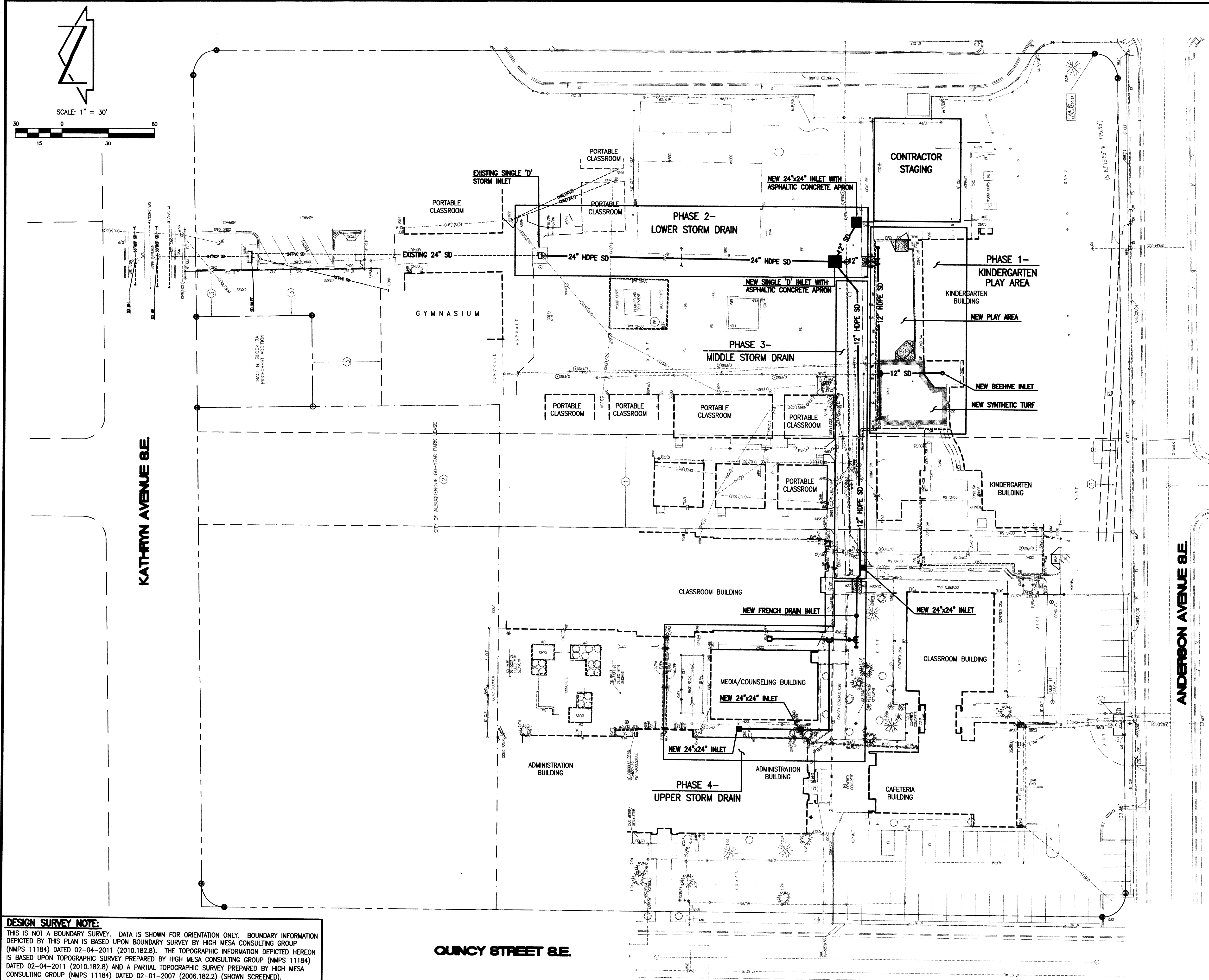
HIGH MESA Consulting Group

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PLAYGROUND LAYOUT AND DETAILS

WHITTIER ELEMENTARY SCHOOL

DESIGNED BY	J.G.M.	NO.	DATE	BY	REVISIONS	JOB NO.
			12/11	J.G.M.	ADD PLAYGROUND	2010.183.1
DRAWN BY	J.Y.R./E.J.S.		02/12	B.E.E.	RECORD DRAWING AND CERTIFICATION	DATE 12-2011
APPROVED BY	J.G.M.					SHEET 111 OF 121



BOUNDARY TABLE

CURVE	RADIUS	LENGTH	CHORD	CHORD BEARING	DELTA
C1	15.00'	23.80'	21.05'	S 44°31'16" E	90°53'28"
C2	15.00'	23.33'	21.05'	S 45°28'44" W	89°06'30"
C3	15.00'	23.80'	21.05'	N 44°29'51" W	90°53'29"
C4	15.00'	23.33'	21.05'	N 45°28'44" E	89°06'32"

EASEMENT TABLE

LINE	DIRECTION	DISTANCE
E1	N 00°03'25" E	7.00'
E2	S 89°56'35" E	13.10'
E3	S 00°03'25" W	7.00'
E4	N 89°56'35" W	13.10'
E5	N 86°43'28" W	192.23'

KEYED NOTES

- EASEMENTS AND LEASE
- ① RIGHT-OF-WAY VACATED BY CITY QUITCLAIM DEED, COMMISSION ORDINANCE No. 573, FILED 10-19-1946, BOOK D-29, PAGES 523-526, DOC. #3757, SUBJECT TO ESTABLISHED EASEMENTS FOR ALL PUBLIC UTILITIES
 - ② CITY OF ALBUQUERQUE 50-YEAR PARK LEASE EXECUTED ON 11-06-1972
 - ③ CITY OF ALBUQUERQUE CONSTRUCTION AND MAINTENANCE EASEMENT FOR WELL SITE EXECUTED ON 04-04-1991
 - ④ PNM AND QWEST CORPORATION UNDERGROUND EASEMENT GRANTED BY DOCUMENT FILED 10-17-2003, BOOK A67, PAGE 647, DOC. #2003191042
 - ⑤ PNM UNDERGROUND EASEMENT (ELECTRIC) GRANTED BY DOCUMENT FILED 11-21-2008, DOC. #2008124539

RECORD DRAWING KEYED NOTES

- ① NO OUTLET FROM COVERED CONCRETE RUNDOWN. OPEN END OF RUNDOWN BOARDED UP
- ② INVERT ELEVATION OF 12" HOPE SD COULD NOT BE DETERMINED. CHECK PLATE BOLTED OVER CONCRETE RUNDOWN.
- ③ GAS LINE DEPICTED BY BRIDGERS & PAXTON, KINDERGARTEN CLASSROOM BUILDING (AS-BUILTS), SHEET PS-101, DATED 08-21-2007.
- ④ STORM DRAIN LINE DEPICTED BY ISAACSON & ARFMAN, KINDERGARTEN CLASSROOM BUILDING (AS-BUILTS), SHEET CG-101, DATED 08-21-2007

LEGEND

AP ASV BPM C&G CDP CI CLF CMURW CMUW CP CRD CSW EA EM EMN ERCP FAB FH G/PM GT GW I/PM MH MLP MPPC MS OHC OHE PB PG RCP RRW SAS SB SCB	ABANDONED AND PLUGGED ANTI-SIPHON VALVE BY PAINT MARK CURB AND GUTTER CONCRETE DRIVE PAD CAST IRON CENTERLINE CHAIN LINK FENCE CONCRETE MASONRY UNIT RETAINING WALL CONCRETE MASONRY UNIT WALL CONCRETE PIPE CONCRETE RUNDOWN CONCRETE SIDEWALK EDGE OF ASPHALT ELECTRIC METER ELECTRIC METER (NO METER) ELLIPTICAL REINFORCED CONCRETE PIPE FROM AS BUILT DRAWING FIRE HYDRANT GAS BY PAINT MARK GATE GUY WIRE IRRIGATION BY PAINT MARK MANHOLE METAL LIGHT POLE METAL POWER POLE WITH CONDUIT METAL SIGN OVERHEAD COMMUNICATION LINE OVERHEAD ELECTRIC LINE PARKING BUMPER PIPE GATE REINFORCED CONCRETE PIPE RAILROAD TIE RETAINING WALL SANITARY SEWER SPEED BUMP SPRINKLER CONTROL BOX	SD SGP SGPB SGPC SI STD SVB TCB TR TS UGE W/PM WCR WF WL WMB WMH WO WPP WPPC WVB	STORM DRAIN STEEL GUARD POST STEEL GUARD POST WITH CABLE STEEL GUARD POST WITH CHAIN STORM INLET STANDARD SPRINKLER VALVE BOX TELEPHONE CABINET TELEPHONE RISER TRAFFIC SIGN UNDERGROUND ELECTRIC LINE WATER BY PAINT MARK CONCRETE WHEEL CHAIR RAMP WOOD FENCE WATER LINE WATER METER BOX WATER MANHOLE WALL OPENING WOOD POWER POLE WOOD POWER POLE WITH CONDUIT WATER VALVE BOX CONIFEROUS TREE DECIDUOUS TREE SHRUB UTILITY MARKER PROPOSED CONCRETE PROPOSED ASPHALT PAVEMENT PROPOSED SYNTHETIC TURF
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DESIGN SURVEY NOTE:
THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON BOUNDARY SURVEY BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8). THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8) AND A PARTIAL TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-01-2007 (2006.182.2) (SHOWN SCREENED).

HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

PHASE ONE DRAINAGE - PHASING PLAN (FOR COORDINATION)
KINDERGARTEN PLAYGROUND AND DRAINAGE IMPROVEMENTS
WHITTIER ELEMENTARY SCHOOL

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
J.G.M.	08/12	J.G.M.	RECORD DRAWING	2010.183.1
DRAWN BY				DATE
E.J.S.				10-2011
APPROVED BY				SHEET
J.G.M.				12 OF 12

1. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE LOWER SOUTHEAST HEIGHTS OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING SITE WITHIN AN INFILL AREA. THE PROPOSED COURTYARD DEVELOPMENT IS COMPRISED OF NEW PAVING WITH ASSOCIATED CURB, GUTTER, DRAIN, SIDEWALK AND LANDSCAPING ELEMENTS. THE EXISTING CHARTER PARK CURRENTLY LACKS POSITIVE DRAINAGE AND IS PLAGUED BY NUISANCE PONDING. THE PROPOSED STORM DRAIN IMPROVEMENTS WILL PROVIDE POSITIVE DRAINAGE FROM THE CHARTER PARK TO PRIVATE STREET SE.

THIS SUBMITTAL IS MADE IN SUPPORT OF GRADING, PAVING AND SO₁₉ PERMITS WITHIN THE JURISDICTION OF THE CITY OF ALBUQUERQUE.

APX	APPROXIMATE
BE	BUILDING ENTRANCE
BOH	BUILDING OVERHANG
BP	OAK BARREL PLANTER
C/PM	COMMUNICATION LINE BY PAINT MARK
CC	CONCRETE BUILDING COLUMN
CNCD	COMMUNICATION CONDUIT AT POLE
CCP	COMMUNICATION PANEL
CDP	CONCRETE DRIVE PAD
CF	CRUSHER FINES
CHC	CONCRETE HEADER CURB
CLD	CENTERLINE DOOR
CLDD	CENTERLINE DOUBLE DOOR
CLF	CHAIN LINK FENCE
CLN	CONCRETE LANDING
EC	ELECTRIC CONDUIT
CP	CONCRETE PIPE
CPB	COMMUNICATION PULLBOX
CR	CONCRETE RAMP
CS	CONCRETE STEPS
CSW	CONCRETE SIDEWALK
CW	CONCRETE WALL
DBL	DOUBLE
E/PM	ELECTRIC LINE BY PAINT MARK
EP	ELECTRIC PANEL
FL	FLOWLINE
FP	FLAG POLE
G/PM	GAS LINE BY PAINT MARK
GM	GAS METER
GS	GAS SERVICE
GT	GATE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HPS	HIGH PRESSURE GAS LINE
IGT	IRRIGATION CONTROL TIMER
INV	INVERT
IV	IRRIGATION VALVE BOX (NON FUNCTIONAL)
NB	IRRIGATION VALVE BOX
MB	METAL BENCH
MC	METAL COVER
MC/CB	METAL CANOPY COLUMN WITH 1'x1'
	CONCRETE BASE
MH	MANHOLE
MHR	METAL HAND RAIL
MHR/W	METAL HAND RAIL ON TOP OF WALL
MLP	METAL LIGHT POLE
MS	METAL SIGN
OHC(1)	OVERHEAD COMMUNICATION (# OF LINES)
OHM	ELECTRIC OVERHEAD MAST
RD	ROAD
RD/SP	ROAD WITH CONCRETE SPLASH PAD
RIP	RIP-RAP
SAS	SANITARY SEWER
SAS/PM	SANITARY SEWER LINE BY PAINT MARK
SD	STORM DRAIN
ST	STEEL POLE
ST	STEEL
STD C&G	COA STANDARD CURB AND GUTTER
SW	SIDEWALK
TA	TOP OF ASPHALT
TC	TOP OF CURB
TCO	TOP OF CONCRETE
TW	TOP OF WALL
TPY	TYPICAL
WHB	WATER FAUCET
WHF	WATER HOT BOX
WL	WROUGHT IRON FENCE
WL	WATER LINE
WL/PM	WATER LINE BY PAINT MARK
WM	WATER METER BOX
WMV	WATER VAULT
WB	WATER VALVE BOX
	PAINTED UTILITY LINE-SPOT
0.8'ø	TREE TRUNK DIAMETER

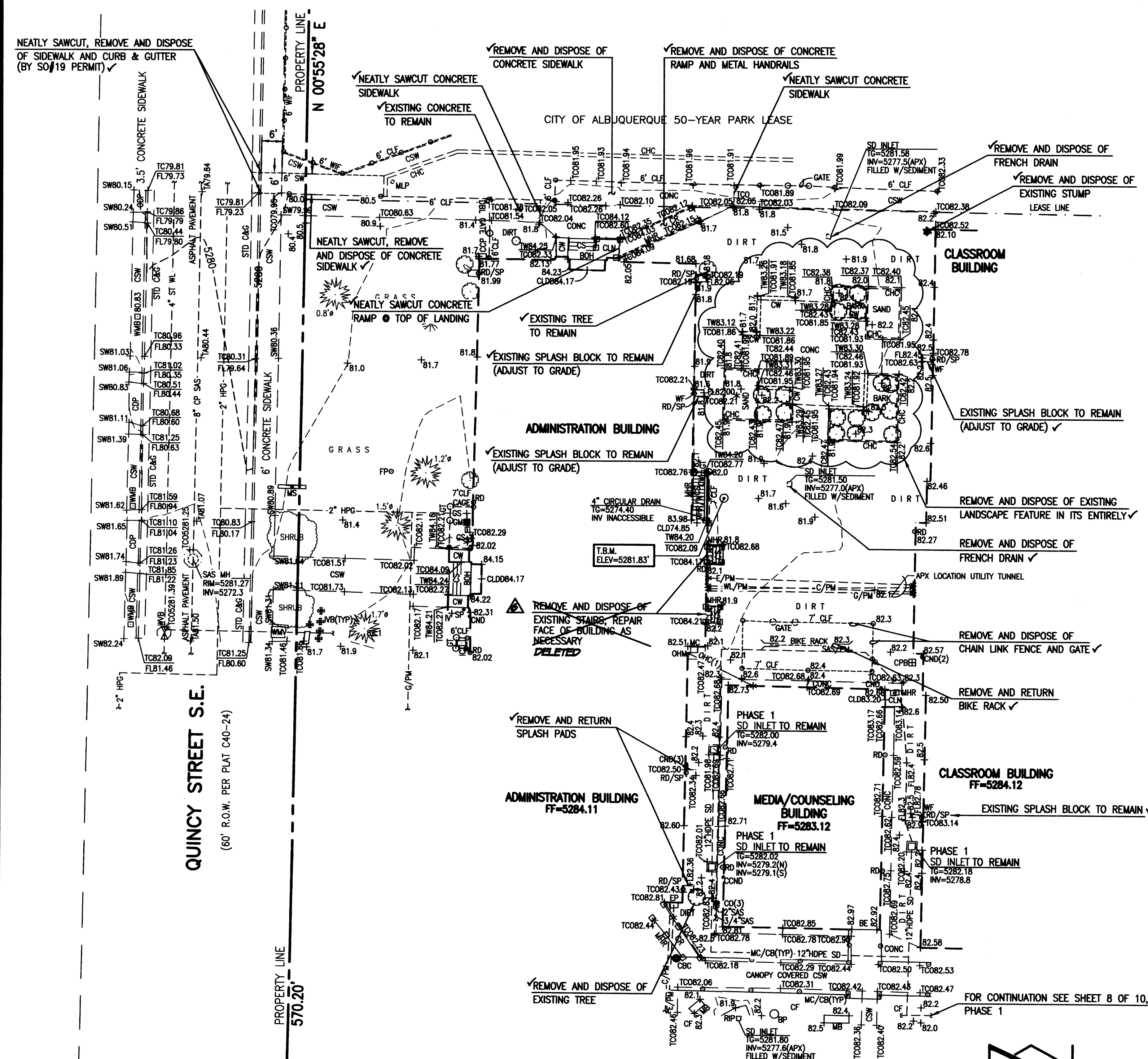
1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS, SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SUCH UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, THERE MAY NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITY LINES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL COMPLY WITH ALL CITY ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
6. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
7. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
8. BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
9. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
10. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. WHEN APPLICABLE, CONTRACTOR SHALL SECURE " TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

PROJECT BENCHMARK
A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E.
ELEVATION = 5232.489 FEET (NAVD 1988)

A #5 REBAR WITH CAP STAMPED "HMC CONTROL NMPS 11184" AS SHOWN ON THIS SHEET.
ELEVATION = 5281.83 FEET (NAVD 1988)

CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+ 25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
± 28.96' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
∅	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31' 51.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+ 26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
± 31' 25.22	RECORD INFORMATION FROM AS-BUILT SURVEY




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BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON
UNRECORDED BOUNDARY SURVEY BY HIGH MESA CONSULTING GROUP (NMP5
11184) DATED 02-04-2011, (2010.182.8). THE TOPOGRAPHIC INFORMATION
DEPICTED HEREON IS BASED UPON TOPOGRAPHIC SURVEY PREPARED BY
HIGH MESA CONSULTING GROUP (NMP5 11184) DATED 02-04-2011
(2010.182.8), UPDATED BY HIGH MESA CONSULTING GROUP (NMP5 15075)
DATED 04-03-2012 (2011.183.3). AND SUPPLEMENTED BY ENGINEER'S SITE
VISIT DATED 09-26-2012.

HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.hiahmesaca.com

SCALE: 1" = 20'

A horizontal graphic scale bar. Above the bar, the text "SCALE: 1" = 20'" is centered. The bar has tick marks at 0, 10, 20, and 40 feet. The segment from 0 to 10 is divided into two equal parts by a vertical line. The segment from 10 to 20 is solid black. The segment from 20 to 40 is divided into two equal parts by a vertical line. The segments from 0 to 10 and from 20 to 40 are white.

DESIGNED BY J.G.M./J.D.S.
DRAWN BY E.J.S./J.Y.R.
APPROVED BY J.G.M.

NO.	DATE	BY	REVISIONS	JOB NO.
	06/15	B.E.E.	RECORD DRAWINGS & CERTIFICATION	2010.183.1
				DATE 10-2012
				SHEET 1 OF 3

RECORD DRAWING FOR CERTIFICATION, SEE SHEET 1 OF 3

LEGEND

APX	APPROXIMATE
BE	BUILDING ENTRANCE
BOH	BUILDING OVERHANG
BP	BARREL PLANTER
C/PM	COMMUNICATION LINE BY PAINT MARK
CBC	CONCRETE BUILDING COLUMN
CCND	COMMUNICATION CONDUIT AT POLE
COP	COMMUNICATION PANEL
CP	CONCRETE DRIVEWAY PAD
CF	CRUSHER FINES
CHC	CONCRETE HEADER CURB
CLD	CENTERLINE DOOR
CDD	CENTERLINE DOUBLE DOOR
CLF	CHAIN LINK FENCE
CLN	CONCRETE LANDING
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CP	CONCRETE PIPE
CPB	COMMUNICATION PULLBOX
CR	CONCRETE RAMP
CS	CONCRETE STEPS
CSW	CONCRETE SIDEWALK
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HDP	HIGH DENSITY POLYETHYLENE PIPE
HPG	HIGH PRESSURE GAS LINE
ICT	IRRIGATION CONTROL TIMER
INV	INVERT
IRV	IRRIGATION VALVE BOX (NON FUNCTIONAL)
MB	IRIGATION VALVE BOX
MC	METAL BENCH
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MHR	MANHOLE
MHR/W	METAL HAND RAIL
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SD/SP	STEEL POLE
STD	STEEL
STD C&G	STANDARD CURB AND GUTTER
SW	SIDEWALK
TA	TOP OF ASPHALT
TC	TOP OF CURB
TCO	TOP OF CONCRETE
TW	TOP OF WALL
TY	TYPICAL
WF	WATER FAUCET
WHB	WATER HOT BOX
WLF	WROUGHT IRON FENCE
WL	WATER LINE
WL/PM	WATER LINE BY PAINT MARK
WMB	WATER METER BOX
WVB	WATER VAULT
WVB	WATER VALVE BOX
*	PAINTED UTILITY LINE-SPOT
0.8'	TREE TRUNK DIAMETER
	CONIFEROUS TREE
	SMALL DECIDUOUS TREE
	TREE STUMP
	SHRUB
	SMALL SHRUB
	PROPOSED CONCRETE

CONSTRUCTION NOTES

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- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS

EROSION NOTES

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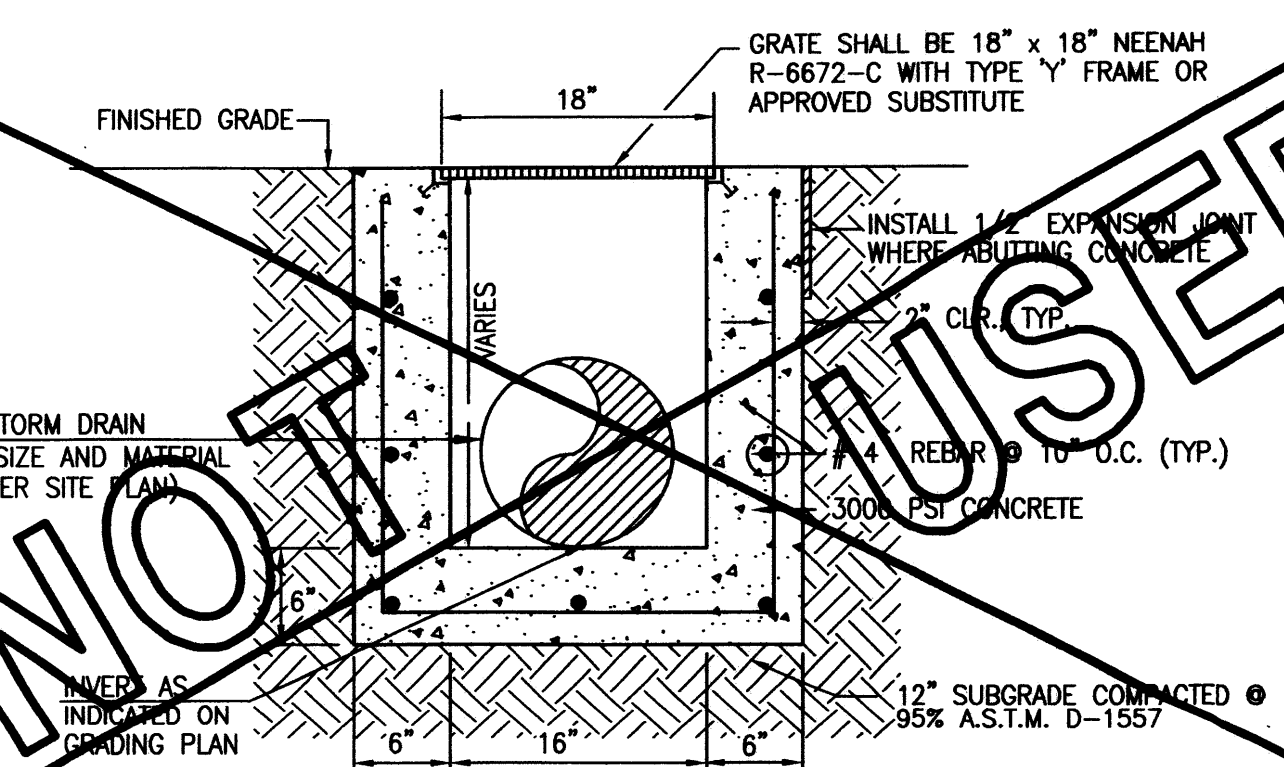
BENCHMARKS

PROJECT BENCHMARK

A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E.
ELEVATION = 5235.489 FEET (NAVD 1988)

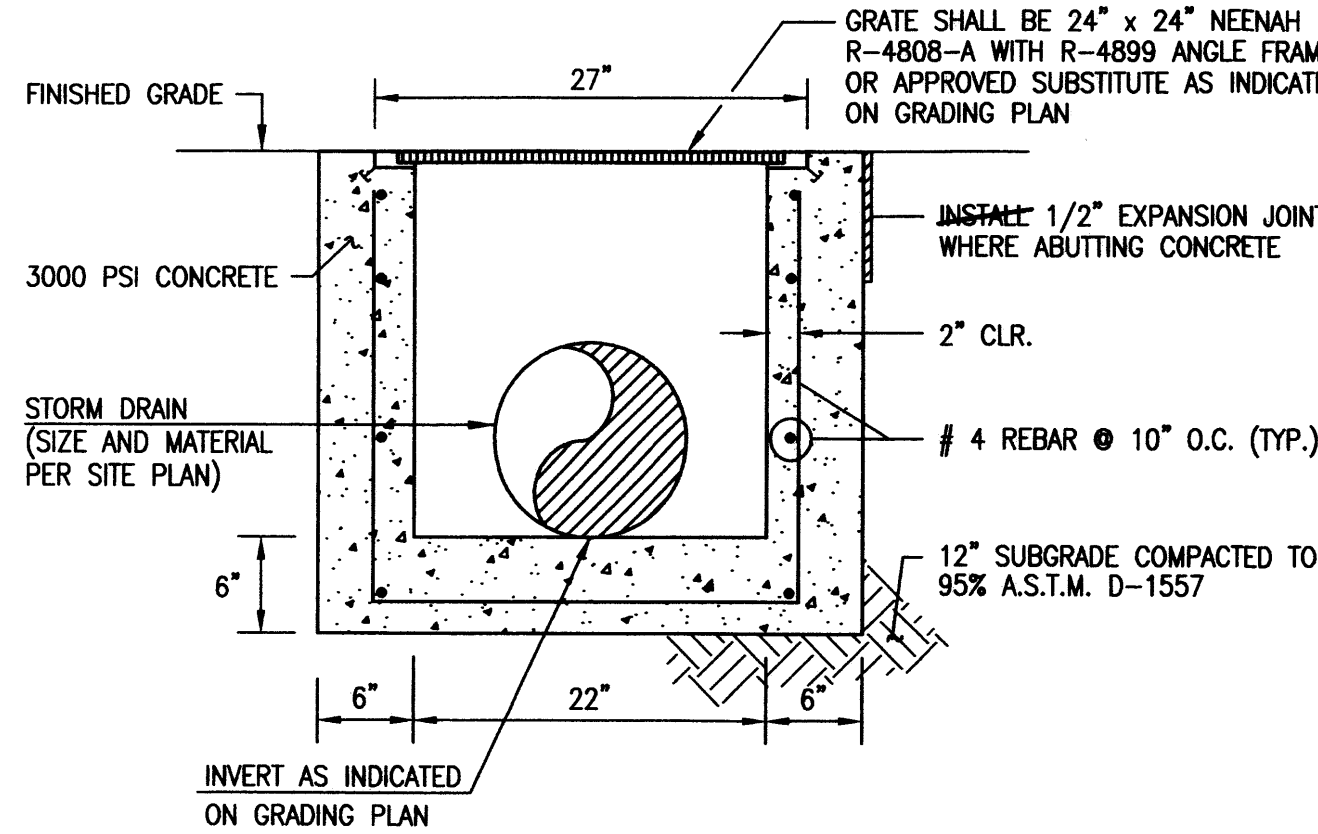
TEMPORARY BENCHMARK (T.B.M.)

A #5 REBAR WITH CAP STAMPED "HMC CONTROL NMP5 11184" AS SHOWN ON THIS SHEET.
ELEVATION = 5281.83 FEET (NAVD 1988)



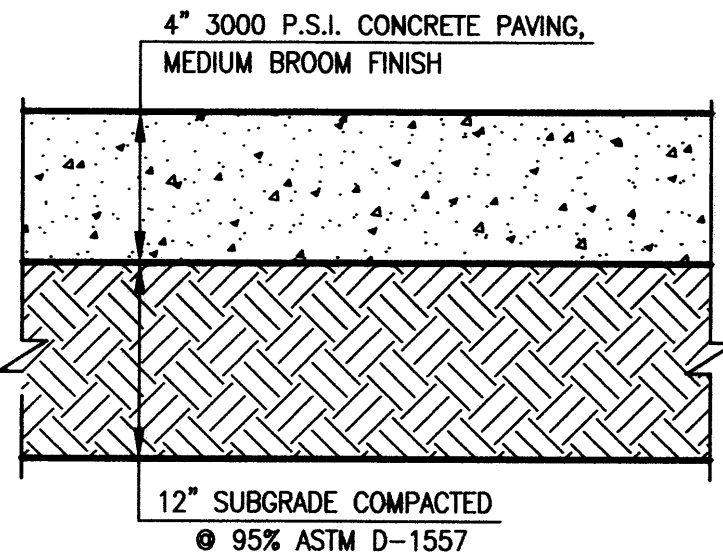
TYPICAL 18"x18" STORM INLET SECTION

SCALE: 1" = 1' - 0"



TYPICAL 24"x24" STORM INLET SECTION

SCALE: 1" = 1' - 0"



TYPICAL CONCRETE PAVEMENT/
SIDEWALK SECTION

SCALE: 1" = 0' - 6"

RECORD DRAWING LEGEND

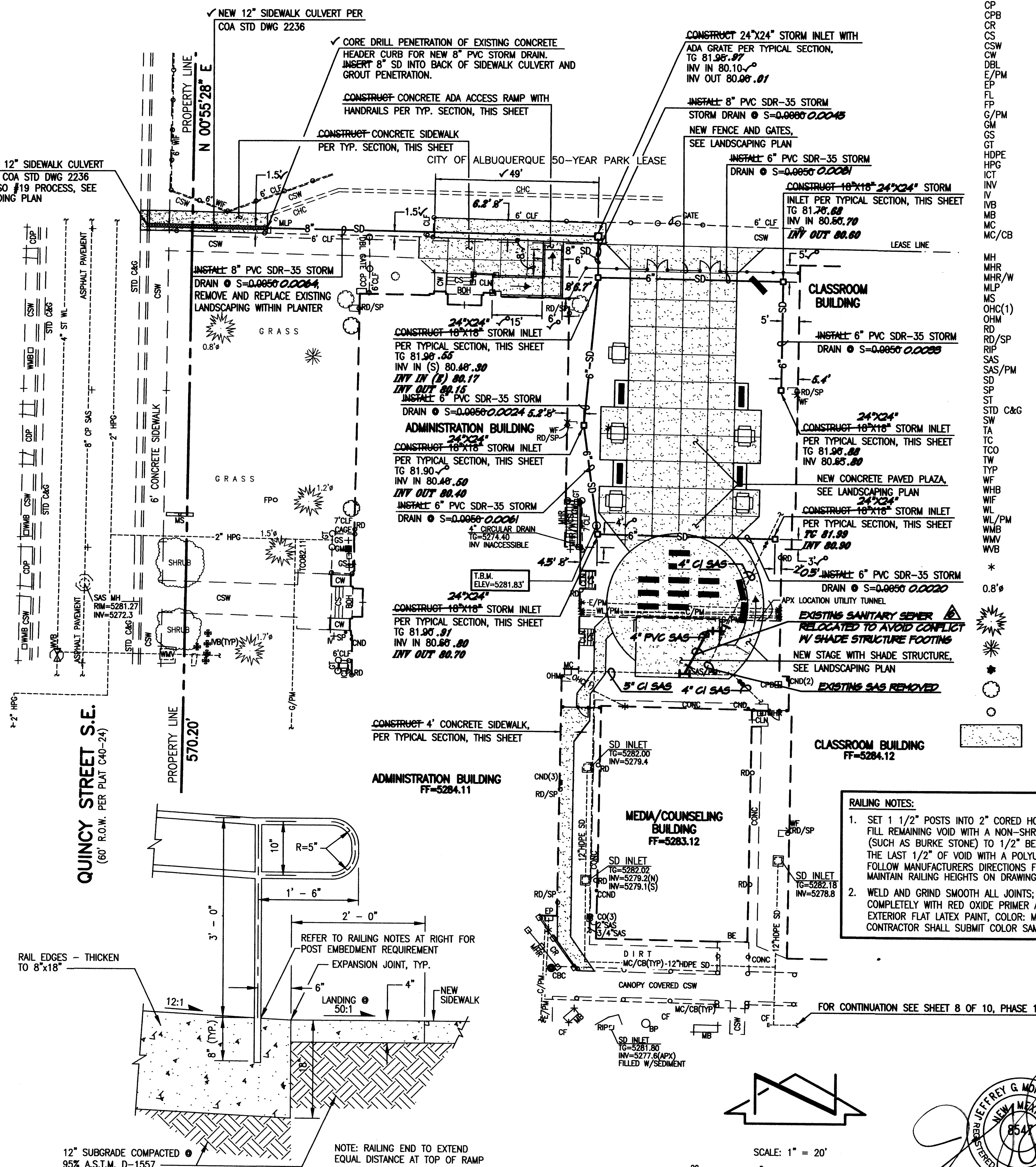
CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
38' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
28.95' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31' 31.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
31.25' 22	RECORD INFORMATION FROM AS-BUILT SURVEY

DESIGN SURVEY NOTE:

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HIGH MESA Consulting Group
4010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

SITE PLAN DRAINAGE IMPROVEMENTS - PHASE 2 WHITTIER ELEMENTARY SCHOOL



RAILING NOTES:
1. SET 1 1/2" POSTS INTO 2" CORED HOLE IN CONCRETE 8" DEEP AND FILL REMAINING VOID WITH A NON-SHRINKING, QUICK SETTING GROUT (SUCH AS BURKE STONE) TO 1/2" BELOW FINISHED SURFACE. FILL THE LAST 1/2" OF VOID WITH A POLYURETHANE SEALING MATERIAL. FOLLOW MANUFACTURERS DIRECTIONS FOR ALL MATERIALS USED. MAINTAIN RAILING HEIGHTS ON DRAWINGS.
2. WELD AND GRIND SMOOTH ALL JOINTS. PRIME THE FABRICATED PIECES COMPLETELY WITH RED OXIDE PRIMER AND FINISH WITH TWO COATS OF EXTERIOR FLAT LATEX PAINT, COLOR: MATCH EXIST. RAILING. CONTRACTOR SHALL SUBMIT COLOR SAMPLE TO ENGINEER.

SCALE: 1" = 20'

ADA ACCESS RAMP CROSS SECTION

SCALE: 1" = 1' - 0"



6-29-2012
08-13-2013

DESIGNED BY	DATE	BY	REVISIONS	JOB NO.
JGM/J.D.S.	06/19	B.E.E.	RECORD DRAWING & CERTIFICATION	2010.183.1
DRAWN BY		E.J.S./J.Y.R.		DATE
APPROVED BY		J.G.M.		10-2012
				SHEET
				2 OF 3

CONSTRUCTION NOTES:

- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC UTILITIES.
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- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER, SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE. THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.
- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR THIS PERMIT.
- BACKFILL COMPACTION SHALL BE ACCORDING TO RESIDENTIAL STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVALS	NAME	DATE
HYDROLOGY		
SIDEWALK INSPECTOR		
STORM DRAIN MAINTENANCE	JASON RODRIGUEZ VIA E-MAIL	02/11/2015

CALCULATIONS

- SITE CHARACTERISTICS**
 - PRECIPITATION ZONE = 2
 - $P_{100, 6 \text{ HR}} = P_{90} = 2.35$
 - TOTAL PROJECT AREA (A_T) = 18,800 SF
0.43 AC
- LAND TREATMENTS**
 - EXISTING LAND TREATMENT**

TREATMENT	AREA (SF/AC)	%
C	7,310 / 0.17	39
D	11,490 / 0.26	61
 - DEVELOPED LAND TREATMENT**

TREATMENT	AREA (SF/AC)	%
C	3,960 / 0.09	21
D	14,840 / 0.34	79
- HYDROLOGY**
 - EXISTING CONDITION**
 - VOLUME**

$$E_w = (E_{pA} + E_{pB} + E_{pC} + E_{pD})/A_T$$

$$E_w = (0.53 \times 0.00) + (0.78 \times 0.00) + (1.13 \times 0.17) + (2.12 \times 0.26)/0.43 = 1.74 \text{ IN}$$

$$V_{100, 6 \text{ HR}} = (E_w/12)A_T = (1.74/12) \times 0.43 = 0.0624 \text{ AC-FT} = 2,720 \text{ CF}$$
 - PEAK DISCHARGE**

$$Q_p = Q_{pA} + Q_{pB} + Q_{pC} + Q_{pD}$$

$$Q_p = Q_{100} = (1.56 \times 0.00) + (2.28 \times 0.00) + (3.14 \times 0.17) + (4.70 \times 0.26) = 1.8 \text{ CFS}$$
 - DEVELOPED CONDITION**
 - VOLUME**

$$E_w = (E_{pA} + E_{pB} + E_{pC} + E_{pD})/A_T$$

$$E_w = (0.53 \times 0.00) + (0.78 \times 0.00) + (1.13 \times 0.09) + (2.12 \times 0.34)/0.43 = 1.92 \text{ IN}$$

$$V_{100, 6 \text{ HR}} = (E_w/12)A_T = (1.92/12) \times 0.43 = 0.0688 \text{ AC-FT} = 3,000 \text{ CF}$$
 - PEAK DISCHARGE**

$$Q_p = Q_{pA} + Q_{pB} + Q_{pC} + Q_{pD}$$

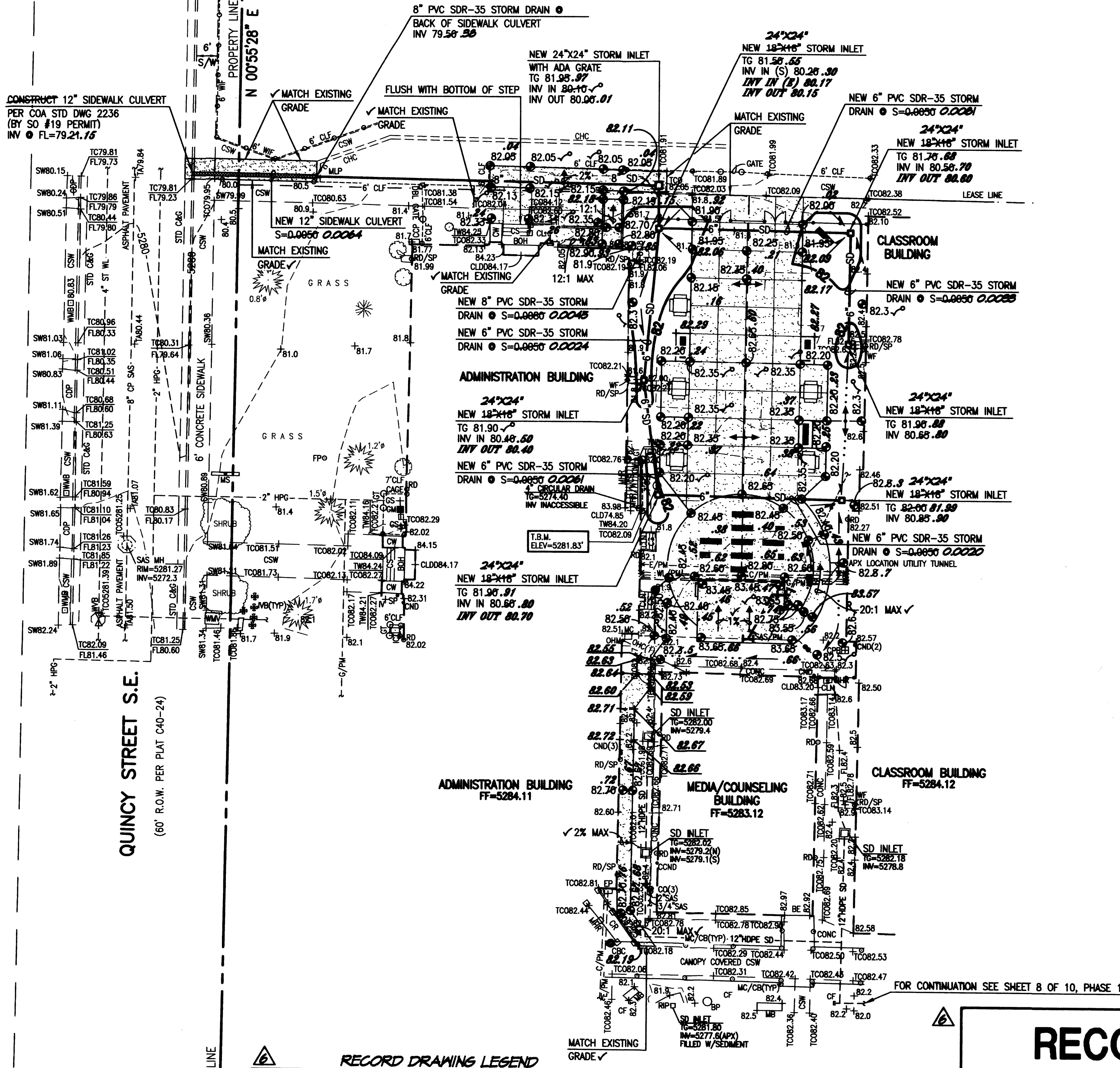
$$Q_p = Q_{100} = (1.56 \times 0.00) + (2.28 \times 0.00) + (3.14 \times 0.09) + (4.70 \times 0.34) = 1.9 \text{ CFS}$$
- COMPARISON**
 - VOLUME**

$$\Delta V_{100, 6 \text{ HR}} = 3,000 - 2,720 = 280 \text{ CF (INCREASE)}$$
 - PEAK DISCHARGE**

$$\Delta Q_{100} = 1.9 - 1.8 = 0.1 \text{ CFS (INCREASE)}$$

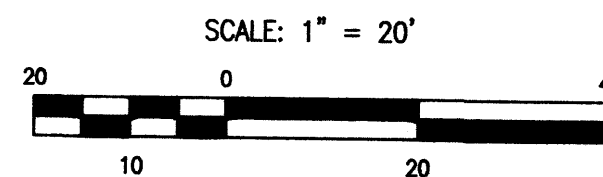
HIGH MESA Consulting Group
6010-B MIDWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

CITY OF ALBUQUERQUE 50-YEAR PARK LEASE



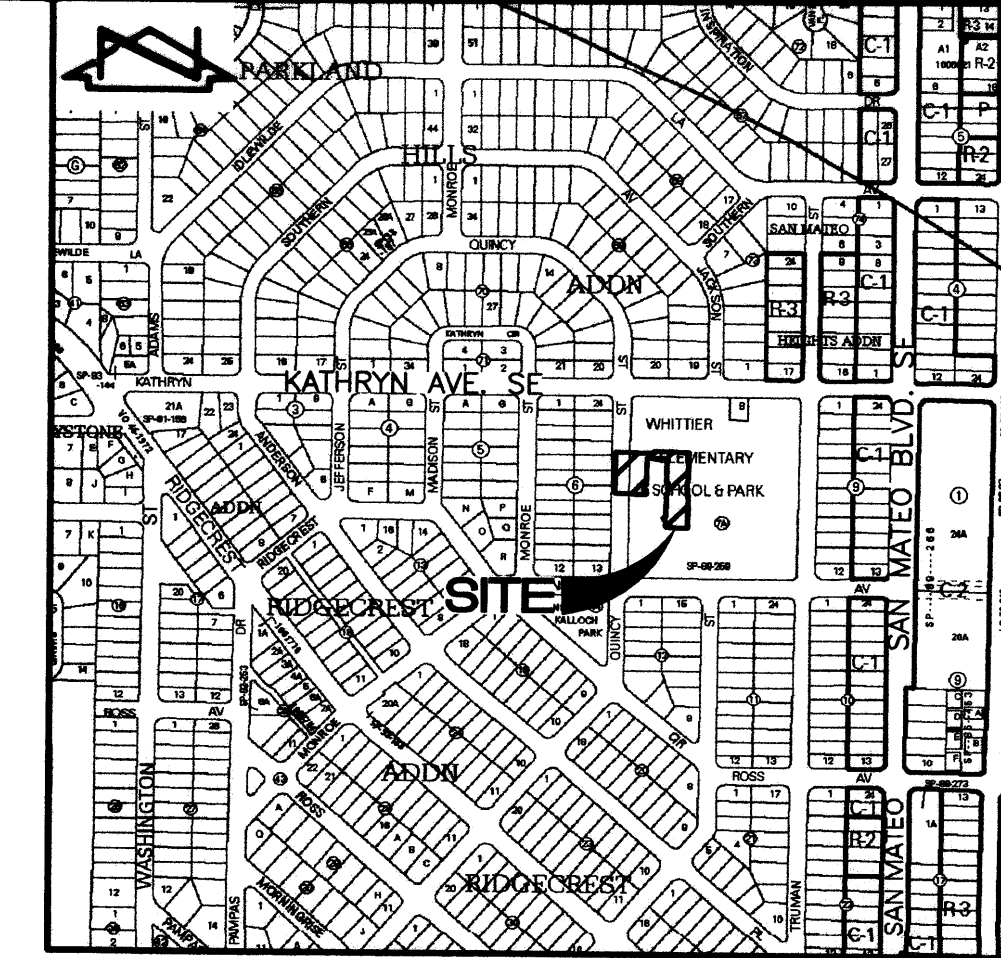
RECORD DRAWING LEGEND	
CONSTRUCT	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY ENGINEER)
35' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
+25.2	RECORD INFORMATION (VERIFIED BY ENGINEER)
+28.98' 42"	RECORD INFORMATION (VERIFIED BY ENGINEER)
✓	AS-CONSTRUCTED = AS-DESIGNED (VERIFIED BY AS-BUILT SURVEY)
31' 51.8	RECORD INFORMATION FROM AS-BUILT SURVEY
+26.9	RECORD INFORMATION FROM AS-BUILT SURVEY
31.25' 22"	RECORD INFORMATION FROM AS-BUILT SURVEY

RECORD DRAWING
FOR CERTIFICATION, SEE SHEET 1 OF 3

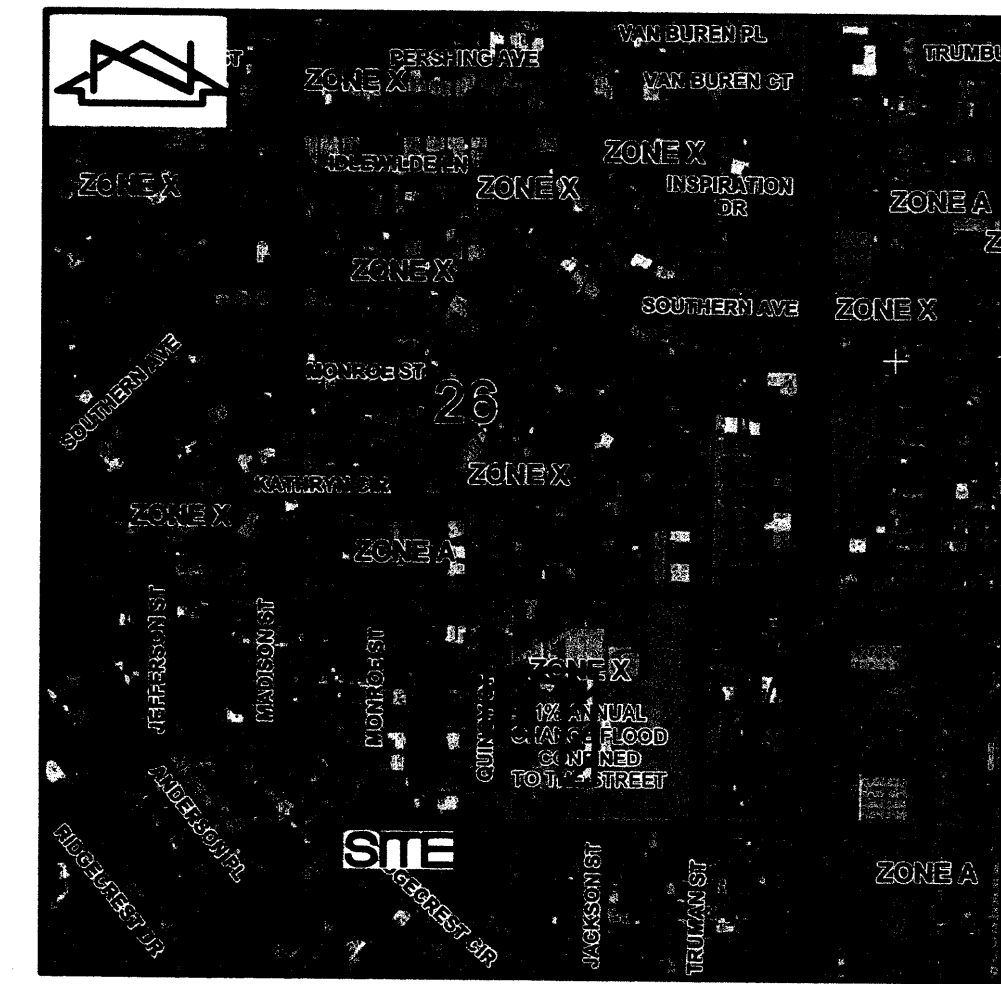


LEGEND

APX	APPROXIMATE
BE	BUILDING ENTRANCE
BO	BUILDING OVERHANG
BP	OAK BARREL PLANTER
C/PM	COMMUNICATION LINE BY PAINT MARK
CBC	CONCRETE BUILDING COLUMN
CND	COMMUNICATION CONDUIT AT POLE
COP	CONCRETE PANEL
CP	CONCRETE DRIVE PAD
CR	CRUSHER FINES
CHC	CONCRETE HEADER CURB
CLOD	CENTERLINE DOOR
CLD	CENTERLINE DOUBLE DOOR
CLF	CHAIN LINK FENCE
CLN	CONCRETE LANDING
CND	ELECTRIC CONDUIT
CPB	CONCRETE PIPE
CPB	CONCRETE PIPE - PULLBOX
CR	CONCRETE RAMP
CSW	CONCRETE SIDEWALK
CW	CONCRETE WALL
DBL	DOUBLE
EP/PM	ELECTRIC LINE BY PAINT MARK
EP	ELECTRIC PANEL
FL	FLAG POLE
FP	GAS LINE BY PAINT MARK
G/PM	GAS METER
GM	GAS SERVICE
GT	GAS
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HFG	HIGH PRESSURE GAS LINE
ICT	IRRIGATION CONTROL TIMER
INV	INVERT
IVB	IRRIGATION VALVE BOX (NON FUNCTIONAL)
MB	IRRIGATION VALVE BOX
MC	METAL BENCH
MC/CS	METAL COVER
MH	METAL CANOPY COLUMN WITH 1'x1' CONCRETE BASE
MHR	METAL HAND RAIL
MHR/W	METAL HAND RAIL ON TOP OF WALL
MSP	METAL SIGN
MS	OVERHEAD COMMUNICATION (# OF LINES)
OH(1)	ELECTRIC OVERHEAD MAST
RD	ROOF DRAIN
RIP	ROOF DRAIN WITH CONCRETE SPLASH PAD
RIP	SANITARY SEWER
SAS	SANITARY SEWER LINE BY PAINT MARK
SAS/PM	STORM DRAIN
SD	STEEL POLE
ST	STEEL
STD C&G	CONCRETE STANDARD CURB AND GUTTER
SW	SIDEWALK
TA	TOP OF ASPHALT
TC	TOP OF CURB
TCO	TOP OF CONCRETE
TW	TOP OF WALL
TYT	TYPICAL
WHB	WATER FAUCET
WHF	WATER HOT BOX
WIF	WROUGHT IRON FENCE
WL	WATER LINE
WL/PM	WATER LINE BY PAINT MARK
WMB	WATER METER BOX
WNV	WATER VAULT
WVB	WATER VALVE BOX
*	PAINTED UTILITY LINE-SPOT
0.8'	TREE TRUNK DIAMETER
☀	CONIFEROUS TREE
✱	SMALL DECIDUOUS TREE
✱	TREE STUMP
○	SHRUB
○	SMALL SHRUB
○	EXISTING ELEVATION
○	PROPOSED SPOT ELEVATION
—	EXISTING FLOWLINE
—	PROPOSED FLOWLINE
—	EXISTING CONTOUR
—	PROPOSED CONTOUR
→	EXISTING DIRECTION OF FLOW
→	PROPOSED DIRECTION OF FLOW
↑	HIGH POINT / DNDE
□	PROPOSED CONCRETE



VICINITY MAP
SCALE: 1" = 750'



F.I.R.M. PANEL 354 OF 825
SCALE: 1" = 500' EFFECTIVE DATE 09-26-2008

EROSION NOTES

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

BENCHMARKS

PROJECT BENCHMARK
A 3 1/4" ALUMINUM DISK STAMPED "8-K17 1984", SET FLUSH IN THE TOP BACK OF CURB AT THE MEDIAN NOSE, JUST WEST OF THE INTERSECTION OF ZUNI ROAD AND WASHINGTON STREET S.E. ELEVATION = 5232.489 FEET (NAVD 1988)

TEMPORARY BENCHMARK (T.B.M.)
A #5 REBAR WITH CAP STAMPED "HMC CONTROL NMPS 11184" AS SHOWN ON THIS SHEET. ELEVATION = 5281.83 FEET (NAVD 1988)

LEGAL DESCRIPTION

TRACT A, BLOCK 7A, RIDGECREST ADDITION, ALBUQUERQUE, NEW MEXICO,

DESIGN SURVEY NOTE:

THIS IS NOT A BOUNDARY SURVEY. DATA IS SHOWN FOR ORIENTATION ONLY. BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON UNRECORDED BOUNDARY SURVEY BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011, (2010.182.8), THE TOPOGRAPHIC INFORMATION DEPICTED HEREON IS BASED UPON TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP (NMPS 11184) DATED 02-04-2011 (2010.182.8), UPDATED BY HIGH MESA CONSULTING GROUP (NMPS 15075) DATED 04-03-2012 (2011.183.3), AND SUPPLEMENTED BY ENGINEER'S SITE VISIT DATED 09-26-2012.

28-13-2015
10-29-2012
NEW MEXICO
PROFESSIONAL ENGINEER

NO.	DATE	BY	REVISIONS	JOB NO.
1	02-04-2011	J.G.H./J.D.S.	RECORD DRAWING & CERTIFICATION	2010.183.1
2	10-2012	E.J.S.		
3		J.G.H.		